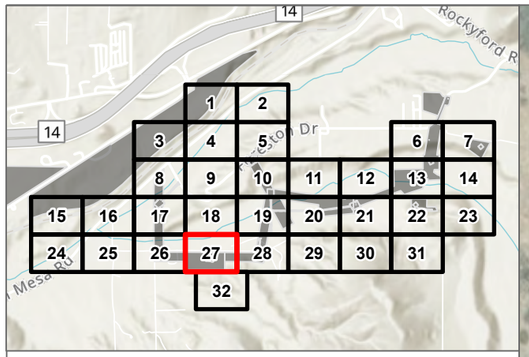
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Docket Number:	25-OPT-02
Project Title:	Prairie Song Reliability Project
TN #:	273001
Document Title:	Interconnection Scope Changes Part 2
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	10/2/2026 7:27:27 AM
Docketed Date:	10/2/2026



Tree Species
- California Juniper

Permanent Impact
- Pole Pad and Access Roads

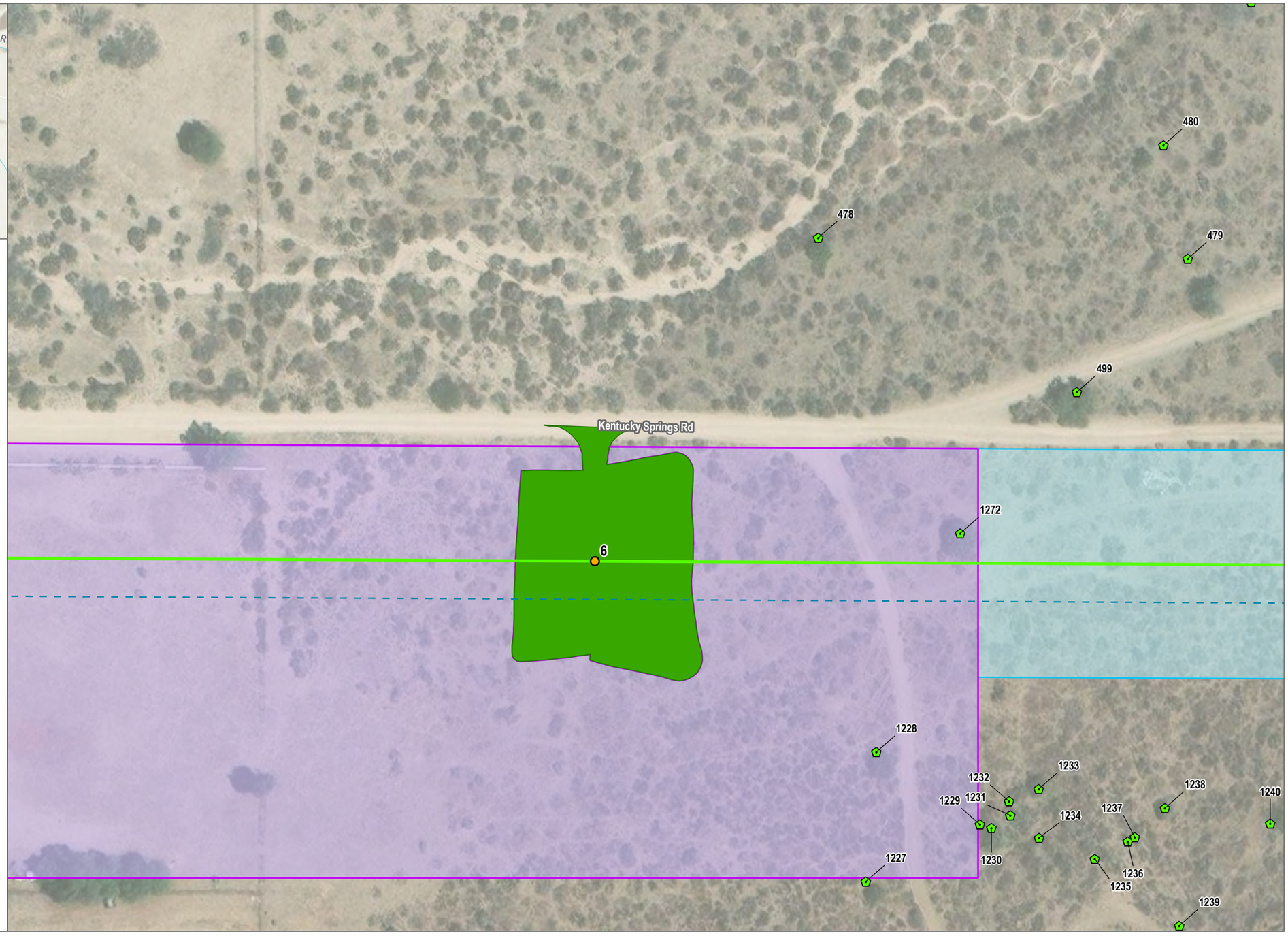
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

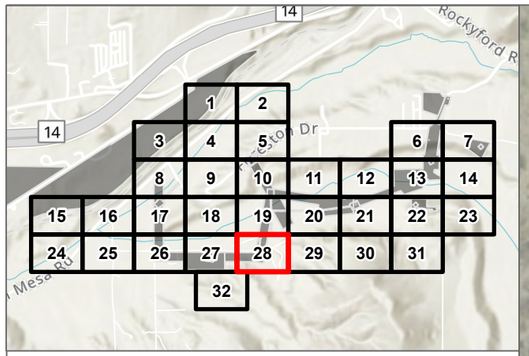
DUDEK

0 30 60 Feet

APPENDIX A27

Tree Location

Prairie Song Reliability Project



Tree Species
- California Juniper

Permanent Impact
- Pole Pad and Access Roads

Temporary Impact
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

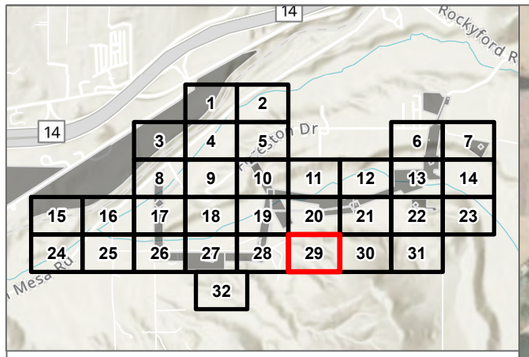
DUDEK

0 30 60 Feet

APPENDIX A28

Tree Location

Prairie Song Reliability Project



Tree Species

- California Juniper

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

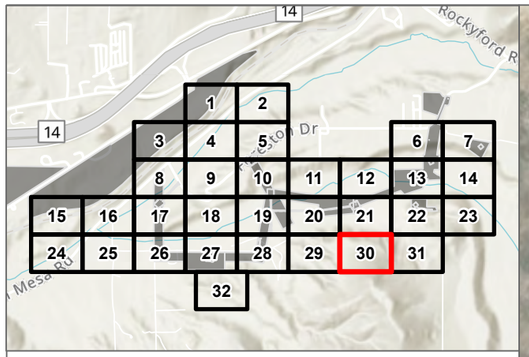
DUDEK

0 30 60 Feet

APPENDIX A29

Tree Location

Prairie Song Reliability Project



Tree Species

- California Juniper

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

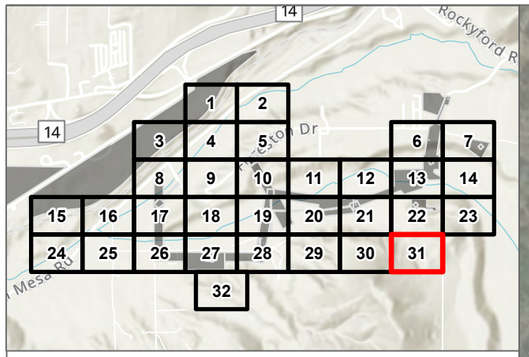
DUDEK

0 30 60 Feet

APPENDIX A30

Tree Location

Prairie Song Reliability Project





Tree Species

- California Juniper

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

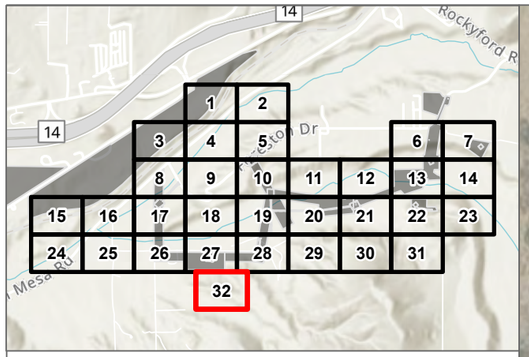
DUDEK

0 30 60 Feet

APPENDIX A31

Tree Location

Prairie Song Reliability Project



Tree Species

- California Juniper

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

0 30 60 Feet

APPENDIX A32

Tree Location

Prairie Song Reliability Project

Appendix B

SEA Protected Tree List

APPENDIX A: SEA PROTECTED TREE LIST

** indicates species is listed as a rare plant by California Native Plant Society*

ALTADENA FOOTHILLS & ARROYOS SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Abies concolor	white fir	5”	7”	30”	47”
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arbutus menziesii	Pacific madrone	6”	8”	36”	56”
Arctostaphylos glandulosa (all subspecies)	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus coulteri	Coulter pine	5”	7”	30”	47”
Pinus jeffreyi	Jeffrey pine	5”	7”	30”	47”
Pinus lambertiana	sugar pine	5”	7”	30”	47”
Pinus ponderosa	ponderosa pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus durata var. *gabrielensis**	San Gabriel Mtns. leather oak	3”	4”	18”	28”
*Quercus engelmannii**	Engelmann oak	3”	4”	18”	28”
Quercus wislizeni	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

ANTELOPE VALLEY SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Abies concolor	white fir	5”	7”	30”	47”
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Adenostoma sparsifolium	red shank	6”	8”	36”	56”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa (all subspecies)	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Cercocarpus ledifolius	curl leaf/desert mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Juniperus grandis	Sierra juniper	5”	7”	30”	47”
Juniperus osteosperma	Utah juniper	5”	7”	30”	47”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus coulteri	Coulter pine	5”	7”	30”	47”
Pinus flexilis	limber pine	5”	7”	30”	47”
Pinus jeffreyi	Jeffrey pine	5”	7”	30”	47”
Pinus lambertiana	sugar pine	5”	7”	30”	47”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Pinus monophylla	pinyon pine	5”	7”	30”	47”
Pinus ponderosa	ponderosa pine	5”	7”	30”	47”
Pinus sabiniana	foothill pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prosopis glandulosa	honey mesquite	6”	8”	36”	56”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus cornelius-mulleri	Muller’s oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus kelloggii	California black oak	6”	8”	36”	56”
Quercus palmeri	Palmer’s oak	6”	8”	36”	56”
Quercus wislizeni var. *frutescens*	interior live oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”
Yucca brevifolia	Joshua tree	All specimens	NA	20’ tall	NA

CRUZAN MESA VERNAL POOLS SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Arctostaphylos glandulosa (all subspecies)	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”

EAST SAN GABRIEL VALLEY SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Ceanothus crassifolius	hoaryleaf ceanothus	6”	8”	36”	56”
Ceanothus megacarpus	big-pod ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus durata var. *gabrielensis**	San Gabriel Mtns. leather oak	3”	4”	18”	28”
*Quercus engelmannii**	Engelmann oak	3”	4”	18”	28”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

HARBOR LAKE REGIONAL PARK SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

JOSHUA TREE WOODLANDS SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Aesculus californica	California buckeye	6”	8”	36”	56”
Cercocarpus ledifolius	curl-leaf mountain-mahogany	6”	8”	36”	56”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
*Hesperocyparis nevadensis**	Piute cypress	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Pinus sabiniana	foothill pine	5”	7”	30”	47”
Prosopis glandulosa	honey mesquite	6”	8”	36”	56”
Yucca brevifolia	Joshua tree	All specimens	NA	20’ tall	NA

PALOS VERDE PENINSULA AND COASTLINE SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Prunus ilicifolia ssp. *lyonii*	Catalina Island cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

PUENTE HILLS SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Ceanothus megacarpus	big-pod ceanothus	6”	8”	36”	56”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
*Quercus engelmannii**	Engelmann oak	3”	4”	18”	28”
Quercus lobata	Valley oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

Rio Hondo College and Wildlife Sanctuary SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”

San Andreas SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Abies concolor	white fir	5”	7”	30”	47”
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Cercocarpus ledifolius	curl leaf/desert mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
*Hesperocyparis nevadensis**	Piute cypress	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus coulteri	Coulter pine	5”	7”	30”	47”
Pinus jeffreyi	Jeffrey pine	5”	7”	30”	47”
Pinus lambertiana	sugar pine	5”	7”	30”	47”
Pinus monophylla	pinyon pine	5”	7”	30”	47”
Pinus ponderosa	ponderosa pine	5”	7”	30”	47”
Pinus sabiniana	foothill pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prosopis glandulosa	honey mesquite	6”	8”	36”	56”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”
Quercus garryana	Oregon oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus kelloggii	California black oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Umbellularia californica	California bay	6”	8”	36”	56”
Yucca brevifolia	Joshua tree	All specimens	NA	20’ tall	NA

SAN DIMAS CANYON & SAN ANTONIO WASH SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Abies concolor	white fir	5”	7”	30”	47”
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Adenostoma sparsifolium	red shank	6”	8”	36”	56”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Ceanothus megacarpus	big-pod ceanothus	6”	8”	36”	56”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Cercocarpus ledifolius	curl leaf/desert mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	Toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus grandis	Sierra juniper	5”	7”	30”	47”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus coulteri	Coulter pine	5”	7”	30”	47”
Pinus jeffreyi	Jeffrey pine	5”	7”	30”	47”
Pinus lambertiana	sugar pine	5”	7”	30”	47”
Pinus ponderosa	ponderosa pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”
Quercus durata var. *gabrielensis**	San Gabriel Mtns. leather oak	3”	4”	18”	28”
*Quercus engelmannii**	Engelmann oak	3”	4”	18”	28”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

SAN GABRIEL CANYON SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Abies concolor	white fir	5”	7”	30”	47”
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arbutus menziesii	Pacific madrone	6”	8”	36”	56”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Ceanothus megacarpus	big-pod ceanothus	6”	8”	36”	56”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus coulteri	Coulter pine	5”	7”	30”	47”
Pinus jeffreyi	Jeffrey pine	5”	7”	30”	47”
Pinus lambertiana	sugar pine	5”	7”	30”	47”
Pinus ponderosa	ponderosa pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”
Quercus durata var. *gabrielensis**	San Gabriel Mtns. leather oak	3”	4”	18”	28”
*Quercus engelmannii**	Engelmann oak	3”	4”	18”	28”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

SANTA CLARA RIVER SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Adenostoma sparsifolium	red shank	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Calocedrus decurrens	incense cedar	5”	7”	30”	47”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Malosma laurina	laurel sumac	6”	8”	36”	56”
Pinus monophylla	pinyon pine	5”	7”	30”	47”
Pinus sabiniana	foothill pine	5”	7”	30”	47”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus cornelius-mulleri	desert scrub oak, Muller oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”
Quercus garryana	Oregon oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus kelloggii	California black oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus palmeri	Palmer’s oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiandra	yellow willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

SANTA FELICIA SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Aesculus californica	California buckeye	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Cercocarpus ledifolius	curl leaf/desert mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Juniperus californica	Califonia juniper	All specimens	NA	35’ canopy spread	NA
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus cornelius-mulleri	desert scrub oak, Muller oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Quercus garryana	Oregon oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus kelloggii	California black oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus ×macdonaldii	MacDonald oak	6”	8”	36”	56”
Quercus palmeri	Palmer’s oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

SANTA SUSANA MOUNTAINS & SIMI HILLS SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Acer negundo	boxelder	6”	8”	36”	56”
Adenostoma sparsifolium	red shank	6”	8”	36”	56”
Alnus rhombifolia	white alder	3”	4”	18”	28”
Arctostaphylos glandulosa	Eastwood manzanita	6”	8”	36”	56”
Arctostaphylos glauca	big berry manzanita	6”	8”	36”	56”
Ceanothus megacarpus	bigpod ceanothus	6”	8”	36”	56”
Ceanothus spinosus	greenbark ceanothus	6”	8”	36”	56”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Fraxinus dipetala	California ash	3”	4”	18”	28”
Fraxinus velutina	velvet ash, Arizona ash	3”	4”	18”	28”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
*Juglans californica**	southern California black walnut	3”	4”	18”	28”
Malosma laurina	laurel sumac	6”	8”	36”	56”
Platanus racemosa	western sycamore	3”	4”	18”	28”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Populus trichocarpa	black cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Pseudotsuga macrocarpa	bigcone spruce	5”	7”	30”	47”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus berberidifolia	inland scrub oak	6”	8”	36”	56”
Quercus chrysolepis	canyon oak	6”	8”	36”	56”
Quercus douglasii	blue oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Quercus palmeri	Palmer’s oak	6”	8”	36”	56”
Quercus wislizeni var. *wislizeni*	interior live oak	6”	8”	36”	56”
Salix exigua	narrowleaf / sandbar willow	3”	4”	18”	28”
Salix gooddingii	Goodding's black willow	3”	4”	18”	28”
Salix laevigata	red willow	3”	4”	18”	28”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”
Umbellularia californica	California bay	6”	8”	36”	56”

VALLEY OAKS SAVANNAH SEA

Scientific Name	Common Name	Protected DBH	2-trunk Protected DBH	Heritage DBH	2-trunk Heritage DBH
Acer macrophyllum	bigleaf maple	3”	4”	18”	28”
Cercocarpus betuloides	mountain mahogany	6”	8”	36”	56”
Heteromeles arbutifolia	toyon	6”	8”	36”	56”
Populus fremontii	Fremont cottonwood	3”	4”	18”	28”
Prunus ilicifolia	holly leaf cherry	3”	4”	18”	28”
Quercus agrifolia	coast live oak	6”	8”	36”	56”
Quercus john-tuckeri	Tucker oak	6”	8”	36”	56”
Quercus lobata	Valley oak	6”	8”	36”	56”
Salix lasiolepis	arroyo willow	3”	4”	18”	28”
Sambucus nigra ssp. *caerulea*	blue elderberry	6”	8”	36”	56”

Appendix C
Tree Information Matrix

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
1	California Juniper	*Juniperus californica*	6	12	11	5	5	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	23	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4812937	-118.1422548
2	California Juniper	*Juniperus californica*	4	5	5	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	10	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48107325	-118.1440982
3	California Juniper	*Juniperus californica*	6	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48104253	-118.1441696
4	California Juniper	*Juniperus californica*	14	4	3	3	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	7	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48106573	-118.144254
5	California Juniper	*Juniperus californica*	14	4	4	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	8	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48100621	-118.1444189
6	California Juniper	*Juniperus californica*	16	5	4	4	4	3	2	2	2	2	2	2	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	9	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48103757	-118.1445237
7	California Juniper	*Juniperus californica*	8	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	6	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48106327	-118.1446054
8	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	7	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48105092	-118.1446381
9	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	7	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48104378	-118.1446461
10	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	3	3	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48110091	-118.1446344
11	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48110996	-118.1446095
12	California Juniper	*Juniperus californica*	11	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48111789	-118.1446545
13	California Juniper	*Juniperus californica*	10	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48112096	-118.1446869
14	California Juniper	*Juniperus californica*	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	2	7	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48114935	-118.1446746
15	California Juniper	*Juniperus californica*	11	4	4	3	3	3	3	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48114956	-118.1446234
16	California Juniper	*Juniperus californica*	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	2	10	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48117632	-118.1446432
17	California Juniper	*Juniperus californica*	8	4	3	3	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	7	15	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48117876	-118.1446727
18	California Juniper	*Juniperus californica*	10	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48121976	-118.1448402
19	California Juniper	*Juniperus californica*	18	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	6	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48109929	-118.1449926
20	California Juniper	*Juniperus californica*	17	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48103707	-118.144912
21	California Juniper	*Juniperus californica*	8	9	7	5	5	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	16	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48093656	-118.144848
22	California Juniper	*Juniperus californica*	6	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	6	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4809152	-118.1448939
23	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	2	2	Good	Good		Yes	No	Preserved	Preserved	Yes	34.48098188	-118.1448707
24	California Juniper	*Juniperus californica*	19	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48102542	-118.1447663
25	California Juniper	*Juniperus californica*	20	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48109761	-118.144781
26	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	3	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48112196	-118.1447805
27	California Juniper	*Juniperus californica*	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	2	5	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48095688	-118.1446435
28	California Juniper	*Juniperus californica*	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	2	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48090728	-118.1446226
29	California Juniper	*Juniperus californica*	15	6	6	5	5	4	4	3	3	3	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	12	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48084203	-118.1446493
30	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48087108	-118.1445564
31	California Juniper	*Juniperus californica*	13	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	2	3	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48085275	-118.1442472
32	California Juniper	*Juniperus californica*	25	5	5	5	5	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	10	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48140253	-118.1439555
33	California Juniper	*Juniperus californica*	14	5	4	4	4	4	4	4	4	4	3	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	9	15	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48157117	-118.1439702
34	California Juniper	*Juniperus californica*	16	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	7	10	10	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48159128	-118.1439526
35	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	7	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48162027	-118.1438801
36	California Juniper	*Juniperus californica*	14	11	9	9	9	9	9	6	5	5	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	20	25	35	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48192916	-118.1432343
37	California Juniper	*Juniperus californica*	15	6	5	5	4	4	4	3	3	3	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	11	15	27	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48189567	-118.1428263
38	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48096887	-118.1436956
39	California Juniper	*Juniperus californica*	24	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	3	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48105382	-118.1435008
40	California Juniper	*Juniperus californica*	20	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	8	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48122881	-118.143281
41	California Juniper	*Juniperus californica*	12	4	3	3	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	7	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48121145	-118.1430931
42	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	5	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48159171	-118.1426041
43	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48174841	-118.1425782
44	California Juniper	*Juniperus californica*	10	3	3	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48185131	-118.1424685
45	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48174006	-118.1423923
46	California Juniper	*Juniperus californica*	8	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	10	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48174163	-118.1423096
47	California Juniper	*Juniperus californica*	8	10	7	6	5	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	17	20	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.481664	-118.1421374
48	California Juniper	*Juniperus californica*	9	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	8	9	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48165287	-118.1422692
49	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	9	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48182502	-118.1422531
50	California Juniper	*Juniperus californica*	20	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48188884	-118.1421988
51	California Juniper	*Juniperus californica*	17	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48196467	-118.1422374
52	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48199202	-118.1421562
54	California Juniper	*Juniperus californica*	17	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48193731	-118.1420725
55	California Juniper	*Juniperus californica*	17	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	6	5	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48197756	-118.1420462
58	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	15	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48210072	-118.1416508
59	California Juniper	*Juniperus californica*	20	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48208113	-118.141651
60	California Juniper	*Juniperus californica*	20	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48207181	-118.1415587
61	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	8	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48221069	-118.1412806
62	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48218331	-118.1412706
63	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48219589	-118.1412533
64	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48220956	-118.1412356
65	California Juniper	*Juniperus californica*	15	6	4	4	4	4	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	10	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48204644	-118.141078
66	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48177961	-118.1409751
67	California Juniper	*Juniperus californica*	13	6	5	4	3	3	3	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	11	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4817873	-118.1409324
68	California Juniper	*Juniperus californica*	12	6	5	4	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	11	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48165637	-118.1408522
69	California Juniper	*Juniperus californica*	20	6	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	10	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48163514	-118.1412016
70	California Juniper	*Juniperus californica*	15	7	7	4	4	4	4	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	14	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48170859	-118.141185
71	California Juniper	*Juniperus californica*	20	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	4	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48188715	-118.1412911
72	California Juniper	*Juniperus californica*	30	6	4	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	10	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48161976	-118.1414826
73	California Juniper	*Juniperus californica*	25	5	5	5	4	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	10	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48158691	-118.1414475
74	California Juniper	*Juniperus californica*	25	5	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	8	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48089	-118.1416148
75	California Juniper	*Juniperus californica*	9	6	6	5	4	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	12	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48112721	-118.142019
76	California Juniper	*Juniperus californica*	20	6	5	4	4	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	11	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48095964	-118.1421684
77	California Juniper	*Juniperus californica*	7	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	5	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48417498	-118.137859
78	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48427564	-118.1377356
79	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48424629	-118.1376449
80	California Juniper	*Juniperus californica*	12	3	3	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	6	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48417879	-118.1376423
81	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	15	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48411246	-118.1376234
82	California Juniper	*Juniperus californica*	15	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48409678	-118.1375607
83	California Juniper	*Juniperus californica*	15	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	5	15	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48409774	-118.1377002
84	California Juniper	*Juniperus californica*	30	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	5	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48387242	-118.1374562
85	California Juniper	*Juniperus californica*	15	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48396202	-118.1374337
86	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	4	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48381043	-118.1373735
87	California Juniper	*Juniperus californica*	18	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48384023	-118.1374728
88	California Juniper	*Juniperus californica*	14	3	3	2	2	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	6	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4836966	-118.1374114
89	California Juniper	*Juniperus californica*	15	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	6	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48379049	-118.1372475
90	California Juniper	*Juniperus californica*	25	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4836584	-118.1373699
91	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	4	15	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48358665	-118.137495
92	California Juniper	*Juniperus californica*	30	6	6	4	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	12	15	41	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.4835342	-118.1375421
93	California Juniper	*Juniperus californica*	20	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	5	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48341021	-118.1376764
94	California Juniper	*Juniperus californica*	34	9	6	5	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	15	23	37	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Removal	Yes	34.4832531	-118.1379767
95	California Juniper	*Juniperus californica*	10	4	3	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	7	10	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48340348	-118.1377896
96	California Juniper	*Juniperus californica*	20	6	6	5	5	5	4	3	3	3	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	12	15	25	Fair	Fair		Yes	No	Preserved	Encroachment	Yes	34.48311498	-118.1376676
97	California Juniper	*Juniperus californica*	15	5	4	3	3	3	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	9	15	36	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Removal	Yes	34.48314118	-118.1378731
98	California Juniper	*Juniperus californica*	25	8	5	5	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	13	20	39	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48292424	-118.1375426
99	California Juniper	*Juniperus californica*	17	5	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	9	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48298193	-118.1376683
100	California Juniper	*Juniperus californica*	15	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48318741	-118.1372809
101	California Juniper	*Juniperus californica*	15	11	10	8	6	5	5	4	4	4	4	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	21	20	27	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48296313	-118.1377126
102	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	9	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48316311	-118.1371813
103	California Juniper	*Juniperus californica*	25	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	15	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48318263	-118.1372261
104	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48256585	-118.1368075
105	California Juniper	*Juniperus californica*	20	5	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	7	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48316013	-118.1371285
106	California Juniper	*Juniperus californica*	19	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	6	15	20	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48312559	-118.1380549
107	California Juniper	*Juniperus californica*	15	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	8	15	15	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48316255	-118.138087
108	California Juniper	*Juniperus californica*	17	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	4	15	10	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48289738	-118.1380602
109	California Juniper	*Juniperus californica*	25	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	6	15	15	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48283248	-118.1381381
110	California Juniper	*Juniperus californica*	25	5	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	8	15	25	Fair	Fair		Yes	No	Encroachment	Removal	Yes	34.48285071	-118.1384345
111	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	15	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48258754	-118.1382415
112	California Juniper	*Juniperus californica*	16	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48287753	-118.1385155
113	California Juniper	*Juniperus californica*	10	4	4	3	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	8	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48280744	-118.1387121
114	California Juniper	*Juniperus californica*	8	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	12	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48284679	-118.1388166
115	California Juniper	*Juniperus californica*	15	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	7	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48282679	-118.1388516
116	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48278432	-118.1388401
117	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48278211	-118.138912

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
118	California Juniper	*Juniperus californica*	15	5	4	3	3	2	2	2	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	9	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48283621	-118.1389433
119	California Juniper	*Juniperus californica*	15	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48259083	-118.1389808
120	California Juniper	*Juniperus californica*	15	5	4	4	4	4	4	3	2	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	9	10	37	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48269605	-118.1391251
121	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48253242	-118.1391799
122	California Juniper	*Juniperus californica*	20	4	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	8	13	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48259439	-118.1394005
123	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48262068	-118.1393764
124	California Juniper	*Juniperus californica*	17	4	4	4	4	3	3	3	3	3	3	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48260638	-118.1396903
125	California Juniper	*Juniperus californica*	20	6	5	3	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	11	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48268535	-118.1398986
126	California Juniper	*Juniperus californica*	9	3	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	5	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48267795	-118.1395686
127	California Juniper	*Juniperus californica*	20	4	4	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	8	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4826232	-118.1397176
130	California Juniper	*Juniperus californica*	17	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	7	10	37	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48268447	-118.1394343
132	California Juniper	*Juniperus californica*	20	8	5	5	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	13	15	36	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48300091	-118.1391241
133	California Juniper	*Juniperus californica*	15	6	5	4	4	3	3	3	3	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	11	20	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48275184	-118.1395227
134	California Juniper	*Juniperus californica*	12	3	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	5	15	36	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.4831157	-118.1389095
135	California Juniper	*Juniperus californica*	15	11	10	10	6	6	5	5	5	4	4	4	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	21	25	41	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48280239	-118.139387
136	California Juniper	*Juniperus californica*	20	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	7	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48318253	-118.138906
137	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48297639	-118.1392041
138	California Juniper	*Juniperus californica*	11	4	4	4	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48330978	-118.1388984
139	California Juniper	*Juniperus californica*	20	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	5	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48310154	-118.1390986
140	California Juniper	*Juniperus californica*	30	5	5	5	5	4	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	10	15	31	Poor	Fair		Yes	No	Preserved	Removal	Yes	34.483392	-118.1384541
141	California Juniper	*Juniperus californica*	20	6	5	5	5	4	4	3	3	3	3	3	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	11	20	31	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48300678	-118.1389517
142	California Juniper	*Juniperus californica*	16	5	4	4	3	3	3	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	9	15	25	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48316707	-118.1383026
143	California Juniper	*Juniperus californica*	25	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	7	20	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48315786	-118.1390014
144	California Juniper	*Juniperus californica*	15	7	6	6	5	4	4	3	3	2	2	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	13	15	44	Fair	Fair		Yes	Yes	Removal	Removal	Yes	34.48327404	-118.1382573
145	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	15	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48322843	-118.1388985
146	California Juniper	*Juniperus californica*	20	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	5	15	20	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48345657	-118.1382041
147	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48310367	-118.1388574
148	California Juniper	*Juniperus californica*	14	3	3	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	6	15	15	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48349683	-118.1382049
149	California Juniper	*Juniperus californica*	15	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	4	15	15	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48336004	-118.1382917
150	California Juniper	*Juniperus californica*	6	3	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	5	10	15	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48349136	-118.1384058
151	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	10	10	Dead	Dead		No	No	Encroachment	Removal	Yes	34.48338407	-118.1381837
152	California Juniper	*Juniperus californica*	9	5	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48363128	-118.1384882
153	California Juniper	*Juniperus californica*	15	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	6	15	20	Poor	Fair		Yes	No	Preserved	Removal	Yes	34.4836375	-118.1380387
154	California Juniper	*Juniperus californica*	20	5	4	4	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	9	13	41	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.4836988	-118.1385241
155	California Juniper	*Juniperus californica*	15	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	15	20	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48358634	-118.1382838
157	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	4	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48377238	-118.1385112
158	California Juniper	*Juniperus californica*	19	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	6	12	13	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48413721	-118.1373353
159	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	10	10	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48382051	-118.1381547
160	California Juniper	*Juniperus californica*	12	3	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48443206	-118.1374609
161	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48385314	-118.1371189
162	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48441173	-118.1373568
163	California Juniper	*Juniperus californica*	15	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	7	15	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.484439	-118.1373751
164	California Juniper	*Juniperus californica*	10	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48459588	-118.1373496
165	California Juniper	*Juniperus californica*	10	4	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48441834	-118.1373117
166	California Juniper	*Juniperus californica*	15	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	5	8	14	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48475531	-118.1368932
167	California Juniper	*Juniperus californica*	16	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	4	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48470164	-118.1371796
168	California Juniper	*Juniperus californica*	8	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	5	5	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48493897	-118.1368115
169	California Juniper	*Juniperus californica*	25	5	5	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	10	15	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48470708	-118.1370631
170	California Juniper	*Juniperus californica*	15	6	5	4	4	4	3	3	3	3	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	11	14	33	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48502636	-118.1366419
171	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	7	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48480863	-118.1368032
172	California Juniper	*Juniperus californica*	17	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	6	15	27	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48513184	-118.1363068
173	California Juniper	*Juniperus californica*	15	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48500178	-118.136717
174	California Juniper	*Juniperus californica*	26	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	6	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48485657	-118.1364862
175	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.4850018	-118.1365705
176	California Juniper	*Juniperus californica*	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	2	5	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48446056	-118.1367932
177	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	10	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48458031	-118.1367627
178	California Juniper	*Juniperus californica*	16	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	3	9	14	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48445513	-118.1369764
179	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	6	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48445591	-118.1370442
180	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48428866	-118.1370573
181	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48437184	-118.1370553
182	California Juniper	*Juniperus californica*	30	5	5	4	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	10	15	42	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48418162	-118.1369916
183	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48422715	-118.1370646
184	California Juniper	*Juniperus californica*	25	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	5	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48410107	-118.1368546
185	California Juniper	*Juniperus californica*	30	4	4	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	8	15	35	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48408612	-118.1369711
186	California Juniper	*Juniperus californica*	25	6	5	4	4	4	4	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	11	15	35	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48419216	-118.1368092
187	California Juniper	*Juniperus californica*	25	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	3	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48402039	-118.136845
188	California Juniper	*Juniperus californica*	24	7	4	4	4	4	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	11	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4849072	-118.136509
189	California Juniper	*Juniperus californica*	30	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	6	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48407827	-118.136834
190	California Juniper	*Juniperus californica*	18	4	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48482266	-118.1362437
191	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48422563	-118.1367787
192	California Juniper	*Juniperus californica*	24	4	4	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48482765	-118.1363393
193	California Juniper	*Juniperus californica*	20	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	7	15	20	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48432738	-118.1367262
194	California Juniper	*Juniperus californica*	30	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	5	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4850571	-118.1362595
195	California Juniper	*Juniperus californica*	25	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	6	20	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48471216	-118.1362789
196	California Juniper	*Juniperus californica*	30	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	5	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48511791	-118.1362728
197	California Juniper	*Juniperus californica*	15	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	5	10	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48478576	-118.1362794
198	California Juniper	*Juniperus californica*	25	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48507341	-118.1361772
199	California Juniper	*Juniperus californica*	20	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	7	20	26	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48480571	-118.136127
200	California Juniper	*Juniperus californica*	30	4	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	7	15	26	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.485253	-118.1358743
201	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48496718	-118.1362923
202	California Juniper	*Juniperus californica*	40	6	4	4	4	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	67	10	20	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48537985	-118.1359311
203	California Juniper	*Juniperus californica*	6	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	3	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48496365	-118.1362805
205	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48497642	-118.1362932
206	California Juniper	*Juniperus californica*	40	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	50	7	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48512002	-118.1358696
207	California Juniper	*Juniperus californica*	8	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	3	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48498651	-118.1362903
208	California Juniper	*Juniperus californica*	20	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	5	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48539352	-118.1357654
209	California Juniper	*Juniperus californica*	8	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	3	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48500479	-118.1362822
210	California Juniper	*Juniperus californica*	25	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	5	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48558404	-118.1357629
211	California Juniper	*Juniperus californica*	10	4	3	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	7	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48496788	-118.1362389
212	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	6	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48500298	-118.1358392
213	California Juniper	*Juniperus californica*	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	2	8	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48500831	-118.1361463
214	California Juniper	*Juniperus californica*	11	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48504747	-118.1359045
215	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48503625	-118.1360889
216	California Juniper	*Juniperus californica*	20	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	7	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48481008	-118.1360365
217	California Juniper	*Juniperus californica*	45	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	53	7	20	37	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48533786	-118.1360371
218	California Juniper	*Juniperus californica*	20	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	7	17	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48356237	-118.1366117
219	California Juniper	*Juniperus californica*	30	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	8	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48544604	-118.1359011
220	California Juniper	*Juniperus californica*	25	8	7	7	6	5	5	4	4	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	15	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48395329	-118.1364953
221	California Juniper	*Juniperus californica*	25	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	4	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48402539	-118.1362804
222	California Juniper	*Juniperus californica*	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	10	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450132	-118.1358215
223	California Juniper	*Juniperus californica*	15	6	3	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	9	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4841989	-118.1359978
224	California Juniper	*Juniperus californica*	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	10	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450173	-118.1358237
225	California Juniper	*Juniperus californica*	15	5	4	4	4	4	3	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	9	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48468069	-118.1358736
226	California Juniper	*Juniperus californica*	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	10	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48451523	-118.1358293
227	California Juniper	*Juniperus californica*	20	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48512102	-118.1355412
228	California Juniper	*Juniperus californica*	10	3	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	10	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48451674	-118.1358249
229	California Juniper	*Juniperus californica*	15	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	5	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4851832	-118.1356612
230	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48448429	-118.135778
231	California Juniper	*Juniperus californica*	20	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	5	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48526411	-118.1355641
232	California Juniper	*Juniperus californica*	8	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	10	7	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48451527	-118.1357978
233	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	5	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48515196	-118.1353716
234	California Juniper	*Juniperus californica*	6	4	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	6	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48453948	-118.1358053
235	California Juniper	*Juniperus californica*	10	3	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	5	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48515219	-118.1354266
236	California Juniper	*Juniperus californica*	3	5	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	8	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4845352	-118.1358174

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
237	California Juniper	*Juniperus californica*	10	3	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	5	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48513456	-118.1354012
238	California Juniper	*Juniperus californica*	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48451307	-118.1358333
239	California Juniper	*Juniperus californica*	25	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	10	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48540852	-118.1354782
240	California Juniper	*Juniperus californica*	30	6	5	5	5	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	11	15	37	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48534605	-118.1353087
241	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.485503	-118.1355684
242	California Juniper	*Juniperus californica*	17	5	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	9	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48548295	-118.1352187
243	California Juniper	*Juniperus californica*	20	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48559376	-118.1354233
244	California Juniper	*Juniperus californica*	30	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	6	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48519708	-118.1351749
245	California Juniper	*Juniperus californica*	20	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	8	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48559004	-118.1353633
246	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	10	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48573293	-118.1351315
247	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	6	4	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48556354	-118.1353288
248	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48585171	-118.1351318
249	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	6	4	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48558742	-118.1352815
250	California Juniper	*Juniperus californica*	4	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	3	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48603023	-118.1351413
251	California Juniper	*Juniperus californica*	15	4	3	3	3	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	7	10	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48557145	-118.1353132
252	California Juniper	*Juniperus californica*	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	10	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48546824	-118.1348582
253	California Juniper	*Juniperus californica*	25	5	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	9	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48566873	-118.1353308
254	California Juniper	*Juniperus californica*	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48549242	-118.1348556
255	California Juniper	*Juniperus californica*	35	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	4	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48551338	-118.1349811
256	California Juniper	*Juniperus californica*	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	11	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48548262	-118.13484
257	California Juniper	*Juniperus californica*	35	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	7	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48566636	-118.1348784
258	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	11	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48547233	-118.1348324
258	California Juniper	*Juniperus californica*	4	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	6	12	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48546648	-118.1348199
259	California Juniper	*Juniperus californica*	25	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	6	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48569865	-118.1348033
260	California Juniper	*Juniperus californica*	5	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	12	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48546716	-118.1347996
261	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	10	10	Poor	Critical		Yes	No	Preserved	Preserved	Yes	34.48574025	-118.1348166
262	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48547809	-118.1348104
263	California Juniper	*Juniperus californica*	20	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	4	10	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48577461	-118.1347799
264	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	6	1	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48550655	-118.1348312
265	California Juniper	*Juniperus californica*	25	4	4	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	8	20	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48580097	-118.1346957
266	California Juniper	*Juniperus californica*	30	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	8	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48550313	-118.1347629
267	California Juniper	*Juniperus californica*	25	4	4	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	8	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48582972	-118.1346876
268	California Juniper	*Juniperus californica*	25	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48552197	-118.1346738
269	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	15	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48587703	-118.1345867
270	California Juniper	*Juniperus californica*	16	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	5	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48562551	-118.1346383
271	California Juniper	*Juniperus californica*	25	5	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	9	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48584592	-118.1349307
272	California Juniper	*Juniperus californica*	18	5	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	9	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48562958	-118.1346398
273	California Juniper	*Juniperus californica*	25	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48589861	-118.1349897
274	California Juniper	*Juniperus californica*	16	5	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	10	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48563141	-118.1345618
275	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	10	10	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48594697	-118.1349497
276	California Juniper	*Juniperus californica*	30	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	6	12	29	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48566365	-118.1344733
277	California Juniper	*Juniperus californica*	10	4	3	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	7	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48598061	-118.1349325
278	California Juniper	*Juniperus californica*	10	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	15	29	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48566445	-118.1344
279	California Juniper	*Juniperus californica*	20	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	5	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48598536	-118.1349129
280	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	4	11	31	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48562132	-118.1343028
281	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48603935	-118.1349418
282	California Juniper	*Juniperus californica*	20	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	4	12	22	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48565878	-118.1341934
283	California Juniper	*Juniperus californica*	25	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4861593	-118.1349274
284	California Juniper	*Juniperus californica*	17	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	4	8	17	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48608447	-118.1342786
285	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48608312	-118.1348667
286	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.486237	-118.1343436
287	California Juniper	*Juniperus californica*	25	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	5	15	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48599788	-118.1347836
288	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48641955	-118.1346565
289	California Juniper	*Juniperus californica*	15	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	7	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48594088	-118.1346672
291	California Juniper	*Juniperus californica*	25	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	5	15	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48593304	-118.1346333
293	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	15	20	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48626185	-118.1347104
295	California Juniper	*Juniperus californica*	25	6	5	5	5	5	5	4	4	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	11	20	33	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48632978	-118.1347316
297	California Juniper	*Juniperus californica*	25	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4863356	-118.1346216
306	California Juniper	*Juniperus californica*	14	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	10	11	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4861339	-118.1339447
308	California Juniper	*Juniperus californica*	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	2	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48610504	-118.133846
344	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48354515	-118.1363336
346	California Juniper	*Juniperus californica*	35	6	6	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	12	17	28	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48351449	-118.1364427
347	California Juniper	*Juniperus californica*	25	6	4	4	4	4	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	10	20	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48348625	-118.1363817
348	California Juniper	*Juniperus californica*	25	5	5	4	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	10	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48363628	-118.1360792
349	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	10	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48362275	-118.1360967
350	California Juniper	*Juniperus californica*	25	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	11	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48303381	-118.136305
351	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	6	20	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48360941	-118.1361292
352	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4825747	-118.1365576
353	California Juniper	*Juniperus californica*	15	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	6	10	10	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48317203	-118.1363232
354	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4827137	-118.1361622
355	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48281357	-118.1364577
356	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	13	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48272982	-118.1352441
357	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48263093	-118.1355265
358	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48259245	-118.1356282
359	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48258395	-118.1356895
374	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	4	8	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48613407	-118.1325376
375	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	2	2	Good	Good		Yes	No	Preserved	Preserved	Yes	34.48608386	-118.1324506
376	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	4	7	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48606575	-118.1323765
377	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	6	5	7	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48605952	-118.1323463
378	California Juniper	*Juniperus californica*	35	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	5	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48580503	-118.1322582
379	California Juniper	*Juniperus californica*	35	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	8	10	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48580957	-118.1324775
380	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48578387	-118.1323088
381	California Juniper	*Juniperus californica*	25	5	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	8	11	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48583517	-118.1325399
382	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48578606	-118.1323024
383	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	6	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48586828	-118.1325989
384	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	3	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48586438	-118.1326119
385	California Juniper	*Juniperus californica*	25	5	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	9	7	20	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48594601	-118.1326438
386	California Juniper	*Juniperus californica*	20	6	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	9	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48598294	-118.1326638
387	California Juniper	*Juniperus californica*	20	6	4	4	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	10	8	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48598223	-118.132678
388	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	15	Poor	Critical		Yes	No	Preserved	Preserved	Yes	34.48602323	-118.1326929
389	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	5	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48615474	-118.1331709
390	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	5	10	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48612585	-118.133024
391	California Juniper	*Juniperus californica*	25	4	4	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	8	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48611846	-118.1331293
393	California Juniper	*Juniperus californica*	30	6	4	4	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	10	10	24	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48617799	-118.1329203
394	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48624259	-118.1331927
395	California Juniper	*Juniperus californica*	25	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	5	11	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48597564	-118.1330915
396	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	5	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48617568	-118.1331359
397	California Juniper	*Juniperus californica*	25	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	4	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48592627	-118.1330031
398	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48619129	-118.1331403
399	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	9	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48590082	-118.1329104
400	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48604853	-118.133219
401	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	2	2	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48585493	-118.1329098
402	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48599953	-118.1333122
403	California Juniper	*Juniperus californica*	30	7	5	4	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	12	9	23	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48584805	-118.1328679
404	California Juniper	*Juniperus californica*	30	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	5	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48583445	-118.1330499
405	California Juniper	*Juniperus californica*	35	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	4	10	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48570215	-118.1324926
406	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48578546	-118.1329848
407	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48557968	-118.1324319
408	California Juniper	*Juniperus californica*	40	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	46	5	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48572643	-118.1327644
409	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	8	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48551825	-118.1326156
410	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	3	3	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48577337	-118.1326995
411	California Juniper	*Juniperus californica*	25	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	4	6	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48562276	-118.13287
412	California Juniper	*Juniperus californica*	25	6	5	5	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	11	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48549787	-118.1324895
413	California Juniper	*Juniperus californica*	35	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	5	9	25	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48559888	-118.1329541

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50	Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				Individual Stem Diameters (in.)																																																															
414	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48596873	-118.1332248
415	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	4	5	Good	Good		Yes	No	Preserved	Preserved	Yes	34.48563978	-118.1332676
417	California Juniper	*Juniperus californica*	15	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	5	5	4	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48562121	-118.133327
418	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	4	5	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48584517	-118.1335331
419	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	7	6	8	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.4856398	-118.133357
420	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48583052	-118.1334241
421	California Juniper	*Juniperus californica*	25	5	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	9	7	12	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48565621	-118.1334902
422	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	5	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48580605	-118.1335499
423	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	7	7	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48572561	-118.1334676
424	California Juniper	*Juniperus californica*	35	5	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	7	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48581164	-118.1335552
425	California Juniper	*Juniperus californica*	30	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	7	8	25	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.4856598	-118.1337257
426	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	4	7	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.48571957	-118.1336338
427	California Juniper	*Juniperus californica*	25	4	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	7	8	30	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48567537	-118.1338221
428	California Juniper	*Juniperus californica*	30	4	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	6	8	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48570433	-118.1336572
429	California Juniper	*Juniperus californica*	35	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	4	7	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48529613	-118.1327901
430	California Juniper	*Juniperus californica*	30	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	4	8	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48556245	-118.1338213
431	California Juniper	*Juniperus californica*	25	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	4	7	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48538386	-118.1328948
432	California Juniper	*Juniperus californica*	25	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	3	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48553609	-118.1337733
433	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	7	11	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48531168	-118.1328662
434	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48567943	-118.1337948
435	California Juniper	*Juniperus californica*	35	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	5	12	30	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4860078	-118.1319551
436	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48587645	-118.1318834
437	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	9	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48563836	-118.131972
438	California Juniper	*Juniperus californica*	30	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	5	20	30	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48568174	-118.1320623
439	California Juniper	*Juniperus californica*	35	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	5	15	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48554127	-118.1318925
440	California Juniper	*Juniperus californica*	30	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	6	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48555091	-118.1321449
441	California Juniper	*Juniperus californica*	25	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	5	12	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48552018	-118.1318916
442	California Juniper	*Juniperus californica*	30	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	5	20	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48538049	-118.1322833
443	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	11	8	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48554684	-118.1319692
444	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	15	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48539524	-118.132104
445	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	9	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48547774	-118.1320168
446	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48535424	-118.1321534
447	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	6	11	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48542892	-118.1318879
448	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	8	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48535455	-118.1323677
449	California Juniper	*Juniperus californica*	25	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	5	8	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48524621	-118.1319518
450	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48513524	-118.1326361
451	California Juniper	*Juniperus californica*	25	4	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	7	7	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48527093	-118.1320572
452	California Juniper	*Juniperus californica*	25	7	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	9	15	30	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48481863	-118.1318576
453	California Juniper	*Juniperus californica*	25	5	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	9	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48523075	-118.1323145
454	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	5	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48484128	-118.1326461
455	California Juniper	*Juniperus californica*	30	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	6	9	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48508583	-118.1325077
456	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48482323	-118.1327602
457	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	9	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4843276	-118.1322648
458	California Juniper	*Juniperus californica*	30	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	4	15	25	Fair	Fair		Yes	No	Encroachment	Preserved	Yes	34.48497527	-118.1329106
459	California Juniper	*Juniperus californica*	25	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	4	8	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48489975	-118.132572
460	California Juniper	*Juniperus californica*	30	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	4	15	20	Good	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48482382	-118.133024
461	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	3	4	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48487042	-118.1326911
462	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	7	5	Good	Good		Yes	No	Removal	Removal	Yes	34.48460378	-118.1332612
463	California Juniper	*Juniperus californica*	20	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	5	8	10	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48490876	-118.1327906
464	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	10	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48460202	-118.1333564
465	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	7	12	15	Fair	Poor		Yes	No	Removal	Preserved	Yes	34.48493181	-118.1329602
466	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	5	10	Fair	Poor		Yes	No	Removal	Removal	Yes	34.48477511	-118.1335103
467	California Juniper	*Juniperus californica*	30	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	5	12	25	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48487241	-118.1330607
468	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	10	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48467957	-118.1335554
469	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	9	7	Good	Fair		Yes	No	Removal	Removal	Yes	34.48462198	-118.1333899
470	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48451032	-118.1336902
471	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	6	7	Good	Good		Yes	No	Removal	Removal	Yes	34.48450072	-118.1334096
472	California Juniper	*Juniperus californica*	15	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	6	8	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48393285	-118.1334015
473	California Juniper	*Juniperus californica*	35	4	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	7	12	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48459913	-118.1335413
474	California Juniper	*Juniperus californica*	15	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	6	10	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48360458	-118.1335099
475	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	4	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48364376	-118.1334829
476	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48354815	-118.1335248
477	California Juniper	*Juniperus californica*	35	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	5	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48252195	-118.1354203
478	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48100575	-118.1350365
479	California Juniper	*Juniperus californica*	30	9	9	8	8	8	7	7	5	5	5	4	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	18	14	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48096901	-118.1342337
480	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48117299	-118.1342868
481	California Juniper	*Juniperus californica*	30	4	4	4	4	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	8	14	25	Dead	Dead		No	No	Preserved	Preserved	Yes	34.4814304	-118.1340966
482	California Juniper	*Juniperus californica*	30	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	4	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48136271	-118.1339489
483	California Juniper	*Juniperus californica*	30	6	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	11	16	30	Dead	Dead		No	No	Preserved	Encroachment	Yes	34.48152599	-118.1323251
484	California Juniper	*Juniperus californica*	30	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	6	20	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48150467	-118.1338553
485	California Juniper	*Juniperus californica*	25	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	8	15	30	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48335739	-118.1324773
486	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Good	Good		Yes	No	Preserved	Removal	Yes	34.48226762	-118.132542
487	California Juniper	*Juniperus californica*	40	6	6	6	6	5	5	5	4	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	102	12	18	35	Poor	Poor		Yes	Yes	Removal	Removal	Yes	34.48350228	-118.1323645
488	California Juniper	*Juniperus californica*	30	5	4	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	9	20	35	Poor	Fair		Yes	Yes	Removal	Removal	Yes	34.48324436	-118.1324954
489	California Juniper	*Juniperus californica*	25	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	6	11	25	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48214772	-118.1328528
490	California Juniper	*Juniperus californica*	20	7	6	5	5	5	5	4	4	4	4	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	13	20	35	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48379811	-118.1320663
491	California Juniper	*Juniperus californica*	20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	10	9	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48230233	-118.1337247
492	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48395582	-118.1320773
493	California Juniper	*Juniperus californica*	25	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	6	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48213119	-118.1337068
494	California Juniper	*Juniperus californica*	20	6	5	5	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	11	15	25	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48211859	-118.1327243
495	California Juniper	*Juniperus californica*	25	3	3	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	6	11	20	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48208773	-118.1336928
496	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	6	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48238664	-118.1335873
497	California Juniper	*Juniperus californica*	20	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	6	9	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48203873	-118.1338903
498	California Juniper	*Juniperus californica*	15	6	6	5	4	3	3	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	12	20	35	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48228874	-118.1339592
499	California Juniper	*Juniperus californica*	25	7	7	7	7	6	6	5	5	5	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	14	12	30	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.480729	-118.1344741
500	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48345883	-118.1359945
501	California Juniper	*Juniperus californica*	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	5	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4834324	-118.135948
502	California Juniper	*Juniperus californica*	5	3	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	6	4	10	Dead	Dead	Fallen over.	No	No	Preserved	Preserved	Yes	34.4834007	-118.1359911
503	California Juniper	*Juniperus californica*	10	5	5	5	5	5	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	10	5	10	Dead	Dead	Fallen over.	No	No	Preserved	Preserved	Yes	34.4834096	-118.1359273
504	California Juniper	*Juniperus californica*	6	5	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	8	2	10	Dead	Dead	Fallen over.	No	No	Preserved	Preserved	Yes	34.48339799	-118.1358483
504	California Juniper	*Juniperus californica*	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	6	10	Dead	Dead	Fallen over.	No	No	Preserved	Preserved	Yes	34.48336894	-118.1358508
505	California Juniper	*Juniperus californica*	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	4	3	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48340829	-118.1357999
506	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	6	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48348003	-118.1357688
507	California Juniper	*Juniperus californica*	5	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	2	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.4835234	-118.1357793
508	California Juniper	*Juniperus californica*	10	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	6	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48347903	-118.1359194
509	California Juniper	*Juniperus californica*	5	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4	3	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48365333	-118.1357773
510	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48363066	-118.1356984
511	California Juniper	*Juniperus californica*	6	4	4	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	8	7	7	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48361867	-118.135545
512	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	1	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48361939	-118.135546
513	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	3	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48355801	-118.1354345
514	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48355977	-118.1354209
515	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	1	5	Dead	Dead	Fallen over.	No	No	Preserved	Preserved	Yes	34.48358211	-118.1354266
516	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	5	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4836232	-118.135273
517	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	4	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48365998	-118.1353288
518	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	1	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48373058	-118.1353162
519	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	3	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48375792	-118.135333
520	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	3	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48378509	-118.1352931
521	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	3	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48379252	-118.1352143
522	California Juniper	*Juniperus californica*	6	5	4	4	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	9	3	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48380803	-118.1352432
523	California Juniper	*Juniperus californica*	2	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	4	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48385779	-118.1351619
524	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	3	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48389651	-118.1351269
525	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	6	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48384623	-118.1350462
526	California Juniper	*Juniperus californica*	15	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	7	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48388757	-118.1349928
527	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	7	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48386874	-118.1350042

Tree Information Matrix

Individual Stem Diameters (in.): D1–D50

Tree No.	Common Name	Botanical Name	Stems	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50	Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
528	California Juniper	*Juniperus californica*	15	5	4	4	3	3	3	3	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	9	10	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48381402	-118.1349148
528	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48394134	-118.1349643
529	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	4	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48404578	-118.1347239
530	California Juniper	*Juniperus californica*	10	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	4	3	6	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48410786	-118.1346756
531	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	6	6	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48401953	-118.1353971
532	California Juniper	*Juniperus californica*	20	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48406702	-118.1354159
533	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48407812	-118.1354637
534	California Juniper	*Juniperus californica*	20	4	4	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	8	15	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48401299	-118.1355369
535	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48393719	-118.135543
536	California Juniper	*Juniperus californica*	15	4	4	4	4	3	3	3	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	8	10	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4840315	-118.1356255
537	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48399167	-118.1356677
538	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48388251	-118.1356448
539	California Juniper	*Juniperus californica*	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	4	1	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48382384	-118.135499
540	California Juniper	*Juniperus californica*	23	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	4	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48422796	-118.1356675
541	California Juniper	*Juniperus californica*	20	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	6	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48438114	-118.1356075
542	California Juniper	*Juniperus californica*	15	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	6	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48435609	-118.1353197
543	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48438744	-118.1353144
544	California Juniper	*Juniperus californica*	20	5	4	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	9	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4843909	-118.1352262
545	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	9	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48423644	-118.1350945
546	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	8	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4842864	-118.1349763
547	California Juniper	*Juniperus californica*	15	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	8	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48433585	-118.1348645
548	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48433348	-118.1348183
549	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48425898	-118.1343721
550	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48433273	-118.1344191
551	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48431923	-118.1340882
552	California Juniper	*Juniperus californica*	10	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	15	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4843728	-118.1344081
553	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	5	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48433786	-118.1341469
554	California Juniper	*Juniperus californica*	15	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	8	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48436525	-118.1344223
555	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	4	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48437462	-118.1341005
556	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48431534	-118.1344867
557	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450885	-118.1338396
558	California Juniper	*Juniperus californica*	25	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	5	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48450085	-118.1346331
559	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	8	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48463765	-118.1338539
560	California Juniper	*Juniperus californica*	20	6	5	5	5	4	4	4	3	3	3	3	3	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	11	15	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48453306	-118.1346838
561	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	6	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48459617	-118.1341491
562	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48454259	-118.1346131
563	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	5	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48460612	-118.1341515
564	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450036	-118.1349424
565	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	11	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48468541	-118.1342567
566	California Juniper	*Juniperus californica*	10	2	2	2	2	2	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450406	-118.135176
567	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	11	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48506761	-118.134556
568	California Juniper	*Juniperus californica*	12	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48451701	-118.1353287
569	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	9	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48511431	-118.1344284
570	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48480736	-118.135217
571	California Juniper	*Juniperus californica*	9	4	3	3	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	7	15	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48503964	-118.1347203
572	California Juniper	*Juniperus californica*	20	8	7	6	5	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	15	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48492213	-118.1350154
573	California Juniper	*Juniperus californica*	10	5	5	5	5	5	4	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	10	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48505666	-118.1347879
574	California Juniper	*Juniperus californica*	20	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	8	12	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48485396	-118.134944
575	California Juniper	*Juniperus californica*	17	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	5	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48499924	-118.1338929
576	California Juniper	*Juniperus californica*	6	6	5	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	11	15	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48497291	-118.1349205
577	California Juniper	*Juniperus californica*	11	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48496921	-118.1334278
578	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48522335	-118.1341218
578	California Juniper	*Juniperus californica*	20	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48520695	-118.1339085
579	California Juniper	*Juniperus californica*	15	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48497321	-118.1334008
580	California Juniper	*Juniperus californica*	10	3	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	6	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48494914	-118.1337766
581	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48497502	-118.1333551
582	California Juniper	*Juniperus californica*	8	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48492094	-118.1337606
583	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48343291	-118.1353193
584	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48488491	-118.133706
585	California Juniper	*Juniperus californica*	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	2	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48295913	-118.1353935
586	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48507741	-118.1336203
587	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48293102	-118.1354322
588	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48506237	-118.1335066
589	California Juniper	*Juniperus californica*	23	4	4	4	4	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	8	20	35	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48286936	-118.1354212
590	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48505967	-118.1333752
591	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	11	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48284632	-118.1352782
592	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48515756	-118.1335232
593	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	11	14	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48300536	-118.1351498
594	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48513788	-118.1336491
595	California Juniper	*Juniperus californica*	13	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	4	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48297681	-118.1350564
596	California Juniper	*Juniperus californica*	15	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	8	3	15	Dead	Dead	Broken, fragmented, scattered on ground.	No	No	Preserved	Preserved	Yes	34.48354159	-118.1362313
597	California Juniper	*Juniperus californica*	15	4	3	3	3	3	3	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	7	15	27	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48291024	-118.1346961
598	California Juniper	*Juniperus californica*	15	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	6	8	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48350628	-118.1350747
599	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4830952	-118.1348872
600	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48338632	-118.1350615
601	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48313568	-118.1349298
602	California Juniper	*Juniperus californica*	15	5	5	5	5	5	5	5	4	4	4	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	10	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48341296	-118.134864
603	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	7	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48318501	-118.1348172
604	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	12	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4835636	-118.1350002
605	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48319285	-118.1347176
606	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48364923	-118.1348989
607	California Juniper	*Juniperus californica*	15	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48292018	-118.1347046
608	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	5	9	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48352771	-118.1345657
609	California Juniper	*Juniperus californica*	25	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	5	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48325118	-118.134486
610	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48379817	-118.1347007
611	California Juniper	*Juniperus californica*	25	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	7	20	24	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48327847	-118.134558
612	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	6	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48384005	-118.1346542
613	California Juniper	*Juniperus californica*	30	4	4	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	8	18	36	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48338659	-118.1343758
614	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48384011	-118.1344246
615	California Juniper	*Juniperus californica*	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4833568	-118.1343981
616	California Juniper	*Juniperus californica*	10	11	10	9	5	5	4	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	21	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48378838	-118.1343332
617	California Juniper	*Juniperus californica*	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	2	15	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48326884	-118.1340363
618	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48393207	-118.1343045
619	California Juniper	*Juniperus californica*	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	2	10	14	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48331928	-118.1339031
620	California Juniper	*Juniperus californica*	10	4	3	3	3	3	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	7	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48426431	-118.1339238
621	California Juniper	*Juniperus californica*	13	3	3	2	2	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	6	15	24	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48342823	-118.1340107
622	California Juniper	*Juniperus californica*	12	4	4	3	3	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	8	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4842803	-118.1337938
623	California Juniper	*Juniperus californica*	20	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	3	15	21	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48346313	-118.133875
624	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	7	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48435134	-118.133825
625	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	15	21	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48364376	-118.1334829
626	California Juniper	*Juniperus californica*	15	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	6	8	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48431565	-118.1336502
627	California Juniper	*Juniperus californica*	18	5	4	3	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	9	17	35	Dead	Dead	Heritage tree.	No	No	Preserved	Preserved	Yes	34.48276068	-118.1339853
628	California Juniper	*Juniperus californica*	15	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	6	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48425328	-118.1336341
629	California Juniper	*Juniperus californica*	15	9	3	3	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	12	16	35	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48276936	-118.1342527
630	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	8	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48428364	-118.1335191
631	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	7	9	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48273769	-118.1348563
632	California Juniper	*Juniperus californica*	8	4	4	4	4	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	8	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48391951	-118.1336113
633	California Juniper	*Juniperus californica*	12	9	7	7	6	6	5	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	16	20	24	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48154174	-118.1310073
634	California Juniper	*Juniperus californica*	12	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48343553	-118.1336803
635	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48135665	-118.1308452
636	California Juniper	*Juniperus californica*	7	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	6	4	7	Dead	Dead	Decaying.	No	No	Preserved	Preserved	Yes	34.48342209	-118.1334588
637	California Juniper	*Juniperus californica*	10	4	4	3	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	8	15	27	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4813909	-118.1308341
638	California Juniper	*Juniperus californica*	25	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	8	12	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48337535	-118.133601
639	California Juniper	*Juniperus californica*	16	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	7	15	27	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48140483	-118.1307911

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
640	California Juniper	*Juniperus californica*	8	3	3	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	6	6	9	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48325268	-118.1336795
641	California Juniper	*Juniperus californica*	20	7	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	10	15	17	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48118749	-118.1307818
642	California Juniper	*Juniperus californica*	7	7	6	6	5	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	13	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48323359	-118.1335188
643	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4812017	-118.1307328
644	California Juniper	*Juniperus californica*	17	12	6	6	6	4	4	3	3	3	3	3	3	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	18	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48262743	-118.1341156
645	California Juniper	*Juniperus californica*	16	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48107207	-118.1308453
646	California Juniper	*Juniperus californica*	15	6	5	5	5	4	4	4	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	11	17	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48216446	-118.1352241
647	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48110307	-118.1307683
648	California Juniper	*Juniperus californica*	25	7	6	6	6	6	5	5	5	5	5	4	4	4	3	3	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	13	15	37	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48202091	-118.1352074
649	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	10	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48096096	-118.1307738
650	California Juniper	*Juniperus californica*	20	7	6	4	4	4	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	13	15	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48177085	-118.1297044
651	California Juniper	*Juniperus californica*	4	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	5	15	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48090765	-118.1313694
652	California Juniper	*Juniperus californica*	20	5	4	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	9	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48171143	-118.1296923
653	California Juniper	*Juniperus californica*	7	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	7	14	9	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48093557	-118.1307866
654	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48174842	-118.1296295
655	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4807662	-118.1306443
656	California Juniper	*Juniperus californica*	20	4	4	4	4	4	4	4	4	4	4	4	4	4	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48168893	-118.1295005
657	California Juniper	*Juniperus californica*	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	2	8	13	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4807043	-118.1304868
658	California Juniper	*Juniperus californica*	10	3	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	5	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48164946	-118.1295346
659	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	8	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48071604	-118.1303387
660	California Juniper	*Juniperus californica*	25	6	6	6	6	6	6	5	4	4	4	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	12	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4815806	-118.1294713
661	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48074992	-118.1301911
662	California Juniper	*Juniperus californica*	10	8	7	5	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	15	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4815697	-118.1293829
663	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48080962	-118.1301585
664	California Juniper	*Juniperus californica*	15	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	12	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48158948	-118.1294451
665	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	3	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48078948	-118.1301874
666	California Juniper	*Juniperus californica*	15	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	6	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48153161	-118.1295316
667	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	7	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48077588	-118.130205
668	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48147646	-118.1295975
669	California Juniper	*Juniperus californica*	12	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	12	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4807555	-118.1302981
670	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48146955	-118.1296096
671	California Juniper	*Juniperus californica*	13	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48074259	-118.1303409
672	California Juniper	*Juniperus californica*	15	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	6	8	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48146192	-118.129679
673	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48082186	-118.1303603
674	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48149112	-118.1296334
675	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	6	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48084273	-118.1304136
676	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	5	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48150121	-118.1295933
677	California Juniper	*Juniperus californica*	13	6	6	5	5	5	3	3	3	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	12	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48093521	-118.1305434
678	California Juniper	*Juniperus californica*	25	6	5	5	5	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	11	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48155868	-118.1295905
679	California Juniper	*Juniperus californica*	13	4	4	3	3	3	3	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	8	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48101934	-118.1300463
680	California Juniper	*Juniperus californica*	20	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	8	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48160537	-118.1296323
681	California Juniper	*Juniperus californica*	8	4	4	4	4	4	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48106627	-118.1304436
682	California Juniper	*Juniperus californica*	15	4	4	4	3	3	3	3	3	3	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	8	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.481627	-118.1296393
683	California Juniper	*Juniperus californica*	9	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	6	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48105788	-118.1303436
684	California Juniper	*Juniperus californica*	5	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48162449	-118.1296964
685	California Juniper	*Juniperus californica*	27	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	7	15	30	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4810149	-118.1302988
686	California Juniper	*Juniperus californica*	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	8	8	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48161492	-118.1296696
687	California Juniper	*Juniperus californica*	9	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	14	16	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48097379	-118.1303269
688	California Juniper	*Juniperus californica*	10	6	4	3	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	10	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48159823	-118.1296994
689	California Juniper	*Juniperus californica*	17	7	6	5	3	3	3	3	3	3	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	13	17	23	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48091564	-118.1302946
690	California Juniper	*Juniperus californica*	12	4	4	4	3	3	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	8	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4814588	-118.129513
691	California Juniper	*Juniperus californica*	15	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	7	16	22	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48098576	-118.1302249
692	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48155639	-118.1298182
693	California Juniper	*Juniperus californica*	8	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	3	10	11	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48085565	-118.1301349
694	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	9	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48139449	-118.1297458
695	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	6	9	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4808543	-118.130105
696	California Juniper	*Juniperus californica*	20	8	8	7	6	5	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	16	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48131577	-118.1297609
697	California Juniper	*Juniperus californica*	20	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48072235	-118.1300351
698	California Juniper	*Juniperus californica*	20	6	6	6	6	5	5	4	4	3	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	12	17	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48128174	-118.1298209
699	California Juniper	*Juniperus californica*	9	5	5	4	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	10	13	16	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48089332	-118.1316977
700	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48128444	-118.1298122
701	California Juniper	*Juniperus californica*	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	2	9	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48090197	-118.1313091
702	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	3	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4812446	-118.1296175
703	California Juniper	*Juniperus californica*	20	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	10	20	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48096064	-118.1313282
704	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48124535	-118.1296084
705	California Juniper	*Juniperus californica*	18	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	4	8	11	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48100047	-118.1312804
706	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48114944	-118.129554
707	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48103651	-118.1311761
708	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	4	5	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48110035	-118.1295054
709	California Juniper	*Juniperus californica*	20	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	4	12	16	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48103796	-118.1311461
709	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	9	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48115916	-118.131054
710	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	5	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48109674	-118.1295698
711	California Juniper	*Juniperus californica*	6	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	6	8	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48096285	-118.1311592
712	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	7	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48099802	-118.1296152
713	California Juniper	*Juniperus californica*	15	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	5	12	25	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4810008	-118.1310613
714	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	7	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48101176	-118.1296592
715	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4809396	-118.1310298
717	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	11	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48079977	-118.1311314
718	California Juniper	*Juniperus californica*	11	7	7	6	6	5	5	4	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	14	15	20	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48195356	-118.13037
719	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	10	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48074659	-118.130959
720	California Juniper	*Juniperus californica*	2	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48197994	-118.1303757
721	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4807889	-118.1309843
722	California Juniper	*Juniperus californica*	12	12	8	7	4	4	3	3	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	20	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48194756	-118.1304208
723	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48087027	-118.1309774
724	California Juniper	*Juniperus californica*	15	7	5	5	5	4	4	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	12	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48177132	-118.1302099
725	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48094573	-118.1309703
726	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48174885	-118.1301998
727	California Juniper	*Juniperus californica*	10	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	7	10	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48094283	-118.1309213
728	California Juniper	*Juniperus californica*	20	8	7	4	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	15	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48170199	-118.1302084
729	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	6	5	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48081274	-118.1308688
730	California Juniper	*Juniperus californica*	25	7	7	6	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	14	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48157319	-118.1302578
731	California Juniper	*Juniperus californica*	40	8	8	8	8	7	6	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	112	16	21	40	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48191505	-118.1292725
732	California Juniper	*Juniperus californica*	20	6	5	5	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	11	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48140953	-118.1302303
733	California Juniper	*Juniperus californica*	7	3	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	5	12	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48151337	-118.1292909
734	California Juniper	*Juniperus californica*	20	9	5	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	14	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48142993	-118.1300917
735	California Juniper	*Juniperus californica*	12	3	3	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	6	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48151967	-118.1292697
736	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	7	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48124667	-118.1302407
737	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	13	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48160139	-118.1291574
738	California Juniper	*Juniperus californica*	25	4	4	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48115794	-118.1302954
739	California Juniper	*Juniperus californica*	20	8	6	5	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	14	20	28	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4815625	-118.1290821
740	California Juniper	*Juniperus californica*	20	3	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	6	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48115089	-118.130354
741	California Juniper	*Juniperus californica*	15	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	5	15	23	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48147004	-118.1290746
742	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48107975	-118.1303075
743	California Juniper	*Juniperus californica*	20	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	6	20	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48143005	-118.129144
744	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48110485	-118.1302165
745	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48141239	-118.1292037
746	California Juniper	*Juniperus californica*	15	5	4	4	4	3	2	2	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	9	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.481098	-118.1301051
747	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48141642	-118.1292142
748	California Juniper	*Juniperus californica*	10	4	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	6	8	9	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48092321	-118.1300711
749	California Juniper	*Juniperus californica*	10	4	3	3	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	7	16	21	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48136866	-118.1292722
750	California Juniper	*Juniperus californica*	20	5	5	5	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	10	18	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4809382	-118.1301267
751	California Juniper	*Juniperus californica*	20	5	4	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	9	21	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48139324	-118.1294121
752	California Juniper	*Juniperus californica*	15	6	5	5	5	5	5	5	5	5	5	5	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	11	15	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48093982	-118.1299366
753	California Juniper	*Juniperus californica*	16	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	3	13	16	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48119191	-118.1292395

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
754	California Juniper	*Juniperus californica*	9	5	4	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	9	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48095069	-118.1299574
755	California Juniper	*Juniperus californica*	5	4	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	7	15	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48122323	-118.1291223
756	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48100007	-118.129982
757	California Juniper	*Juniperus californica*	9	6	3	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	9	15	20	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.481273	-118.1290874
758	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48115471	-118.1299953
759	California Juniper	*Juniperus californica*	15	7	6	5	5	3	3	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	13	20	33	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48125897	-118.1290376
760	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48117087	-118.1299522
761	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	16	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48130655	-118.1290375
762	California Juniper	*Juniperus californica*	20	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	6	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48119708	-118.1299433
763	California Juniper	*Juniperus californica*	8	3	3	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	6	15	10	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48130244	-118.1291043
764	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48123947	-118.1300575
765	California Juniper	*Juniperus californica*	6	8	5	4	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	13	20	27	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48135386	-118.1291383
765	California Juniper	*Juniperus californica*	15	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	5	20	16	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48130945	-118.12913
766	California Juniper	*Juniperus californica*	10	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48088441	-118.1296807
767	California Juniper	*Juniperus californica*	8	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	5	14	14	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48140483	-118.1291557
768	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48086909	-118.1294362
769	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48143475	-118.1291448
770	California Juniper	*Juniperus californica*	5	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	6	3	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48083237	-118.1293578
771	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	12	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4813396	-118.129178
772	California Juniper	*Juniperus californica*	10	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	4	5	5	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48078615	-118.1292928
773	California Juniper	*Juniperus californica*	10	3	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	5	11	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48141782	-118.1292651
774	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48081589	-118.1292108
775	California Juniper	*Juniperus californica*	40	5	5	4	4	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	66	10	25	36	Fair	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.4816735	-118.1290301
776	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	3	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48080251	-118.1291989
777	California Juniper	*Juniperus californica*	17	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	7	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48158456	-118.1290896
778	California Juniper	*Juniperus californica*	20	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	6	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48073411	-118.1291801
779	California Juniper	*Juniperus californica*	15	6	5	4	3	3	3	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	11	20	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.481388	-118.1290002
780	California Juniper	*Juniperus californica*	5	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	6	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48077012	-118.1291488
781	California Juniper	*Juniperus californica*	15	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	6	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48142627	-118.1289876
782	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	7	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48078577	-118.1291382
783	California Juniper	*Juniperus californica*	8	3	3	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	6	10	17	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48137495	-118.1288903
784	California Juniper	*Juniperus californica*	15	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	6	7	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48077697	-118.1291202
785	California Juniper	*Juniperus californica*	25	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	8	10	17	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48131764	-118.1288593
786	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	7	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48075971	-118.129134
787	California Juniper	*Juniperus californica*	6	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	4	10	14	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48134941	-118.1288935
788	California Juniper	*Juniperus californica*	15	5	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	7	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48075512	-118.1291282
789	California Juniper	*Juniperus californica*	8	5	3	3	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	8	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48132976	-118.128765
790	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	8	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48080727	-118.1290914
791	California Juniper	*Juniperus californica*	7	4	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	6	5	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48134563	-118.1287109
792	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48077669	-118.1290744
793	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48128965	-118.1287671
794	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	12	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48073553	-118.1289206
795	California Juniper	*Juniperus californica*	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	2	5	11	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48124755	-118.128782
796	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	12	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48082707	-118.1290397
797	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	5	8	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48122114	-118.1287763
798	California Juniper	*Juniperus californica*	20	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	8	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48080731	-118.1290298
799	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48121483	-118.1288054
800	California Juniper	*Juniperus californica*	15	6	5	4	4	4	4	3	3	3	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	11	20	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48210009	-118.1339585
801	California Juniper	*Juniperus californica*	25	4	4	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	8	12	30	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48103116	-118.1330677
802	California Juniper	*Juniperus californica*	10	8	7	6	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	15	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48096395	-118.1333891
803	California Juniper	*Juniperus californica*	25	9	6	6	6	5	5	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	15	15	25	Critical	Poor		Yes	No	Removal	Removal	Yes	34.48099294	-118.1326405
804	California Juniper	*Juniperus californica*	25	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	6	20	30	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48086517	-118.1327481
805	California Juniper	*Juniperus californica*	20	3	3	3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	6	16	24	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48122969	-118.1318544
806	California Juniper	*Juniperus californica*	8	7	7	6	5	5	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	14	30	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48079597	-118.1319226
807	California Juniper	*Juniperus californica*	25	12	6	5	5	4	4	4	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	18	25	45	Fair	Fair		Yes	Yes	Removal	Removal	Yes	34.48281652	-118.1299592
808	California Juniper	*Juniperus californica*	20	5	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	15	30	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48231317	-118.1302576
809	California Juniper	*Juniperus californica*	30	5	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	9	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48224075	-118.1302497
810	California Juniper	*Juniperus californica*	20	6	6	5	5	4	4	4	3	3	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	12	15	35	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48223735	-118.1299498
811	California Juniper	*Juniperus californica*	35	5	5	4	4	4	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	10	15	40	Critical	Poor		Yes	Yes	Preserved	Preserved	Yes	34.48341232	-118.1295969
812	California Juniper	*Juniperus californica*	35	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	6	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48391416	-118.1298899
813	California Juniper	*Juniperus californica*	30	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	5	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48423978	-118.1297943
814	California Juniper	*Juniperus californica*	35	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	3	10	20	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48427034	-118.1302483
815	California Juniper	*Juniperus californica*	25	5	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	7	10	10	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48423136	-118.1304823
816	California Juniper	*Juniperus californica*	35	7	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	11	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48423489	-118.1308587
817	California Juniper	*Juniperus californica*	35	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	7	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48424903	-118.1311922
820	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	6	10	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48414353	-118.1317721
821	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	8	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48408674	-118.1318107
822	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	10	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48407653	-118.1318015
823	California Juniper	*Juniperus californica*	15	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	8	15	15	Dead	Dead		No	No	Removal	Removal	Yes	34.48324739	-118.1310578
824	California Juniper	*Juniperus californica*	35	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	6	15	30	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48332545	-118.1309452
825	California Juniper	*Juniperus californica*	35	4	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	8	20	30	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48366348	-118.130593
826	California Juniper	*Juniperus californica*	35	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	20	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48379915	-118.1302902
827	California Juniper	*Juniperus californica*	40	4	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	51	8	25	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48414885	-118.1289304
828	California Juniper	*Juniperus californica*	35	5	5	4	4	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	10	20	40	Fair	Poor		Yes	Yes	Preserved	Preserved	Yes	34.48404611	-118.1286582
829	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48403275	-118.1284548
830	California Juniper	*Juniperus californica*	30	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	7	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48426107	-118.1280379
831	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	10	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48316927	-118.1293727
832	California Juniper	*Juniperus californica*	20	7	5	4	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	12	15	15	Critical	Poor		Yes	No	Removal	Removal	Yes	34.48309569	-118.1292128
833	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	15	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48345505	-118.1288718
834	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48372262	-118.1280166
835	California Juniper	*Juniperus californica*	30	5	5	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	10	20	25	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48350716	-118.1279336
836	California Juniper	*Juniperus californica*	40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	40	2	10	10	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48300749	-118.1274164
837	California Juniper	*Juniperus californica*	25	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	3	10	10	Critical	Fair		Yes	No	Removal	Removal	Yes	34.48291916	-118.1274437
838	California Juniper	*Juniperus californica*	35	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	4	15	20	Fair	Fair		Yes	No	Removal	Removal	Yes	34.4828062	-118.1279809
839	California Juniper	*Juniperus californica*	40	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	46	6	10	35	Critical	Poor		Yes	Yes	Encroachment	Encroachment	Yes	34.48305043	-118.1282778
840	California Juniper	*Juniperus californica*	30	5	4	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	9	20	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48323493	-118.1281021
841	California Juniper	*Juniperus californica*	40	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	44	4	20	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48320697	-118.1279292
842	California Juniper	*Juniperus californica*	35	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	4	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48326679	-118.1272452
843	California Juniper	*Juniperus californica*	35	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	4	15	35	Poor	Poor		Yes	Yes	Preserved	Preserved	Yes	34.48286139	-118.1264081
844	California Juniper	*Juniperus californica*	20	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	5	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48103419	-118.1276585
845	California Juniper	*Juniperus californica*	20	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	3	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48102552	-118.1276199
846	California Juniper	*Juniperus californica*	20	6	5	5	5	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	11	20	35	Poor	Poor		Yes	Yes	Preserved	Preserved	Yes	34.4808556	-118.1275438
847	California Juniper	*Juniperus californica*	30	4	4	4	4	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48071247	-118.1276473
848	California Juniper	*Juniperus californica*	20	5	5	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	10	15	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48072185	-118.1273976
849	California Juniper	*Juniperus californica*	35	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	4	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48075307	-118.1274349
850	California Juniper	*Juniperus californica*	35	6	5	4	4	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	11	20	30	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.48083052	-118.1274179
851	California Juniper	*Juniperus californica*	30	5	4	4	4	4	4	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	9	20	40	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48089759	-118.1274086
852	California Juniper	*Juniperus californica*	40	4	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	51	7	15	30	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.480916	-118.1272597
853	California Juniper	*Juniperus californica*	40	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	49	6	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48077353	-118.1272973
854	California Juniper	*Juniperus californica*	40	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	48	6	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48076007	-118.127232
855	California Juniper	*Juniperus californica*	40	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	53	6	25	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48083097	-118.1271368
856	California Juniper	*Juniperus californica*	35	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	6	20	20	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48079688	-118.1271441
857	California Juniper	*Juniperus californica*	30	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	6	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48074644	-118.1271585
858	California Juniper	*Juniperus californica*	30	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	4	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48101353	-118.1271762
859	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48100196	-118.1271215
860	California Juniper	*Juniperus californica*	35	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	3	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48107412	-118.1270545
861	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48092924	-118.1269269
862	California Juniper	*Juniperus californica*	35	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	4	15	25	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.4808909	-118.1269633
863	California Juniper	*Juniperus californica*	35	4	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	7	20	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48070788	-118.1268631
864	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48077609	-118.1267567
865	California Juniper	*Juniperus californica*	35	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	6	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4807543	-118.1266744
866	California Juniper	*Juniperus californica*	35	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	6	10	20	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48083909	-118.1265789
867	California Juniper	*Juniperus californica*	30	4	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	7	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48074602	-118.1264389
868	California Juniper	*Juniperus californica*	30	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	5	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48072868	-118.1263637

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
869	California Juniper	*Juniperus californica*	40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	40	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48073826	-118.1263676
870	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	10	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48113946	-118.1279611
871	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48113307	-118.1279853
872	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48115487	-118.1280544
874	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48546256	-118.1231512
875	California Juniper	*Juniperus californica*	30	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	4	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48549864	-118.1230406
876	California Juniper	*Juniperus californica*	30	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	7	20	30	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48446484	-118.1242003
877	California Juniper	*Juniperus californica*	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	10	10	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48425958	-118.1257361
878	California Juniper	*Juniperus californica*	40	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	54	7	20	40	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48421889	-118.1262225
879	California Juniper	*Juniperus californica*	40	6	5	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	61	11	15	44	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48402139	-118.1265202
881	California Juniper	*Juniperus californica*	9	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	5	7	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48539953	-118.1234353
882	California Juniper	*Juniperus californica*	25	5	4	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	9	20	25	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48498628	-118.1235299
883	California Juniper	*Juniperus californica*	12	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	7	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48357702	-118.1271144
884	California Juniper	*Juniperus californica*	20	8	4	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	12	17	36	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48329214	-118.1230586
885	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	4	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48326903	-118.1230642
886	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48315108	-118.123103
887	California Juniper	*Juniperus californica*	9	3	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4	12	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48310622	-118.1231558
888	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48308434	-118.1230383
889	California Juniper	*Juniperus californica*	20	9	9	8	7	5	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	18	20	40	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48302162	-118.123121
895	California Juniper	*Juniperus californica*	25	7	5	5	5	5	5	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	12	20	35	Good	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48257732	-118.125163
895	California Juniper	*Juniperus californica*	25	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4845566	-118.1242534
896	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	7	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48260224	-118.1250682
897	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	2	3	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4826254	-118.124995
898	California Juniper	*Juniperus californica*	25	6	5	5	5	5	5	5	5	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	11	15	35	Good	Fair		Yes	Yes	Preserved	Preserved	Yes	34.4826188	-118.1249158
899	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	7	8	Good	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48273692	-118.1247828
901	California Juniper	*Juniperus californica*	9	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	6	6	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48120717	-118.1288467
903	California Juniper	*Juniperus californica*	15	6	5	5	5	5	5	4	4	3	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	11	20	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48123522	-118.1311123
905	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4810469	-118.1310034
907	California Juniper	*Juniperus californica*	18	4	4	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	15	28	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48112961	-118.1307228
909	California Juniper	*Juniperus californica*	8	4	3	3	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	7	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48099279	-118.1307061
911	California Juniper	*Juniperus californica*	13	3	3	3	3	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	6	12	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48131698	-118.1309348
913	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	3	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48150256	-118.1304954
915	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	3	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48150559	-118.1304964
917	California Juniper	*Juniperus californica*	10	5	5	3	3	3	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	10	20	26	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48158437	-118.12898
919	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	7	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48146976	-118.1288635
921	California Juniper	*Juniperus californica*	16	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	3	10	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48159372	-118.1289288
923	California Juniper	*Juniperus californica*	17	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	21	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48143051	-118.1287734
925	California Juniper	*Juniperus californica*	17	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	4	10	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48149778	-118.1288358
925	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	13	22	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48137041	-118.1288567
927	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	8	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48160881	-118.1289028
929	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48168335	-118.1289262
931	California Juniper	*Juniperus californica*	20	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	5	12	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48171973	-118.12875
933	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	8	11	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4817121	-118.128715
935	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48173003	-118.1287217
937	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	12	16	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48176716	-118.1286693
939	California Juniper	*Juniperus californica*	17	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	6	11	22	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48176778	-118.1286685
941	California Juniper	*Juniperus californica*	35	7	6	5	5	4	4	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	13	22	35	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48187102	-118.1288603
943	California Juniper	*Juniperus californica*	20	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	3	9	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48293524	-118.1230176
945	California Juniper	*Juniperus californica*	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	2	8	11	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48292244	-118.1230136
947	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	6	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48290394	-118.1230364
949	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	16	16	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48296085	-118.1230636
951	California Juniper	*Juniperus californica*	15	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	5	16	16	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48298523	-118.1230832
953	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	10	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48269391	-118.1233032
955	California Juniper	*Juniperus californica*	10	5	3	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	8	14	35	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48271114	-118.1233587
957	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48276954	-118.1233309
959	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48278246	-118.1233058
961	California Juniper	*Juniperus californica*	27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	2	10	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48279579	-118.1232803
963	California Juniper	*Juniperus californica*	25	9	5	5	4	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	14	15	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48287347	-118.12349
963	California Juniper	*Juniperus californica*	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	2	12	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48287763	-118.1233401
965	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48307027	-118.1235164
966	California Juniper	*Juniperus californica*	25	9	9	8	8	7	6	6	6	5	5	5	3	3	3	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	18	20	40	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48294668	-118.1234744
967	California Juniper	*Juniperus californica*	25	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	3	10	21	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48308981	-118.123409
969	California Juniper	*Juniperus californica*	25	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	7	12	30	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48317399	-118.1234062
971	California Juniper	*Juniperus californica*	40	6	5	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	61	11	20	40	Fair	Fair		Yes	Yes	Encroachment	Encroachment	Yes	34.48225593	-118.1247235
973	California Juniper	*Juniperus californica*	35	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	8	20	35	Poor	Fair		Yes	Yes	Encroachment	Encroachment	Yes	34.48238803	-118.1247926
975	California Juniper	*Juniperus californica*	35	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	7	15	25	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48234775	-118.1245562
977	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	5	10	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48252687	-118.1241678
979	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	6	6	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48258834	-118.1242203
981	California Juniper	*Juniperus californica*	35	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	15	20	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48234451	-118.1242006
983	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	10	10	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48231574	-118.1241651
985	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48216435	-118.1240884
987	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	15	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48234109	-118.1240157
989	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	6	4	8	Poor	Poor	Topped.	Yes	No	Removal	Removal	Yes	34.48246874	-118.1239823
991	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	3	7	Poor	Poor	Topped.	Yes	No	Removal	Removal	Yes	34.48255808	-118.1240416
993	California Juniper	*Juniperus californica*	50	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	66	7	10	40	Fair	Poor		Yes	Yes	Encroachment	Encroachment	Yes	34.4823994	-118.1236282
995	California Juniper	*Juniperus californica*	35	4	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	7	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48231083	-118.1234619
997	California Juniper	*Juniperus californica*	8	6	6	5	5	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	12	8	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48243748	-118.1234445
999	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Poor	Poor		Yes	No	Removal	Removal	Yes	34.48247499	-118.1234017
1000	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48105944	-118.1260472
1000	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48083043	-118.1290158
1001	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48107315	-118.1260881
1002	California Juniper	*Juniperus californica*	25	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	6	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48080237	-118.1289907
1003	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	3	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48111556	-118.1260772
1004	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48077982	-118.1289941
1005	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48112704	-118.1261052
1006	California Juniper	*Juniperus californica*	10	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48076542	-118.1290023
1007	California Juniper	*Juniperus californica*	30	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	5	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48108146	-118.1261695
1008	California Juniper	*Juniperus californica*	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3	3	Dead	Dead		No	No	Preserved	Preserved	Yes	34.4807374	-118.1289844
1009	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48094845	-118.1261507
1010	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48093198	-118.1290447
1011	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48088123	-118.1261399
1012	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48100019	-118.1294275
1013	California Juniper	*Juniperus californica*	10	6	5	5	5	5	5	4	4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	11	10	10	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48085057	-118.1260951
1014	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	3	6	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48098405	-118.1294597
1015	California Juniper	*Juniperus californica*	25	4	4	4	4	4	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	8	10	20	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48081098	-118.1260858
1015	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	6	6	Good	Fair		Yes	No	Removal	Removal	Yes	34.48272971	-118.1247719
1016	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48106496	-118.1294305
1017	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	4	15	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48277611	-118.1249212
1018	California Juniper	*Juniperus californica*	20	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	6	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48105976	-118.1294324
1018	California Juniper	*Juniperus californica*	30	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	6	8	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48103396	-118.1293354
1019	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	5	6	Good	Fair		Yes	No	Removal	Removal	Yes	34.48299809	-118.1247156
1020	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48102252	-118.129311
1021	California Juniper	*Juniperus californica*	30	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	8	15	35	Good	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48308306	-118.1245447
1022	California Juniper	*Juniperus californica*	25	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	5	8	12	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48104706	-118.1291886
1023	California Juniper	*Juniperus californica*	25	4	4	4	4	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	8	12	20	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48305629	-118.1244265
1024	California Juniper	*Juniperus californica*	15	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48108173	-118.129199
1025	California Juniper	*Juniperus californica*	25	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	4	10	15	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48290479	-118.1243879
1026	California Juniper	*Juniperus californica*	20	5	4	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	9	7	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48113657	-118.1292584
1026	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	4	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48109964	-118.1293265
1027	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	5	10	Good	Fair		Yes	No	Removal	Removal	Yes	34.48283756	-118.1243166
1028	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48114625	-118.1292192
1029	California Juniper	*Juniperus californica*	25	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	8	15	30	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48275691	-118.124393
1029	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	10	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48265728	-118.1243169
1030	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4811915	-118.1292744

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
1031	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	8	15	Good	Fair		Yes	No	Removal	Removal	Yes	34.48283589	-118.1245114
1032	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	3	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48104566	-118.1291368
1033	California Juniper	*Juniperus californica*	30	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	6	10	25	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48286494	-118.1241902
1034	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	4	6	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48106845	-118.1291169
1035	California Juniper	*Juniperus californica*	35	7	5	5	5	5	4	4	4	4	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	12	20	35	Good	Fair		Yes	Yes	Removal	Removal	Yes	34.48271199	-118.1241419
1036	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	8	12	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48103998	-118.1291
1037	California Juniper	*Juniperus californica*	20	4	4	4	4	4	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	8	10	20	Fair	Fair		Yes	No	Removal	Removal	Yes	34.4826271	-118.1240286
1038	California Juniper	*Juniperus californica*	25	4	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	7	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48110657	-118.1290133
1039	California Juniper	*Juniperus californica*	20	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	6	10	15	Poor	Fair		Yes	No	Removal	Removal	Yes	34.48265589	-118.1240159
1040	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	10	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48111273	-118.1289786
1041	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	9	10	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48270833	-118.1240138
1042	California Juniper	*Juniperus californica*	10	9	3	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	12	10	7	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48114273	-118.1289705
1043	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	4	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48261432	-118.1238201
1044	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48110051	-118.1289022
1045	California Juniper	*Juniperus californica*	20	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	7	12	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48263172	-118.123785
1046	California Juniper	*Juniperus californica*	30	4	4	4	4	4	4	4	4	4	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	8	12	28	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48096435	-118.1286852
1047	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	4	10	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48258278	-118.1238168
1048	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48089288	-118.1286163
1049	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	6	Critical	Poor		Yes	No	Removal	Removal	Yes	34.48254519	-118.1235827
1050	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	4	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48092563	-118.1285922
1050	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48090199	-118.1285682
1051	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	7	Good	Fair		Yes	No	Removal	Removal	Yes	34.4826084	-118.1235522
1052	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48089083	-118.1285853
1053	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	4	4	Good	Good		Yes	No	Removal	Removal	Yes	34.48263311	-118.1234513
1054	California Juniper	*Juniperus californica*	35	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	4	7	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48088963	-118.1285014
1055	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	4	10	22	Good	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48267785	-118.1236681
1056	California Juniper	*Juniperus californica*	20	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	7	8	10	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48089233	-118.1284515
1057	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	7	10	Good	Fair		Yes	No	Removal	Removal	Yes	34.48289346	-118.1239483
1058	California Juniper	*Juniperus californica*	25	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	8	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48090196	-118.1283837
1059	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	5	12	Good	Fair		Yes	No	Removal	Removal	Yes	34.482882	-118.1240337
1060	California Juniper	*Juniperus californica*	25	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	5	7	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48094695	-118.1284575
1061	California Juniper	*Juniperus californica*	35	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	8	12	35	Good	Fair		Yes	Yes	Removal	Removal	Yes	34.48291527	-118.1240876
1062	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	7	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48099025	-118.1284264
1063	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	7	Fair	Fair		Yes	No	Removal	Removal	Yes	34.48297681	-118.1240799
1064	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48069291	-118.1283661
1065	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	4	8	Good	Fair		Yes	No	Removal	Removal	Yes	34.48299398	-118.1240656
1066	California Juniper	*Juniperus californica*	25	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	4	8	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48067747	-118.1284184
1067	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	6	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48172233	-118.1257174
1068	California Juniper	*Juniperus californica*	25	5	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	10	20	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48083448	-118.1280573
1069	California Juniper	*Juniperus californica*	35	4	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	8	10	36	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48174131	-118.1258628
1070	California Juniper	*Juniperus californica*	20	5	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	9	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48075838	-118.1280577
1071	California Juniper	*Juniperus californica*	25	4	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	7	15	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4815788	-118.1258101
1072	California Juniper	*Juniperus californica*	10	4	3	3	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	7	10	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48075975	-118.1280278
1073	California Juniper	*Juniperus californica*	30	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	6	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48157256	-118.1258432
1074	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	4	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48074095	-118.1280047
1075	California Juniper	*Juniperus californica*	25	3	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	6	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48154788	-118.125811
1076	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48073368	-118.1280105
1077	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	12	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4813059	-118.1258058
1078	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48072111	-118.1280288
1079	California Juniper	*Juniperus californica*	25	5	4	4	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	9	12	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48125716	-118.1259184
1080	California Juniper	*Juniperus californica*	10	3	3	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	6	8	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48072155	-118.1280493
1081	California Juniper	*Juniperus californica*	25	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	8	20	25	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48127075	-118.1259271
1082	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48071712	-118.128071
1083	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	12	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48143798	-118.1259026
1084	California Juniper	*Juniperus californica*	20	6	6	6	6	5	5	5	5	3	3	3	3	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	12	15	28	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48071206	-118.1279073
1085	California Juniper	*Juniperus californica*	30	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	6	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48146228	-118.1259723
1086	California Juniper	*Juniperus californica*	7	5	3	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	8	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48070295	-118.127874
1087	California Juniper	*Juniperus californica*	30	4	4	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48155517	-118.1260168
1088	California Juniper	*Juniperus californica*	30	6	6	4	4	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	12	10	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48071366	-118.1278389
1089	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48126503	-118.1260949
1090	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48070552	-118.1278093
1091	California Juniper	*Juniperus californica*	7	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	2	4	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48132155	-118.1261835
1092	California Juniper	*Juniperus californica*	30	7	6	5	5	5	5	4	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	13	15	35	Critical	Critical		Yes	Yes	Preserved	Preserved	Yes	34.48080336	-118.1278569
1093	California Juniper	*Juniperus californica*	25	5	5	4	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	10	15	35	Good	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48136092	-118.126172
1094	California Juniper	*Juniperus californica*	25	5	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	9	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48089767	-118.1277342
1095	California Juniper	*Juniperus californica*	30	5	5	5	5	4	4	3	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	10	15	30	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48161814	-118.126107
1096	California Juniper	*Juniperus californica*	20	5	5	5	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	10	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48085682	-118.1279405
1097	California Juniper	*Juniperus californica*	30	8	7	7	7	6	6	6	5	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	15	17	35	Good	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48167086	-118.1261101
1098	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	3	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	6	10	20	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48096532	-118.1280053
1099	California Juniper	*Juniperus californica*	10	6	5	4	4	4	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	11	12	12	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48173303	-118.1262178
1100	California Juniper	*Juniperus californica*	25	4	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	7	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48123416	-118.1282046
1101	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	5	5	Poor	Poor		Yes	No	Removal	Removal	Yes	34.4824796	-118.1233921
1102	California Juniper	*Juniperus californica*	20	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	4	8	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48125055	-118.1282925
1103	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	3	Good	Good		Yes	No	Preserved	Preserved	Yes	34.48248637	-118.1254682
1104	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	8	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48126061	-118.1282997
1105	California Juniper	*Juniperus californica*	35	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	4	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48246012	-118.125584
1106	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	7	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4812779	-118.1282949
1107	California Juniper	*Juniperus californica*	35	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	6	15	25	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48245975	-118.1257463
1108	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	4	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48128733	-118.1283082
1109	California Juniper	*Juniperus californica*	35	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	6	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48262971	-118.1259042
1109	California Juniper	*Juniperus californica*	35	4	4	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	8	15	40	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.4826214	-118.1261706
1110	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48126625	-118.1284345
1111	California Juniper	*Juniperus californica*	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	2	10	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48242181	-118.1257361
1112	California Juniper	*Juniperus californica*	30	7	5	4	4	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	12	10	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48123915	-118.1284873
1113	California Juniper	*Juniperus californica*	40	6	6	5	4	4	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	74	12	20	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.4824117	-118.1259504
1114	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	4	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48129068	-118.1285443
1115	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48248586	-118.1259654
1116	California Juniper	*Juniperus californica*	25	4	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	8	8	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48126693	-118.1286294
1117	California Juniper	*Juniperus californica*	30	6	5	4	4	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	11	25	35	Critical	Critical		Yes	Yes	Preserved	Preserved	Yes	34.4823868	-118.1260363
1118	California Juniper	*Juniperus californica*	15	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	5	8	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48121615	-118.128626
1119	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	15	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48225833	-118.1261762
1120	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48122191	-118.1285992
1121	California Juniper	*Juniperus californica*	35	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	7	20	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48239086	-118.1263215
1122	California Juniper	*Juniperus californica*	15	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	4	6	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48118207	-118.1287215
1123	California Juniper	*Juniperus californica*	30	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	5	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48244167	-118.1262552
1124	California Juniper	*Juniperus californica*	3	5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	7	7	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48112999	-118.1285985
1125	California Juniper	*Juniperus californica*	30	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	8	20	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.482221	-118.1257976
1126	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	5	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48112057	-118.1286143
1127	California Juniper	*Juniperus californica*	30	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	4	20	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48220425	-118.1257444
1128	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	6	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48111426	-118.1286484
1129	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	8	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48229241	-118.1257126
1130	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48130694	-118.1312842
1131	California Juniper	*Juniperus californica*	35	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4	15	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48215996	-118.1256652
1132	California Juniper	*Juniperus californica*	15	4	3	3	3	3	3	3	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	7	8	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48165513	-118.1255528
1133	California Juniper	*Juniperus californica*	35	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	7	15	30	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48207785	-118.1256536
1134	California Juniper	*Juniperus californica*	15	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	6	8	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48162448	-118.1255189
1135	California Juniper	*Juniperus californica*	35	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	7	15	30	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48192157	-118.1255445
1136	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48150155	-118.1256098
1137	California Juniper	*Juniperus californica*	35	4	4	3	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	8	15	20	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.48188205	-118.1255992
1138	California Juniper	*Juniperus californica*	20	4	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	8	8	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48136913	-118.1256191
1139	California Juniper	*Juniperus californica*	35	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	4	20	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48180464	-118.1254142
1140	California Juniper	*Juniperus californica*	20	5	4	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	9	8	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48126654	-118.1256283
1141	California Juniper	*Juniperus californica*	35	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	4	15	20	Critical	Critical		Yes	No	Preserved	Preserved	Yes	34.48192154	-118.1253996
1142	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48128422	-118.1256578

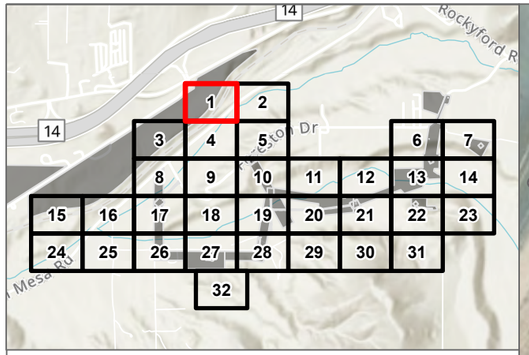
Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50	Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				Individual Stem Diameters (in.)																																																														
1143	California Juniper	*Juniperus californica*	35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	2	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48197406	-118.1253495
1144	California Juniper	*Juniperus californica*	20	4	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	7	7	10	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48121357	-118.1257034
1145	California Juniper	*Juniperus californica*	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	2	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48190837	-118.1252564
1146	California Juniper	*Juniperus californica*	10	12	4	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	16	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48116333	-118.1257372
1147	California Juniper	*Juniperus californica*	30	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	4	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48203849	-118.1254108
1148	California Juniper	*Juniperus californica*	20	12	5	4	4	4	4	3	3	2	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	17	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48110067	-118.1257019
1149	California Juniper	*Juniperus californica*	35	6	5	4	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	11	20	35	Poor	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48226955	-118.1254267
1150	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	7	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48110543	-118.1257798
1151	California Juniper	*Juniperus californica*	30	5	5	4	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	10	15	25	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48219802	-118.1253791
1152	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48106811	-118.1257788
1153	California Juniper	*Juniperus californica*	20	6	5	5	5	5	5	4	4	4	3	3	3	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65	11	25	35	Critical	Critical		Yes	Yes	Preserved	Preserved	Yes	34.48217918	-118.1253351
1154	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	8	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48108087	-118.1258065
1156	California Juniper	*Juniperus californica*	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	2	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48106587	-118.1258097
1158	California Juniper	*Juniperus californica*	40	5	5	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	78	10	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48110544	-118.1258656
1160	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	2	4	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48103361	-118.1258801
1162	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	5	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48102016	-118.1258609
1164	California Juniper	*Juniperus californica*	20	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	4	8	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48098708	-118.1259118
1166	California Juniper	*Juniperus californica*	25	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	6	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48101933	-118.1259472
1168	California Juniper	*Juniperus californica*	10	4	4	3	3	3	3	3	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	8	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4810204	-118.125978
1170	California Juniper	*Juniperus californica*	20	4	4	4	4	4	4	4	4	4	4	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	8	10	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48098803	-118.1259943
1172	California Juniper	*Juniperus californica*	25	4	3	3	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	7	8	15	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48082253	-118.1258834
1174	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	5	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4808386	-118.1258918
1176	California Juniper	*Juniperus californica*	25	7	6	4	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	13	9	20	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48070005	-118.1260068
1178	California Juniper	*Juniperus californica*	3	12	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	18	10	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48068853	-118.1260834
1180	California Juniper	*Juniperus californica*	8	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4	10	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.480684	-118.1260996
1180	California Juniper	*Juniperus californica*	20	3	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	5	10	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48074086	-118.1261977
1182	California Juniper	*Juniperus californica*	20	6	5	5	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	11	10	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4807492	-118.1261316
1184	California Juniper	*Juniperus californica*	25	6	5	5	4	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	11	7	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48085475	-118.1262304
1186	California Juniper	*Juniperus californica*	15	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	4	8	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48085151	-118.1262794
1188	California Juniper	*Juniperus californica*	7	6	5	5	5	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	11	4	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48091338	-118.1262695
1190	California Juniper	*Juniperus californica*	5	6	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	9	7	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48093969	-118.1262398
1192	California Juniper	*Juniperus californica*	35	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	6	7	28	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48094902	-118.1262637
1194	California Juniper	*Juniperus californica*	15	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	6	8	15	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48100584	-118.1262863
1196	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	8	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48099754	-118.1260756
1198	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	4	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48105109	-118.1260415
1201	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	6	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48324071	-118.1234299
1202	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	5	7	Fair	Fair		Yes	No	Encroachment	Encroachment	Yes	34.48300974	-118.1239484
1203	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	10	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48286113	-118.1237311
1204	California Juniper	*Juniperus californica*	15	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	4	12	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48280352	-118.1237036
1205	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	7	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48310382	-118.1235446
1206	California Juniper	*Juniperus californica*	15	3	3	3	3	3	3	3	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	6	15	25	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48292159	-118.123671
1207	California Juniper	*Juniperus californica*	12	3	3	3	2	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	6	10	16	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48305021	-118.1237635
1208	California Juniper	*Juniperus californica*	17	8	5	5	4	3	3	3	3	3	3	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	13	15	20	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48310763	-118.1237513
1209	California Juniper	*Juniperus californica*	16	6	4	4	4	3	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	10	1	37	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48305787	-118.1239212
1210	California Juniper	*Juniperus californica*	30	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	7	15	24	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48202804	-118.1251079
1211	California Juniper	*Juniperus californica*	25	5	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	8	15	22	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48207763	-118.1250856
1211	California Juniper	*Juniperus californica*	15	5	3	3	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	8	14	11	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.4820501	-118.1252052
1212	California Juniper	*Juniperus californica*	15	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	7	15	25	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48207666	-118.1252301
1213	California Juniper	*Juniperus californica*	15	3	2	2	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	5	14	26	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48212546	-118.1251952
1214	California Juniper	*Juniperus californica*	30	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	6	15	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48219152	-118.1251567
1215	California Juniper	*Juniperus californica*	20	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	3	10	14	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48219411	-118.1250784
1216	California Juniper	*Juniperus californica*	25	4	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	7	12	35	Poor	Fair	Heritage tree.	Yes	Yes	Preserved	Preserved	Yes	34.48217969	-118.1250209
1217	California Juniper	*Juniperus californica*	15	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	3	9	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48212798	-118.1249123
1218	California Juniper	*Juniperus californica*	6	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	4	9	8	Dead	Dead		No	No	Preserved	Removal	Yes	34.4809687	-118.1384055
1219	California Juniper	*Juniperus californica*	10	4	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	7	10	15	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48113664	-118.1384573
1220	California Juniper	*Juniperus californica*	8	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	7	12	Poor	Fair		Yes	No	Preserved	Removal	Yes	34.48163064	-118.1380746
1221	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	4	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48227929	-118.1375546
1222	California Juniper	*Juniperus californica*	7	7	7	6	5	5	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	14	10	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48184874	-118.1374117
1223	California Juniper	*Juniperus californica*	8	7	6	6	6	5	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	13	15	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48087251	-118.1375422
1224	California Juniper	*Juniperus californica*	4	6	5	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	11	12	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48085367	-118.1375168
1225	California Juniper	*Juniperus californica*	6	6	6	6	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	12	12	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48084409	-118.1375434
1226	California Juniper	*Juniperus californica*	10	7	6	6	5	5	5	5	5	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	13	10	10	Poor	Poor	Neighboring property, estimated data, no tag.	Yes	No	Preserved	Preserved	Yes	34.47978959	-118.1368491
1227	California Juniper	*Juniperus californica*	9	3	3	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	6	10	8	Good	Fair		Yes	No	Encroachment	Encroachment	Yes	34.47984836	-118.1349312
1228	California Juniper	*Juniperus californica*	10	6	5	4	4	4	4	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	11	12	10	Good	Fair		Yes	No	Removal	Removal	Yes	34.48008142	-118.1349087
1229	California Juniper	*Juniperus californica*	13	5	4	3	3	2	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	9	10	12	Dead	Dead		No	No	Removal	Removal	Yes	34.47995145	-118.1346834
1230	California Juniper	*Juniperus californica*	12	3	2	2	2	2	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47994507	-118.1346585
1231	California Juniper	*Juniperus californica*	9	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	2	7	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47996769	-118.1346176
1232	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	4	3	Fair	Good		Yes	No	Preserved	Preserved	Yes	34.47999304	-118.1346202
1233	California Juniper	*Juniperus californica*	12	3	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48001513	-118.1345559
1234	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	4	3	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.4799273	-118.134555
1235	California Juniper	*Juniperus californica*	12	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	2	5	8	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.47988961	-118.1344339
1236	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47992104	-118.1343623
1237	California Juniper	*Juniperus californica*	1	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11	3	0	Dead	Dead	Stump.	No	No	Preserved	Preserved	Yes	34.47992885	-118.134347
1238	California Juniper	*Juniperus californica*	12	2	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	3	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47998113	-118.1342816
1239	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	5	3	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47976957	-118.1342501
1240	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	8	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47995372	-118.1340528
1241	California Juniper	*Juniperus californica*	8	5	4	4	3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	9	7	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47984998	-118.1338929
1242	California Juniper	*Juniperus californica*	7	5	4	4	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	9	10	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.47984483	-118.1338416
1243	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	7	6	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.47983812	-118.1337671
1244	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	5	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.47992077	-118.1337711
1245	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	6	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47994914	-118.1337765
1246	California Juniper	*Juniperus californica*	1	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	3	0	Dead	Dead		No	No	Preserved	Preserved	Yes	34.47991726	-118.1338286
1247	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	5	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47979784	-118.1336466
1248	California Juniper	*Juniperus californica*	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	2	6	6	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47978736	-118.1333642
1249	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	5	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4798008	-118.1333888
1250	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	7	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47988435	-118.1334319
1251	California Juniper	*Juniperus californica*	12	2	2	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	4	8	12	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47991282	-118.1333515
1252	California Juniper	*Juniperus californica*	9	4	4	3	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	8	10	10	Dead	Dead		No	No	Preserved	Preserved	Yes	34.4799824	-118.1332506
1253	California Juniper	*Juniperus californica*	12	3	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	5	10	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47987376	-118.1331081
1254	California Juniper	*Juniperus californica*	13	5	4	4	4	4	3	3	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	9	12	15	Fair	Fair		Yes	No	Preserved	Encroachment	Yes	34.48014715	-118.1327472
1255	California Juniper	*Juniperus californica*	12	3	2	2	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	5	10	13	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48023357	-118.1320123
1256	California Juniper	*Juniperus californica*	5	6	5	5	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	11	12	15	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48029701	-118.1319586
1257	California Juniper	*Juniperus californica*	10	3	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	5	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48035544	-118.1318881
1258	California Juniper	*Juniperus californica*	4	4	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	7	8	8	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48049822	-118.1318537
1259	California Juniper	*Juniperus californica*	8	7	7	6	6	5	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	14	10	15	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48050239	-118.1318853
1260	California Juniper	*Juniperus californica*	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	12	8	Dead	Dead		No	No	Preserved	Preserved	Yes	34.48051932	-118.1318691
1261	California Juniper	*Juniperus californica*	12	2	2	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	4	10	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48058591	-118.1319698
1262	California Juniper	*Juniperus californica*	2	14	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	27	8	15	Fair	Critical		Yes	No	Preserved	Preserved	Yes	34.48063838	-118.1322676
1263	California Juniper	*Juniperus californica*	2	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	17	12	10	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48051988	-118.1322043
1264	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	6	6	Good	Good		Yes	No	Preserved	Preserved	Yes	34.48048557	-118.132013
1265	California Juniper	*Juniperus californica*	6	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	2	5	4	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48044146	-118.1319592
1266	California Juniper	*Juniperus californica*	6	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	6	12	12	Critical	Poor		Yes	No	Preserved	Preserved	Yes	34.48042926	-118.1320952
1267	California Juniper	*Juniperus californica*	8	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	8	8	Fair	Fair	One large stump, others are sprouts.	Yes	No	Preserved	Preserved	Yes	34.48033127	-118.1320575
1268	California Juniper	*Juniperus californica*	10	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	6	5	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.48029501	-118.1320627
1269	California Juniper	*Juniperus californica*	12	6	6	4	4	3	3	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	12	15	18	Fair	Fair		Yes	No	Encroachment	Removal	Yes	34.48065439	-118.1326012
1270	California Juniper	*Juniperus californica*	7	7	7	7	6	6	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	14	12	18	Fair	Fair		Yes	No	Preserved	Removal	Yes	34.48051743	-118.1334584
1271	California Juniper	*Juniperus californica*	10	3	3	3	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	6	15	10	Fair	Fair		Yes	No	Encroachment	Removal	Yes	34.48043565	-118.1339611
1272	California Juniper	*Juniperus californica*	15	6	5	5	4	4	4	4	4	4	4	4	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	11	15	20	Good	Fair		Yes	No	Removal	Removal	Yes	34.48047453	-118.1347272
1273	California Juniper	*Juniperus californica*	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	15	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48451538	-118.1250833
1274	California Juniper	*Juniperus californica*	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	5	13	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450759	-118.1250762
1275	California Juniper	*Juniperus californica*	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	12	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48450982	-118.1251024
1276	California Juniper	*Juniperus californica*	3	11	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	19	20	40	Fair	Poor		Yes	Yes	Preserved	Preserved	Yes	34.48488152	-118.1227412
1277	California Juniper	*Juniperus californica*	4	7	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	13	10	20	Poor	Critical		Yes	No	Preserved	Preserved	Yes	34.4851338	-118.1224967
1278	California Juniper	*Juniperus californica*	6	6	5	5	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	11	12	17	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48525094	-118.1224748

Tree Information Matrix

Tree No.	Common Name	Botanical Name	Stems	Individual Stem Diameters (in.)																																																		Cumulative Diameter (in.)	Sum of Two Largest Stem Diameters (in.)	Height (ft.)	Crown Width (ft.)	Health	Structural Integrity	Notes	Protected	Heritage	Northern Route Impact	Southern Route Impact	SEA	Latitude	Longitude
				D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33	D34	D35	D36	D37	D38	D39	D40	D41	D42	D43	D44	D45	D46	D47	D48	D49	D50														
1279	California Juniper	*Juniperus californica*	2	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7	10	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48538979	-118.1227026
1280	California Juniper	*Juniperus californica*	4	5	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	9	9	10	Poor	Poor	Woodard nest at base	Yes	No	Preserved	Preserved	Yes	34.48545596	-118.1225139
1281	California Juniper	*Juniperus californica*	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	5	8	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4854276	-118.122481
1282	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	5	3	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48541708	-118.1224975
1283	California Juniper	*Juniperus californica*	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	8	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48539944	-118.122322
1284	California Juniper	*Juniperus californica*	4	10	7	6	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	17	10	20	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48539279	-118.1223313
1285	California Juniper	*Juniperus californica*	4	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	9	11	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48539837	-118.1223535
1286	California Juniper	*Juniperus californica*	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	8	6	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.4853577	-118.1223177
1287	California Juniper	*Juniperus californica*	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	4	2	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4853616	-118.1223269
1288	California Juniper	*Juniperus californica*	6	7	7	5	5	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	14	8	15	Poor	Poor		Yes	No	Preserved	Preserved	Yes	34.48536938	-118.1223436
1289	California Juniper	*Juniperus californica*	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	3	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48536452	-118.1223607
1290	California Juniper	*Juniperus californica*	5	6	6	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	12	12	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48534182	-118.1223551
1291	California Juniper	*Juniperus californica*	3	6	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	10	12	15	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48530067	-118.1223361
1292	California Juniper	*Juniperus californica*	5	5	5	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	10	8	20	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48526105	-118.1223677
1293	California Juniper	*Juniperus californica*	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	5	5	9	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48524586	-118.1223962
1294	California Juniper	*Juniperus californica*	5	4	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	6	6	12	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48520922	-118.1223098
1295	California Juniper	*Juniperus californica*	4	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	7	8	12	Poor	Fair		Yes	No	Preserved	Preserved	Yes	34.48522414	-118.1223063
1296	California Juniper	*Juniperus californica*	5	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	8	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48523335	-118.1222814
1297	California Juniper	*Juniperus californica*	4	6	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	11	6	12	Fair	Poor		Yes	No	Preserved	Preserved	Yes	34.48529442	-118.122198
1298	California Juniper	*Juniperus californica*	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	8	8	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.4852221	-118.1221745
1299	California Juniper	*Juniperus californica*	3	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	11	10	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48521407	-118.1221495
1300	California Juniper	*Juniperus californica*	8	2	2	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	4	8	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48514836	-118.1221073
1301	California Juniper	*Juniperus californica*	6	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	3	6	10	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48515095	-118.1219865
1302	California Juniper	*Juniperus californica*	8	4	4	3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	8	10	14	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48502484	-118.1218611
1303	California Juniper	*Juniperus californica*	3	13	12	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	25	8	22	Fair	Critical		Yes	No	Preserved	Preserved	Yes	34.48502391	-118.121768
1304	California Juniper	*Juniperus californica*	10	7	6	6	6	5	5	4	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	13	12	25	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48499176	-118.1216912
1305	California Juniper	*Juniperus californica*	6	10	7	7	6	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	17	8	12	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48505636	-118.1216517
1306	California Juniper	*Juniperus californica*	3	8	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	15	10	15	Critical	Poor		Yes	No	Removal	Removal	Yes	34.48514494	-118.1215177
1307	California Juniper	*Juniperus californica*	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	4	Poor	Poor		Yes	No	Removal	Removal	Yes	34.48512993	-118.1214819
1310	California Juniper	*Juniperus californica*	8	11	9	9	8	8	8	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	20	15	45	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48428263	-118.1211986
1311	California Juniper	*Juniperus californica*	2	12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	22	15	35	Fair	Fair		Yes	Yes	Preserved	Preserved	Yes	34.48442167	-118.1213426
1312	California Juniper	*Juniperus californica*	20	12	11	10	10	7	7	7	7	7	6	6	6	5	5	5	4	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127	23	25	35	Fair	Poor		Yes	Yes	Preserved	Preserved	Yes	34.48446286	-118.1214667
1313	California Juniper	*Juniperus californica*	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	17	8	Critical	Fair		Yes	No	Preserved	Preserved	Yes	34.48448137	-118.1214982
1314	California Juniper	*Juniperus californica*	2	10	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	20	13	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.48451596	-118.1214894
1315	California Juniper	*Juniperus californica*	10	2	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	12	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47944237	-118.1346283
1316	California Juniper	*Juniperus californica*	5	8	8	8	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	16	15	40	Fair	Poor		Yes	Yes	Preserved	Preserved	Yes	34.47950812	-118.1344026
1317	California Juniper	*Juniperus californica*	4	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47961698	-118.1344535
1318	California Juniper	*Juniperus californica*	8	6	6	5	5	4	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	12	13	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47961146	-118.1352953
1319	California Juniper	*Juniperus californica*	6	2	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	10	10	Good	Fair		Yes	No	Preserved	Preserved	Yes	34.47953385	-118.1353324
1320	California Juniper	*Juniperus californica*	4	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	8	12	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47951859	-118.1354296
1321	California Juniper	*Juniperus californica*	6	3	3	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	6	12	15	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47949075	-118.1354637
1322	California Juniper	*Juniperus californica*	4	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	3	3	Fair	Fair		Yes	No	Preserved	Preserved	Yes	34.47948203	-118.1355638
1323	Fremont cottonwood	*Populus fremontii*	1	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	22	45	45	Fair	Fair	No tag, private property	Yes	Yes	Preserved	Preserved	Yes	34.4798782	-118.1371577
1324	Fremont cottonwood	*Populus fremontii*	1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	40	28	Good	Fair	No tag, private property	Yes	No	Preserved	Preserved	Yes	34.47992161	-118.1375393
1325	California sycamore	*Platanus racemosa*	1	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	50	25	Fair	Fair	Nest, No tag, private property	Yes	No	Preserved	Preserved	Yes	34.48004484	-118.1374375
1326	velvet ash	*Fraxinus velutina*	2	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	15	10	Fair	Fair	No tag, private property	Yes	No	Removal	Removal	Yes	34.48058675	-118.1383503
1327	Fremont cottonwood	*Populus fremontii*	1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	30	25	Poor	Poor	No tag, private property	Yes	No	Preserved	Preserved	Yes	34.48009519	-118.1383851
1328	Fremont cottonwood	*Populus fremontii*	1	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	25	20	Poor	Poor	No tag, private property	Yes	No	Preserved	Preserved	Yes	34.48006356	-118.1383592
1329	Fremont cottonwood	*Populus fremontii*	1	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	16	30	25	Poor	Poor	No tag, private property	Yes	No	Preserved	Preserved	Yes	34.47992981	-118.1383278
1330	Southern California black walnut	*Juglans californica*	2	8	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13	30	15	Fair	Fair	No tag, private property	Yes	No	Preserved	Removal	Yes	34.48060263	-118.1379255
1331	Southern California black walnut	*Juglans californica*	1	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	30	25	Fair	Fair	No tag, private property	Yes	No	Preserved	Preserved	Yes	34.48004516	-118.137678

Appendix D
Tree Impacts



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

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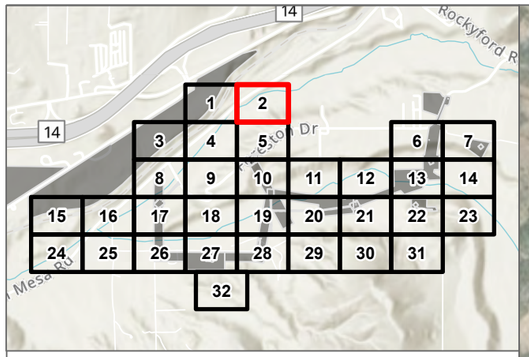
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0 30 60 Feet

APPENDIX D1

Potential Tree Impacts

Prairie Song Reliability Project



Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

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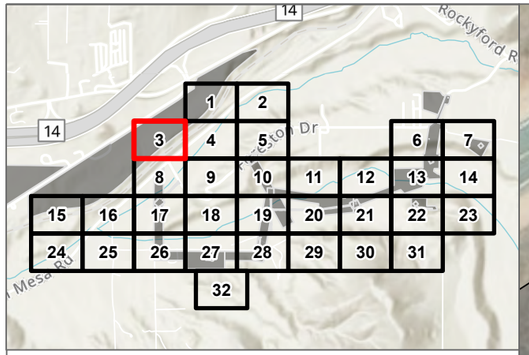
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APPENDIX D2

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

N

0 30 60 Feet

APPENDIX D3

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

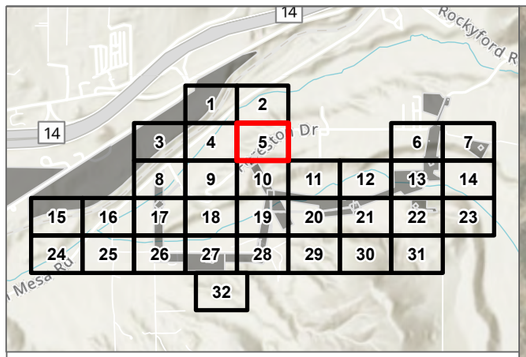
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APPENDIX D4

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

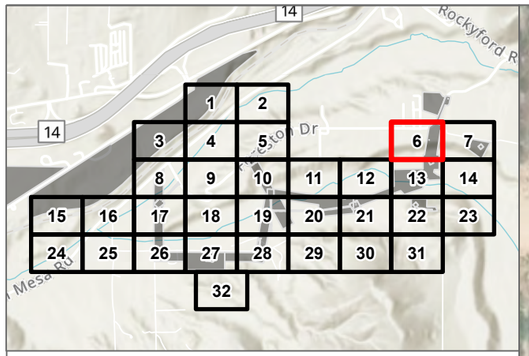
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APPENDIX D5

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

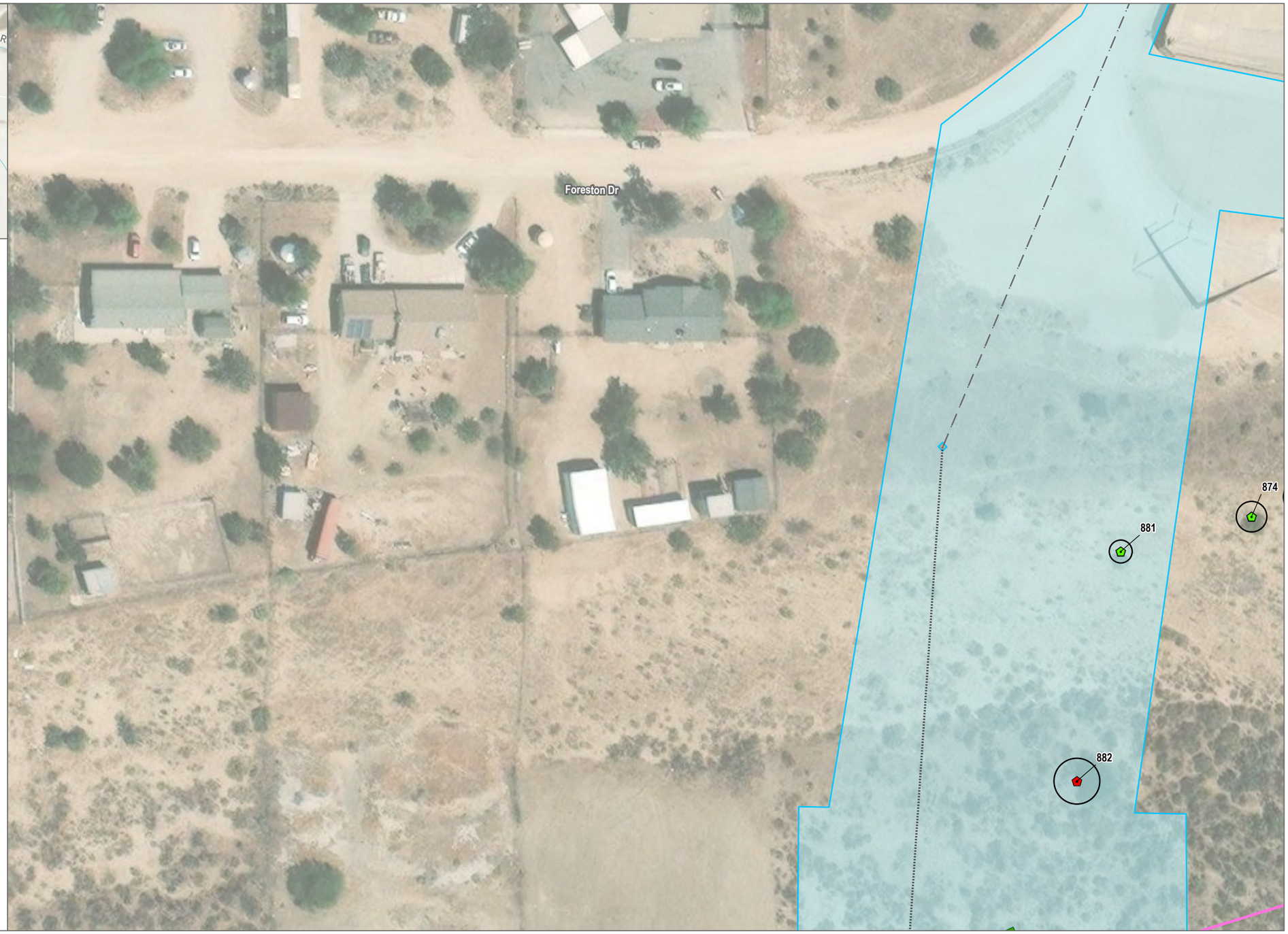
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

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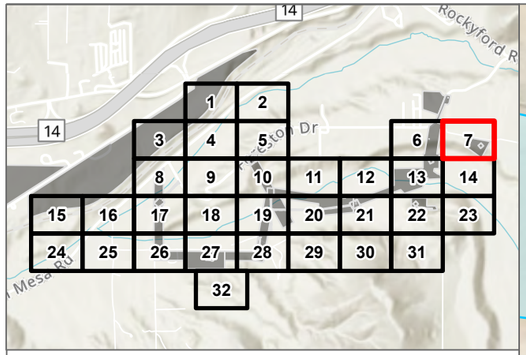
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0 30 60 Feet

APPENDIX D6

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

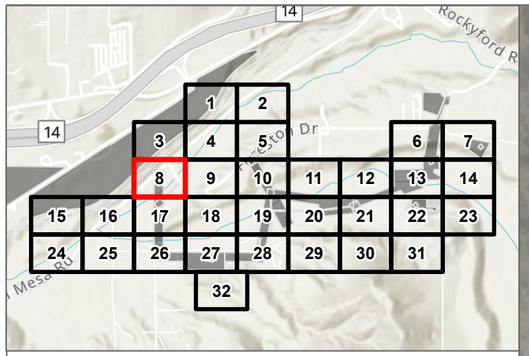
DUDEK

0 30 60 Feet

APPENDIX D7

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

W Carson Mesa Rd

Forceston Dr

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

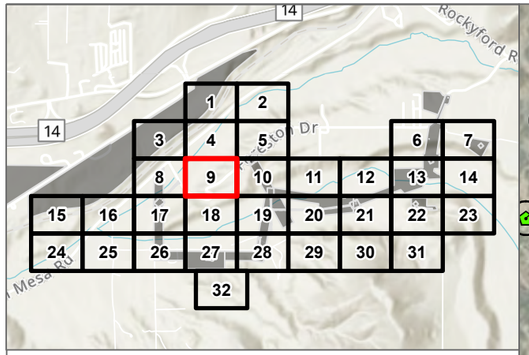
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0 30 60 Feet

APPENDIX D8

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

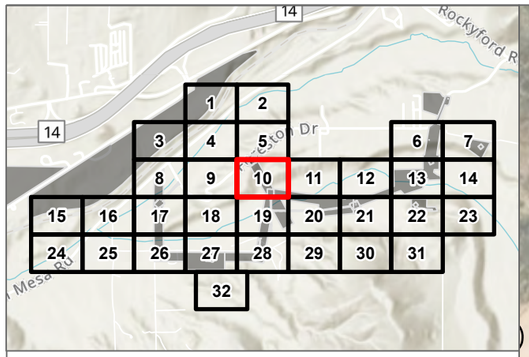
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APPENDIX D9

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

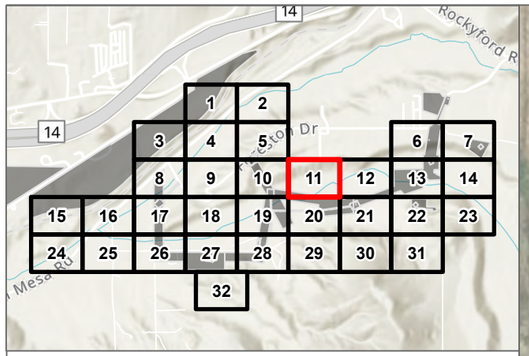
DUDEK

0 30 60 Feet

APPENDIX D10

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

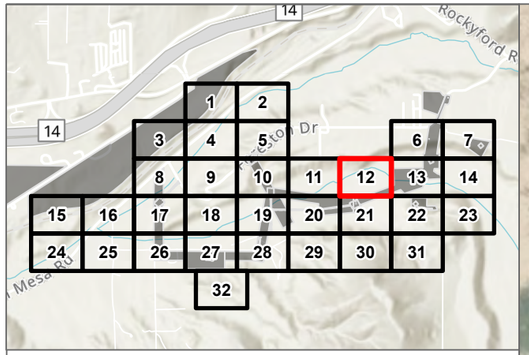
DUDEK

0 30 60 Feet

APPENDIX D11

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

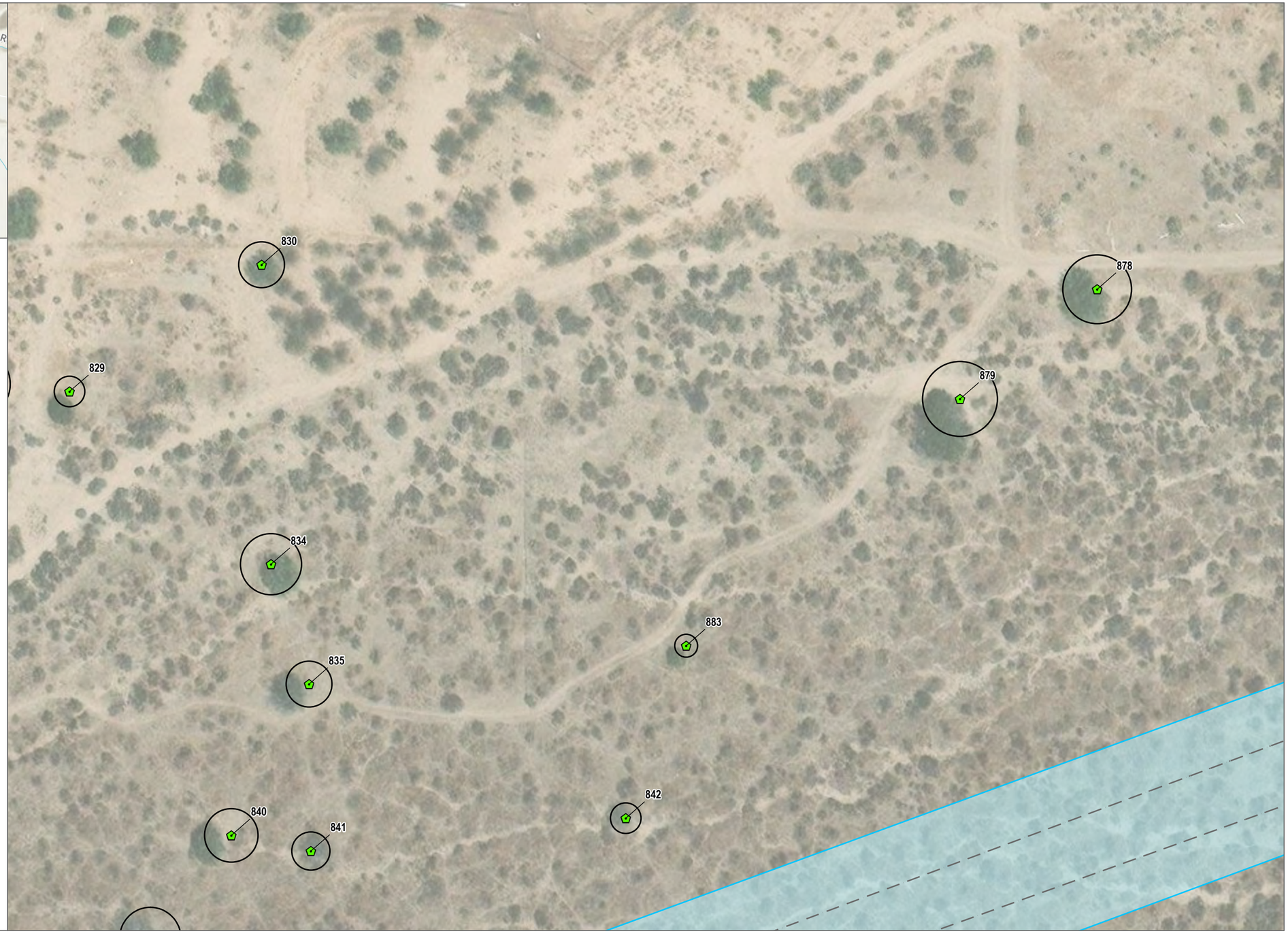
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

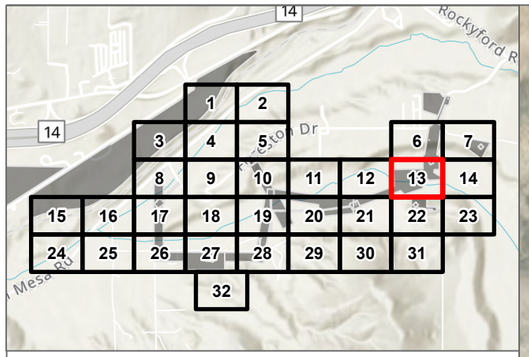
N

0 30 60 Feet

APPENDIX D12

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

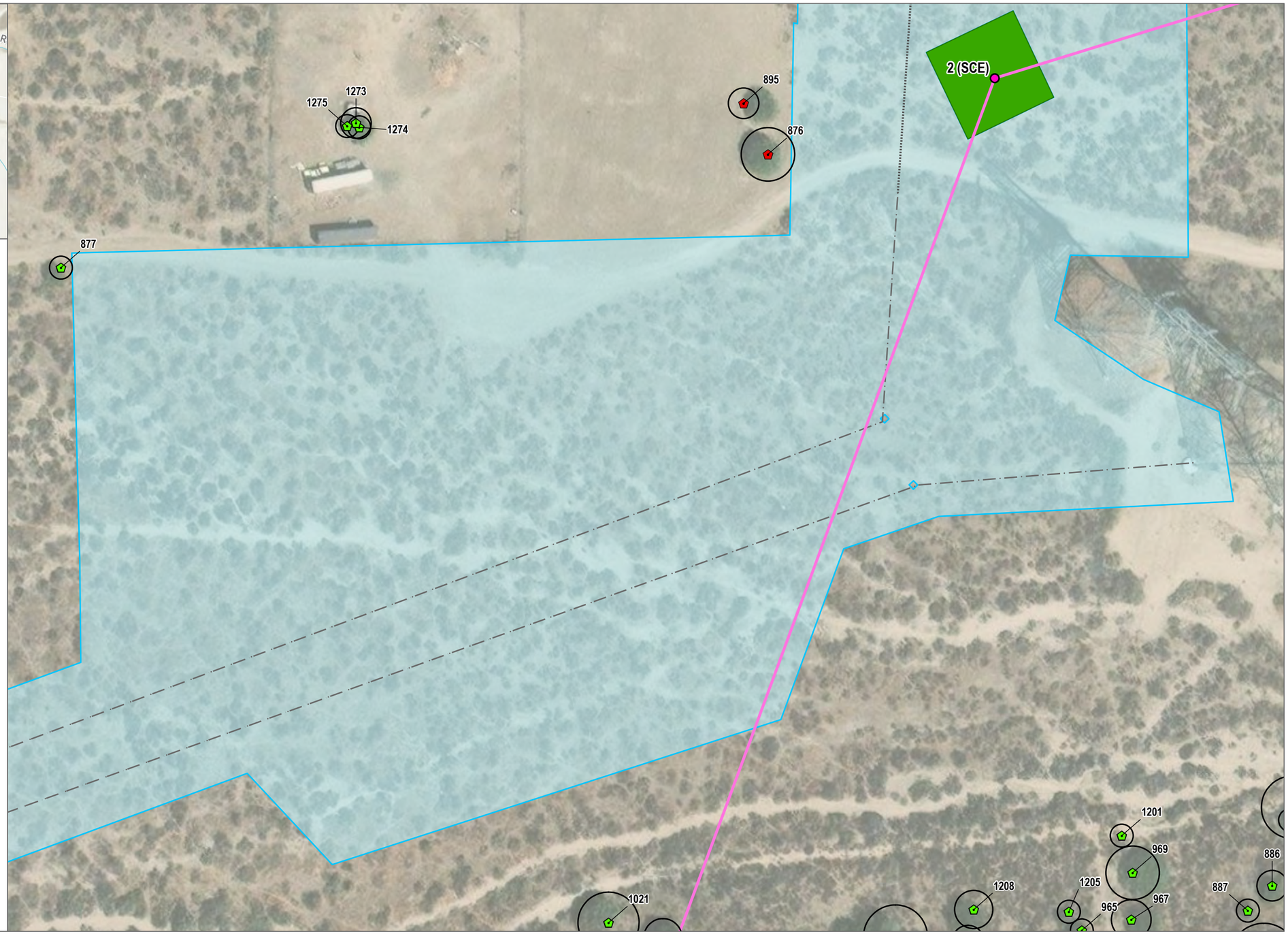
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

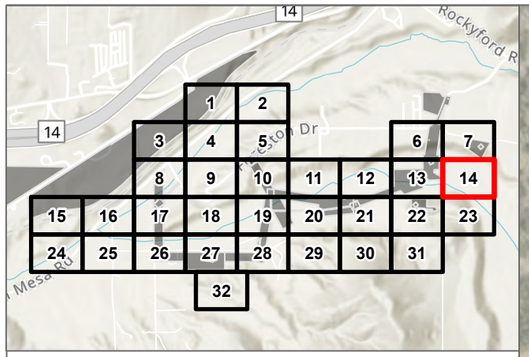
DUDEK

0 30 60 Feet

APPENDIX D13

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

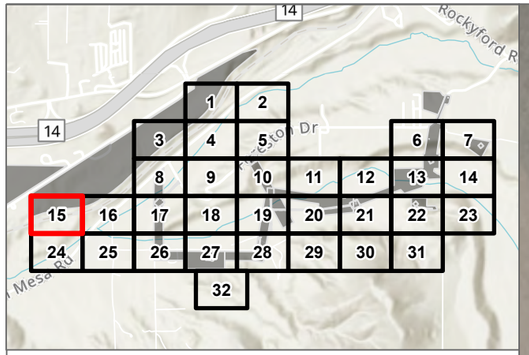
DUDEK

0 30 60 Feet

APPENDIX D14

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

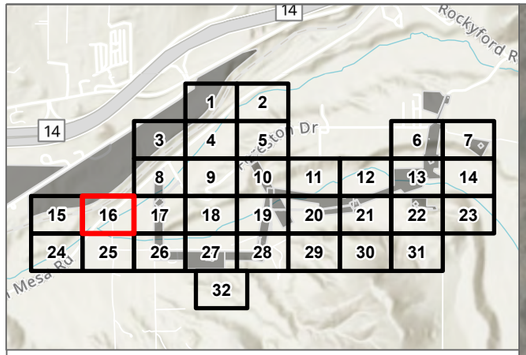
N

0 30 60 Feet

APPENDIX D15

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

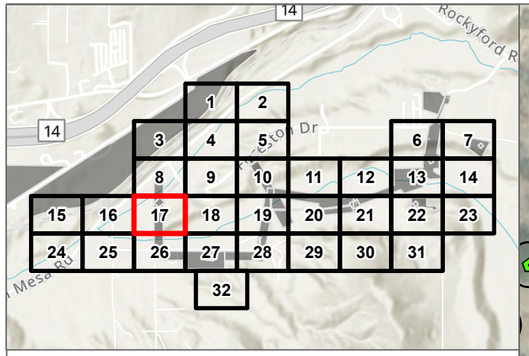
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0 30 60 Feet

APPENDIX D16

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

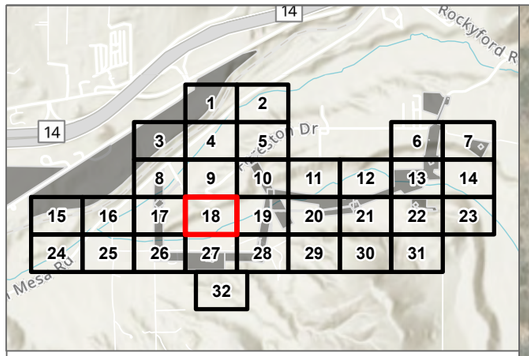
DUDEK

0 30 60 Feet

APPENDIX D17

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

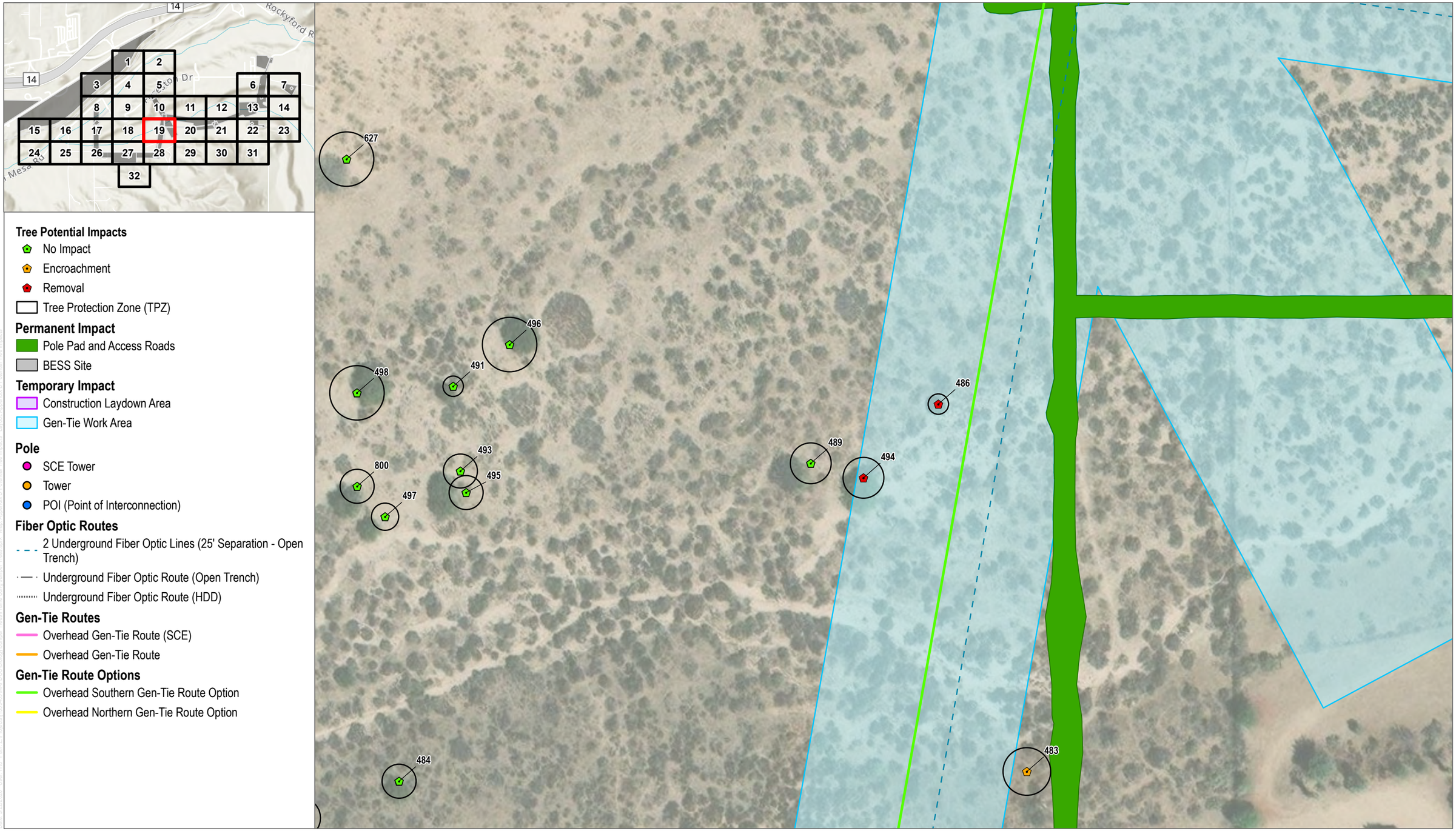
DUDEK

0 30 60 Feet

APPENDIX D18

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

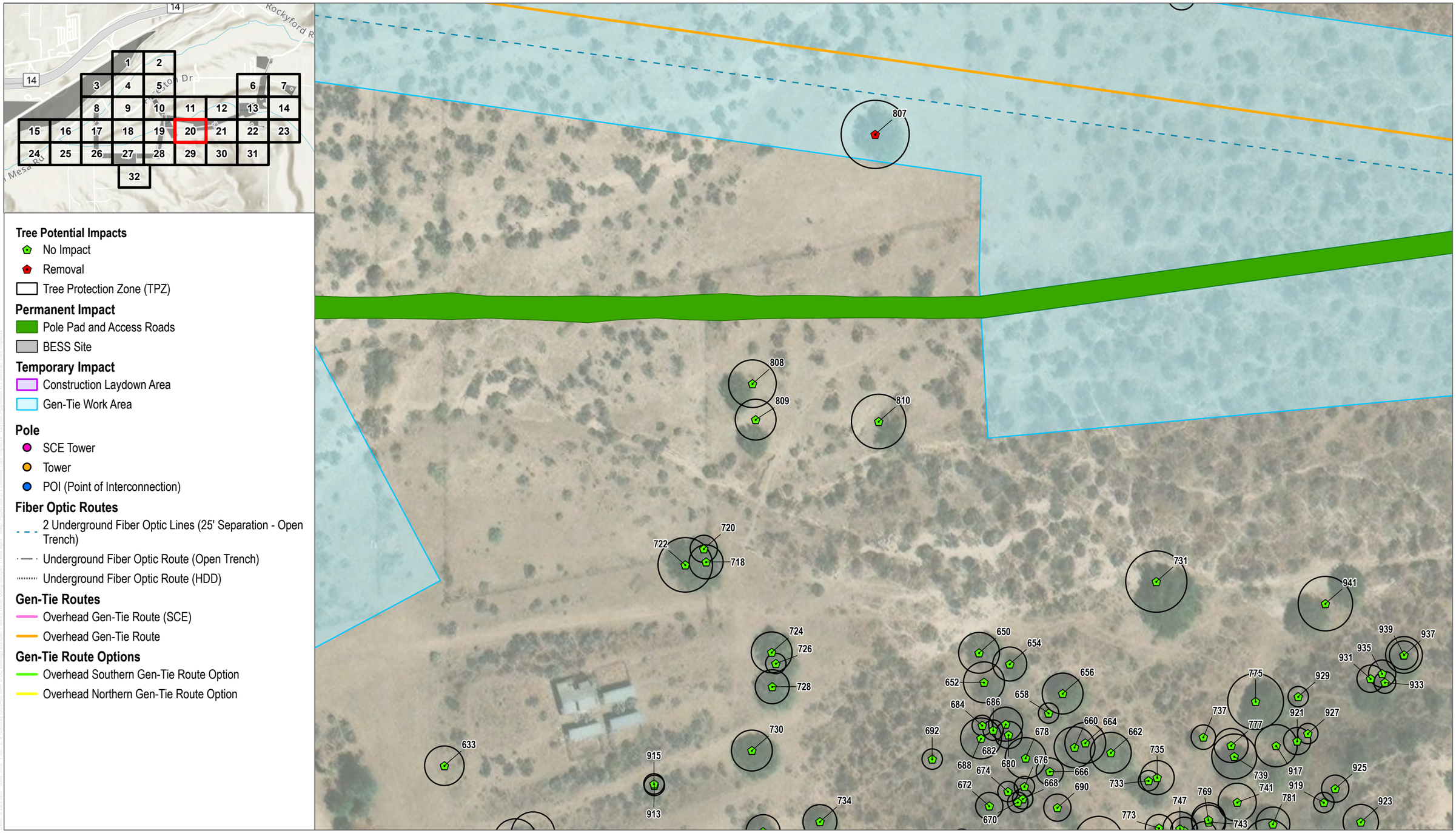
DUDEK

0 30 60 Feet

APPENDIX D19

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

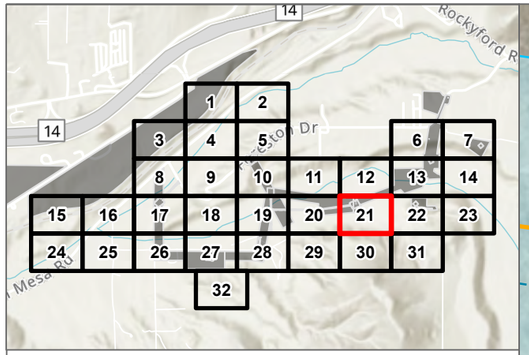
DUDEK

0 30 60 Feet

APPENDIX D20

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

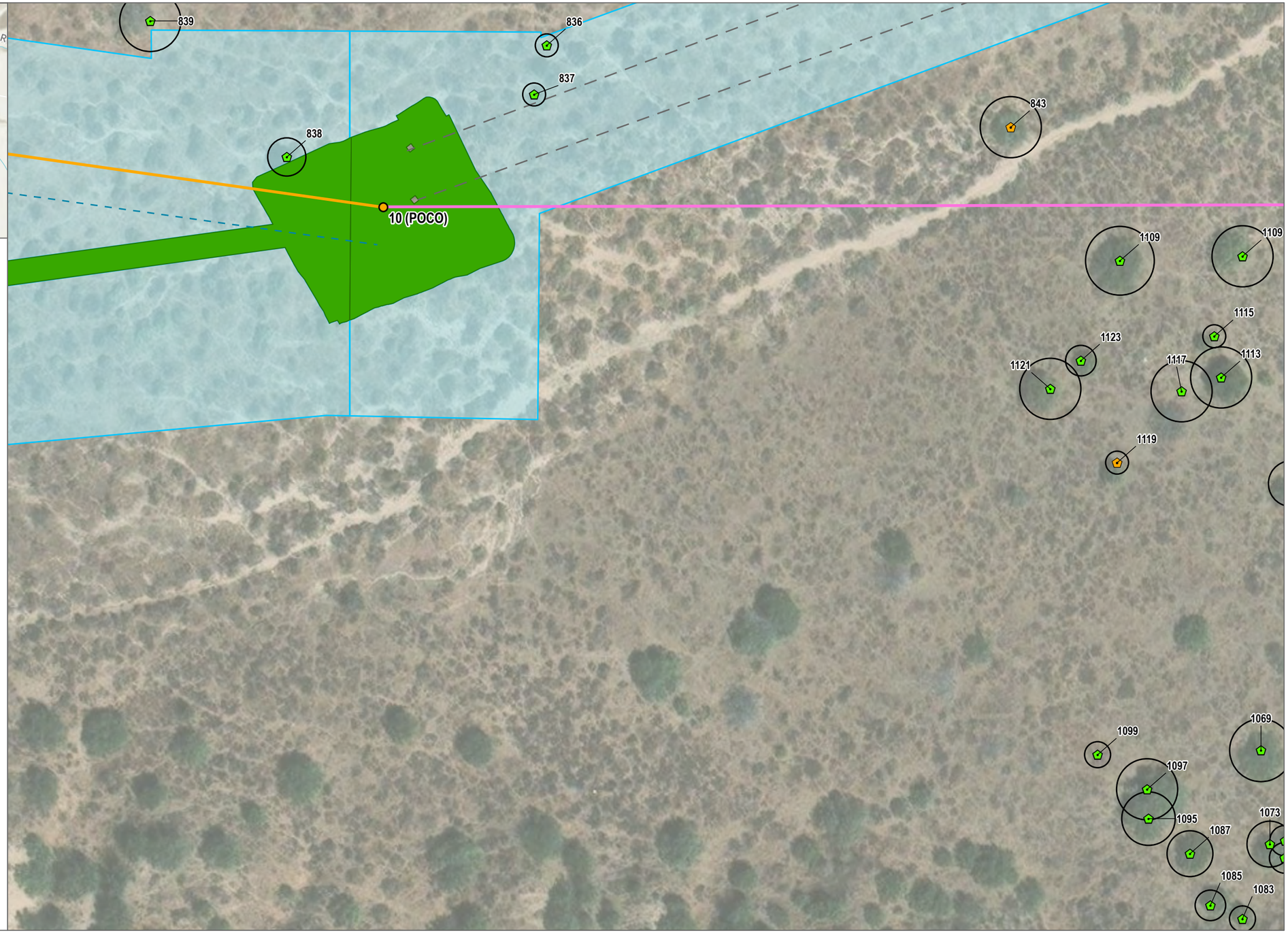
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

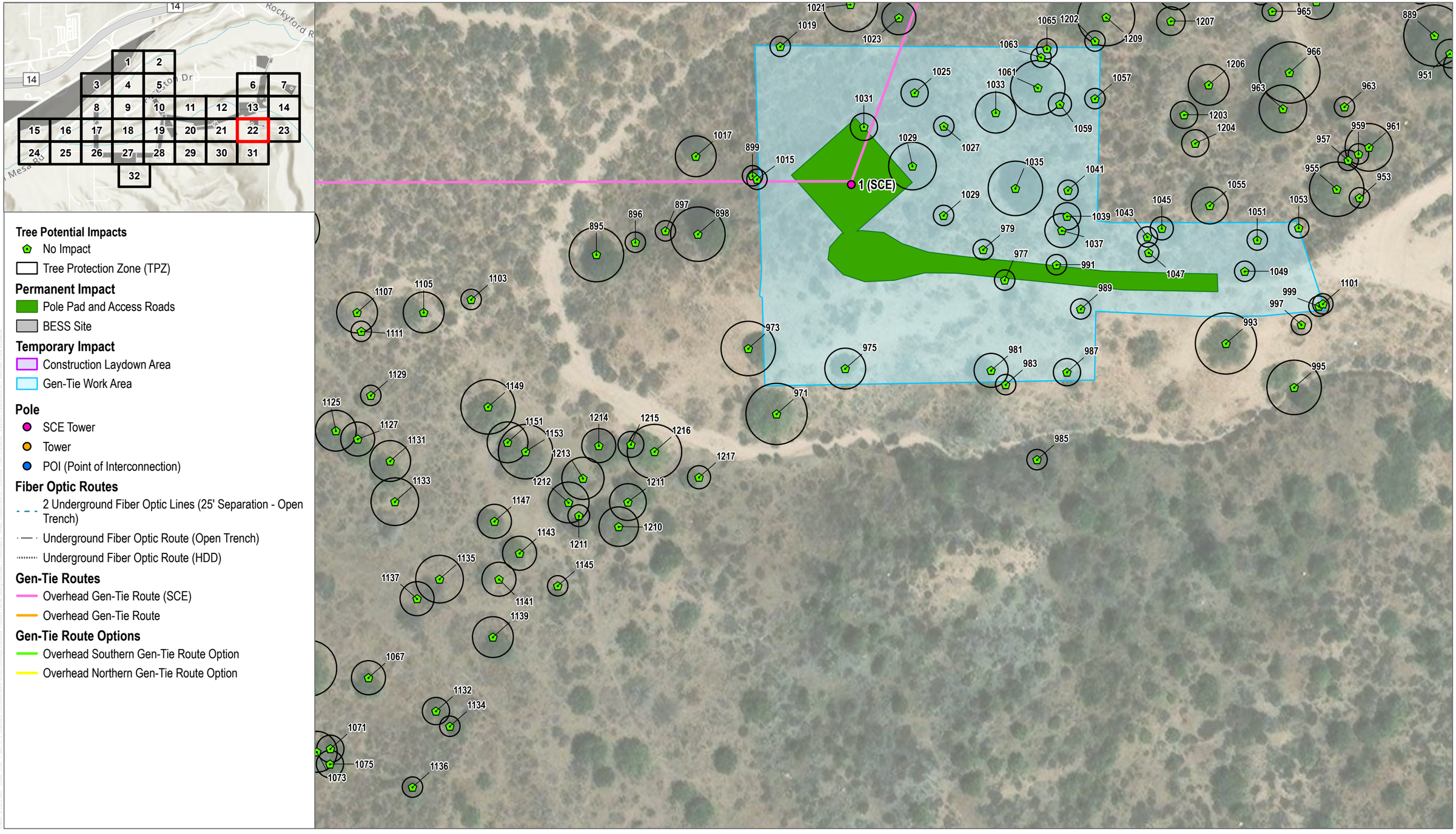
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0 30 60 Feet

APPENDIX D21

Potential Tree Impacts

Prairie Song Reliability Project



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

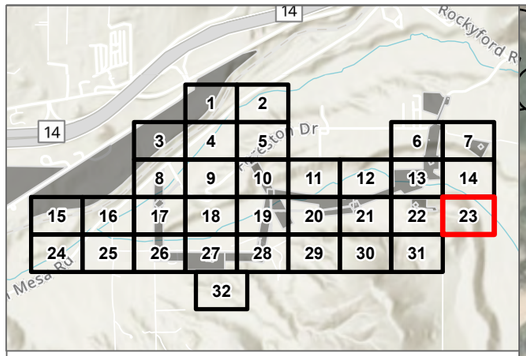
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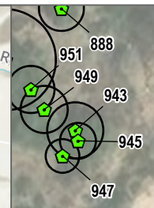
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APPENDIX D22

Potential Tree Impacts

Prairie Song Reliability Project





Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

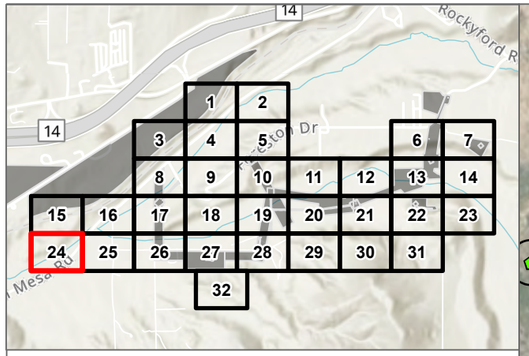
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0 30 60 Feet

APPENDIX D23

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts

- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact

- Pole Pad and Access Roads
- BESS Site

Temporary Impact

- Construction Laydown Area
- Gen-Tie Work Area

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

W Carson Mesa Rd

Kentucky Springs Rd

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

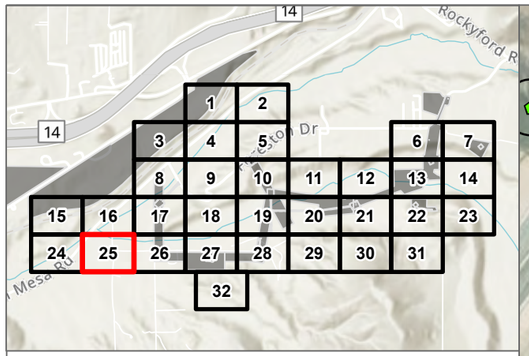
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0 30 60 Feet

APPENDIX D24

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

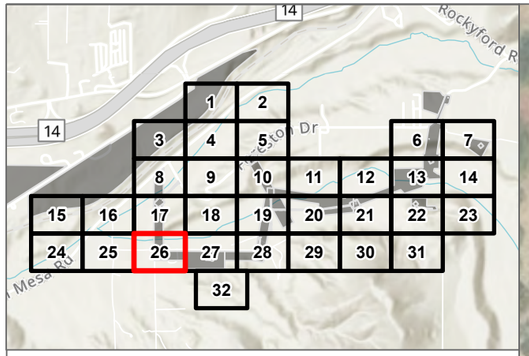
DUDEK

0 30 60 Feet

APPENDIX D25

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

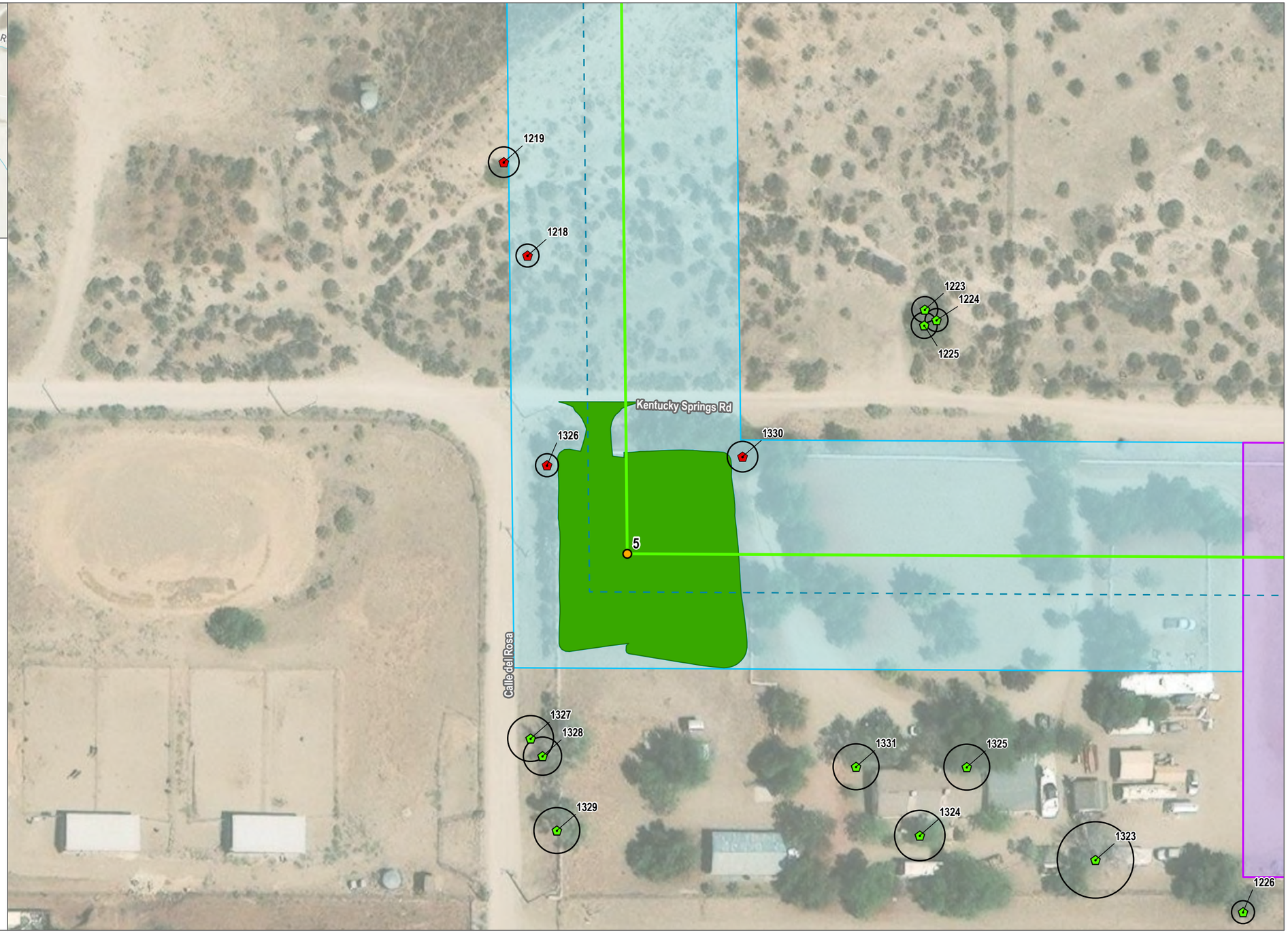
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

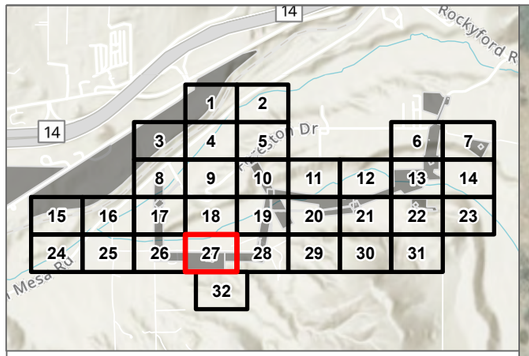
DUDEK

0 30 60 Feet

APPENDIX D26

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

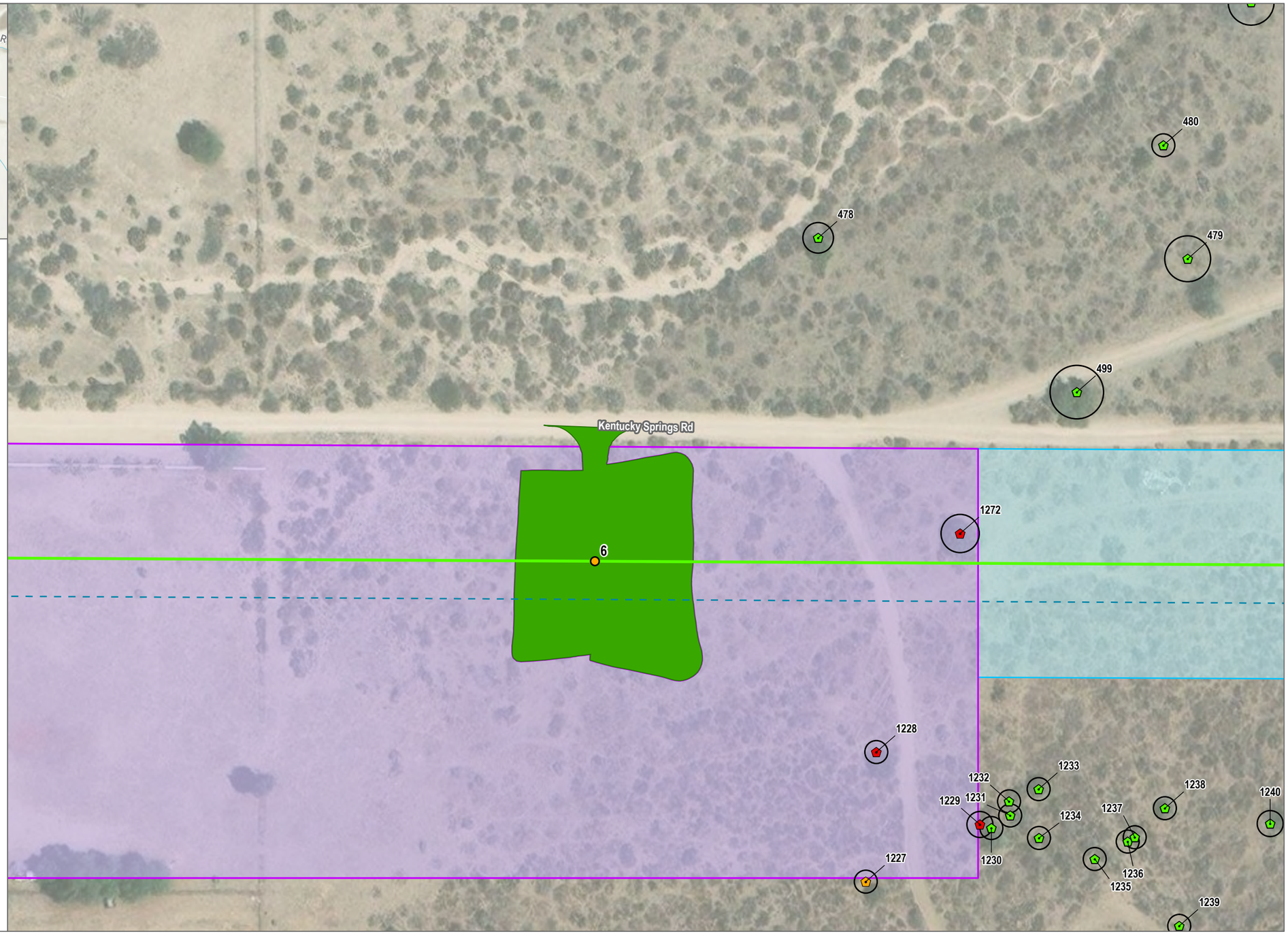
Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

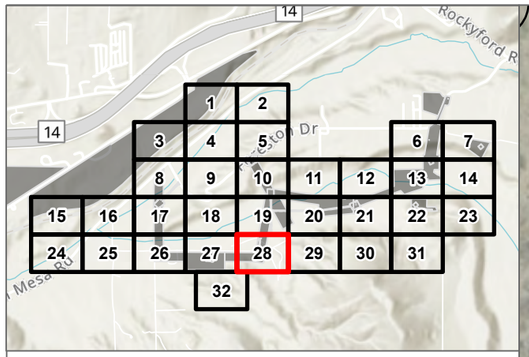
N

0 30 60 Feet

APPENDIX D27

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Encroachment
- Removal
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

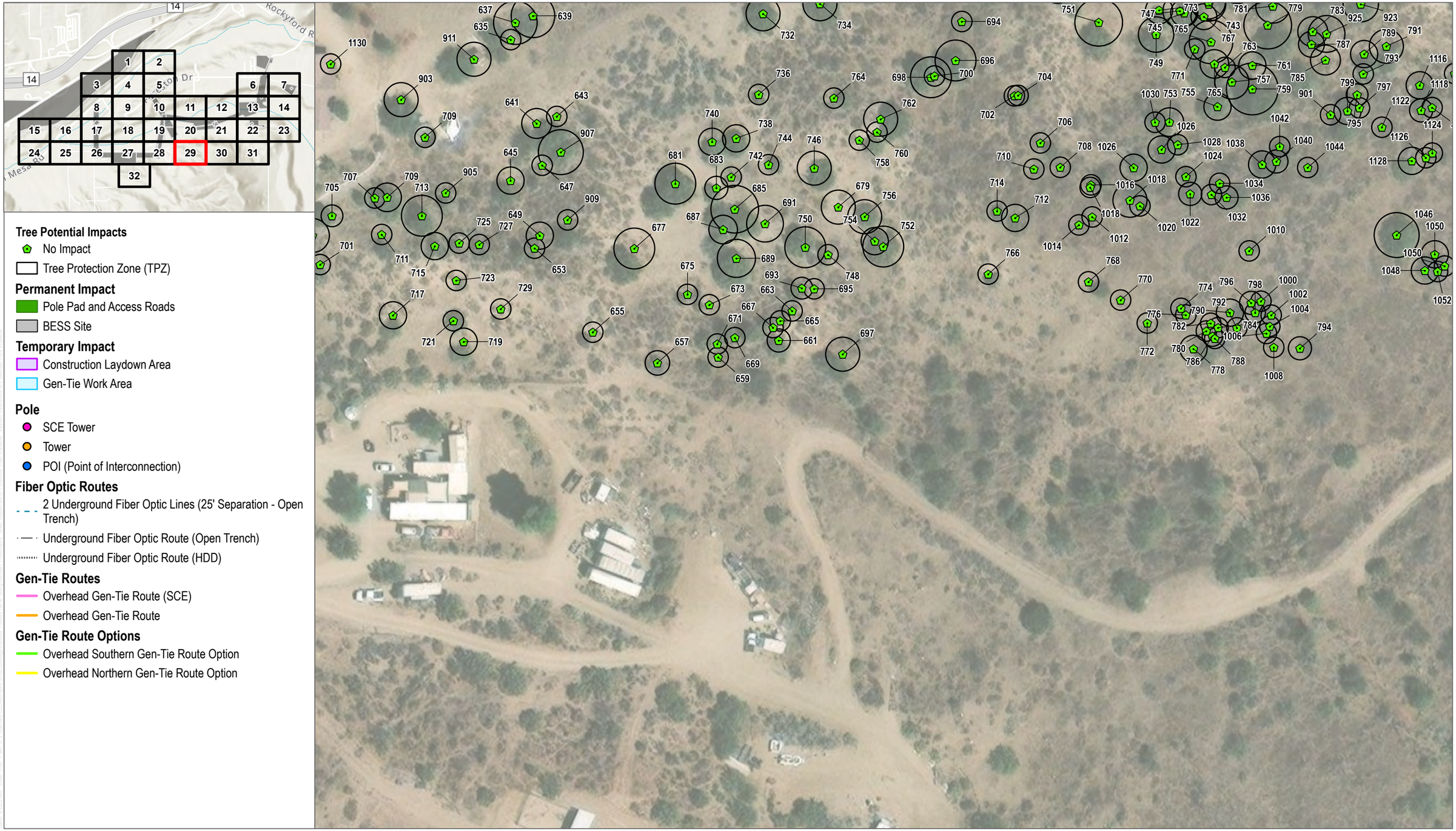
DUDEK

0 30 60 Feet

APPENDIX D28

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts

- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact

- Pole Pad and Access Roads
- BESS Site

Temporary Impact

- Construction Laydown Area
- Gen-Tie Work Area

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

N

0 30 60 Feet

APPENDIX D29

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

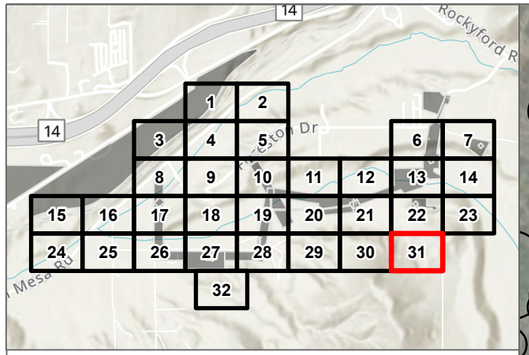
DUDEK

0 30 60 Feet

APPENDIX D30

Potential Tree Impacts

Prairie Song Reliability Project





Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

DUDEK

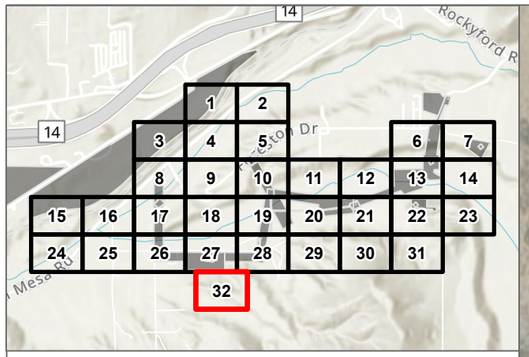
N

0 30 60 Feet

APPENDIX D31

Potential Tree Impacts

Prairie Song Reliability Project



Tree Potential Impacts
- No Impact
- Tree Protection Zone (TPZ)

Permanent Impact
- Pole Pad and Access Roads
- BESS Site

Temporary Impact
- Construction Laydown Area
- Gen-Tie Work Area

Pole
- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes
- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes
- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options
- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option



SOURCE: Maxar 2024; Open Street Map 2024; Sargent & Lundy 2024

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APPENDIX D32

Potential Tree Impacts

Prairie Song Reliability Project

Appendix E
Tree Protection Measures

Tree Protection Measures

The following tree protection measures are provided as general guidelines for tree protection from construction impacts. The measures presented should be monitored by arborists and enforced by contractors and developers for maximum benefit to the trees.

Tree Protection Measures Prior to Construction

Prior to any construction activity (drainage, demolition, material removal or delivery), Protected Trees with canopies located within 100 feet of any active construction activity in the Santa Clara River SEA shall be protected by fencing and signage. All contractors shall be made aware of the tree protection measures. A project arborist shall be assigned to monitor tree health and construction activity near retained trees on site. The project arborist shall be an International Society of Arboriculture (ISA) Certified Arborist.

Fencing. High-visibility orange construction fencing, not less than 4 feet in height and equipped with tree protection signage, shall be installed around all trees (or tree groups) with canopies that fall within 100 feet of active construction activity in the Santa Clara River SEA. The fencing shall be placed at the boundary of the Tree Protection Zone (TPZ), defined as a minimum distance of fifteen (15') feet from the trunk of the tree or five (5') feet outside the drip line of the tree, whichever distance is greater. For any trees that would be encroached upon by construction activities, fencing shall be placed as far away from trunk of the tree as possible while still allowing the required construction activities to proceed. This fencing will delineate the tree protection zone and prevent unwanted activity in and around the trees in order to reduce soil compaction in the root zones of the trees and other damage from heavy equipment.

Fencing shall be secured to 6-foot heavy-gauge t-bar line posts, supported by an appropriate grade level concrete base and spaced no more than eight feet apart. Fencing material shall be fastened to each post using minimum 14-gauge wire at the top, middle, and bottom. Tree protection signs should be attached to every fourth post. The contractor shall maintain the fence to keep it upright, taut, and aligned at all times during construction activities in the area of the protected trees. Fencing shall be removed only after all construction activities are complete.

Pre-Construction Meeting. A pre-construction meeting shall be held between all contractors and the arborist. The arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, shall provide written acknowledgement of their receiving tree protection training. This training shall include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance During Construction

Once construction activities have begun, the following measures shall be adhered to:

Avoidance: Signs, ropes, cables, or any other items shall not be attached to any tree.

Equipment Operation and Storage. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles shall stay out of the fenced tree protection zone, unless where specifically approved in writing by the project arborist.

Storage and Disposal. Do not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within the fenced tree protection zone. Remove all foreign debris within the fenced tree protection zone; it is important to leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrient supply. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as: gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Equipment should be parked at least 50 feet from the protected zone to avoid the possibility of leaking equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could result in tree decline and/or mortality.

Moving Construction Materials. Care will be taken when moving equipment or supplies near the trees, especially overhead. Avoid damaging the tree(s) when transporting or moving construction materials and working around retained trees (even outside of the fenced tree protection zone). Above ground tree parts that could be damaged (e.g., low limbs, trunks) should be flagged with red ribbon. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using ISA or ANSI A300 standards.

Grade Changes. Grade changes, including adding fill, are not permitted within the tree protection zone, without special written authorization and under supervision by a Certified Arborist. Lowering the grade within this area will necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots.

Trenching and Root Pruning. To minimize damage to the root systems of all trees not being removed, all trenching activities must be conducted with extreme care. Whenever possible, all services and utilities shall be routed around the fenced tree protection zone.

If excavation within the fenced tree protection zone is unavoidable, then every effort shall be made to tunnel under or through the tree's root system with a minimal amount of root pruning, rather than trench across the tree's roots. Tree roots primarily grow horizontally, forming a structural base similar to the stem of a wineglass. A Certified Arborist should oversee all root pruning activities to ensure cuts are clean and precise, minimizing tearing, fracturing, or other trauma to the root system.

Heavy equipment such as backhoes, dozers, or graders can cause severe root damage and should not be used within root protection zones. Soil removal in trench locations should be performed using hand tools in conjunction with root pruning or Air-Spade equipment. Trenches should be no deeper than necessary, and alternative methods to trenching should be considered whenever feasible.

If trenching within the fenced tree protection zone is unavoidable:

- All trenches must be hand-dug.
- No roots larger than two (2) inches in diameter may be cut unless no other alternative exists.
- Smaller roots must be saw-cut flush with the trench wall, mechanical trenchers or backhoes are prohibited.
- If trenching results in the separation of 25% or more of the root protection zone, the trench alignment must be modified, either relocated or installed using boring techniques.

Irrigation. Trees that have been substantially root pruned (25% or more of their root zone) will require irrigation for the first twelve months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every two to four weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary above ground micro-spray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced tree protection zone ***but never soaking the area located within 6- feet of the tree trunk***.

Pruning.

Pruning of the preserved trees is generally not permitted during construction activities, except in specific cases where pruning is necessary to:

- Provide clearance for roadway and transportation requirements when no alternative routes are feasible,
- Address visual obstructions that impact safety or visibility, or
- Facilitate removal of a failed stem.

These exceptions are intended to minimize conflict between tree canopy and construction operations while maintaining safety. No other pruning should be conducted until all construction is completed.

When pruning is deemed necessary, it must be:

- Pre-approved in writing by the project arborist or supervising authority,
- Conducted by an ISA Certified Arborist,
- Performed under the direct supervision of a Certified Arborist, and
- Executed in accordance with current ISA pruning standards, ensuring cuts are made properly to preserve tree structure, health, and aesthetics.

Pruning should be limited to the minimum necessary to achieve an objective as defined by the project arborist. The tree's canopy is a vital component of its health and longevity. Protecting it from avoidable damage is a key priority throughout the construction process, and all pruning activities must be carefully planned and executed to support the tree's long-term viability.

Washing. Periodic washing of the foliage of preserved trees located within 100 feet of construction activity in the Santa Clara River SEA is recommended during construction, no more than once every two weeks. Washing should include the upper and lower leaf surfaces and the tree bark. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Inspection. An ISA Certified Arborist shall inspect the trees on at least a monthly basis for the duration of construction activity in an area 100 feet surrounding active construction. A summary report documenting observations and management recommendations shall be submitted to the owner following each inspection. Photographs of representative trees are to be included in each report.

Maintenance After Construction

Once construction is complete the tree protection fencing may be removed and the following measures performed to sustain and enhance the vigor of the preserved trees.

Pruning. Regular pruning of the preserved trees is not required. An ISA Certified Arborist, under the supervision of a Certified Arborist, should only prune the tree to maintain clearance and remove broken, dead, or diseased branches. No more than 15% of the canopy should be removed at one time. All pruning should conform to ISA standards.

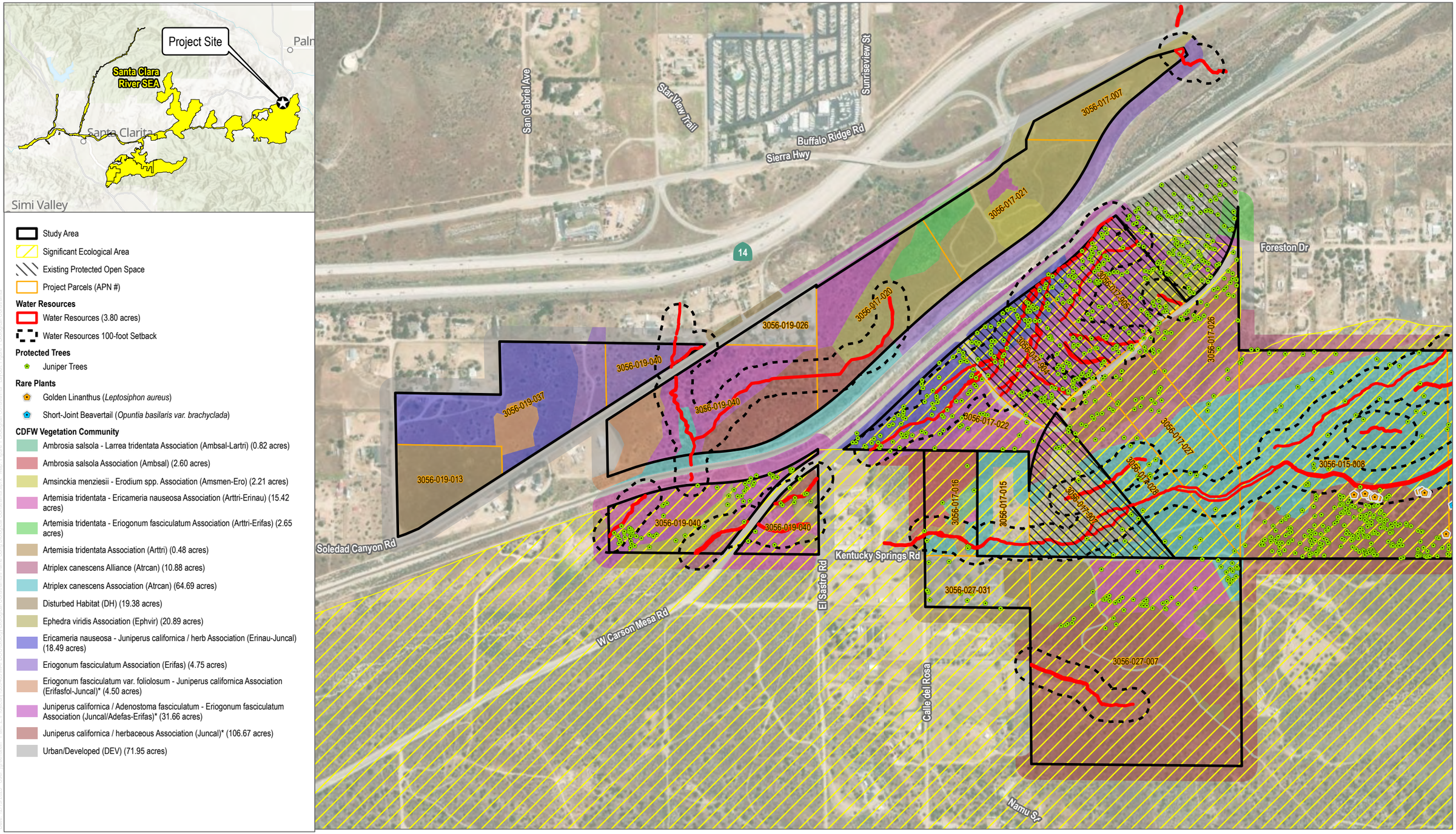
Watering. Retained trees on site shall be watered as they were prior to the commencement of construction activity. Supplemental irrigation may be necessary for twelve months following substantial root pruning.

Watering Adjacent Plant Material. All plants near the trees shall be compatible with water requirements of said trees. Watering regime included in the site's landscape plan shall be developed with consideration for the water needs of retained trees.

Spraying. If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.

Inspection. All trees within 100 feet of construction activity in the Santa Clara River SEA shall be monitored by an ISA Certified Arborist for the first two years after construction completion. An annual monitoring report shall be submitted to the California Energy Commission (CEC). Each report shall summarize the inspection efforts, document observations and management actions taken, include photographs of each tree, and compare postconstruction tree conditions with the original, pre-construction baseline condition. If any retained trees die within this inspection period, they shall be replaced at a ratio approved by the CEC.

Appendix B
Biological Constraints Map



Study Area
Significant Ecological Area
Existing Protected Open Space
Project Parcels (APN #)

Water Resources
Water Resources (3.80 acres)
Water Resources 100-foot Setback

Protected Trees
Juniper Trees

Rare Plants
Golden Linanthus (*Leptosiphon aureus*)
Short-Joint Beavertail (*Opuntia basilaris var. brachyclada*)

CDFW Vegetation Community
Ambrosia salsola - Larrea tridentata Association (Ambsal-Lartri) (0.82 acres)
Ambrosia salsola Association (Ambsal) (2.60 acres)
Amsinckia menziesii - Erodium spp. Association (Amsmen-Ero) (2.21 acres)
Artemisia tridentata - Ericameria nauseosa Association (Arttri-Erinau) (15.42 acres)
Artemisia tridentata - Eriogonum fasciculatum Association (Arttri-Erifas) (2.65 acres)
Artemisia tridentata Association (Arttri) (0.48 acres)
Atriplex canescens Alliance (Atrcan) (10.88 acres)
Atriplex canescens Association (Atrcan) (64.69 acres)
Disturbed Habitat (DH) (19.38 acres)
Ephedra viridis Association (Ephvir) (20.89 acres)
Ericameria nauseosa - Juniperus californica / herb Association (Erinau-Juncal) (18.49 acres)
Eriogonum fasciculatum Association (Erifas) (4.75 acres)
Eriogonum fasciculatum var. foliolosum - Juniperus californica Association (Erifasfol-Juncal)* (4.50 acres)
Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum Association (Juncal/Adefas-Erifas)* (31.66 acres)
Juniperus californica / herbaceous Association (Juncal)* (106.67 acres)
Urban/Developed (DEV) (71.95 acres)

SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

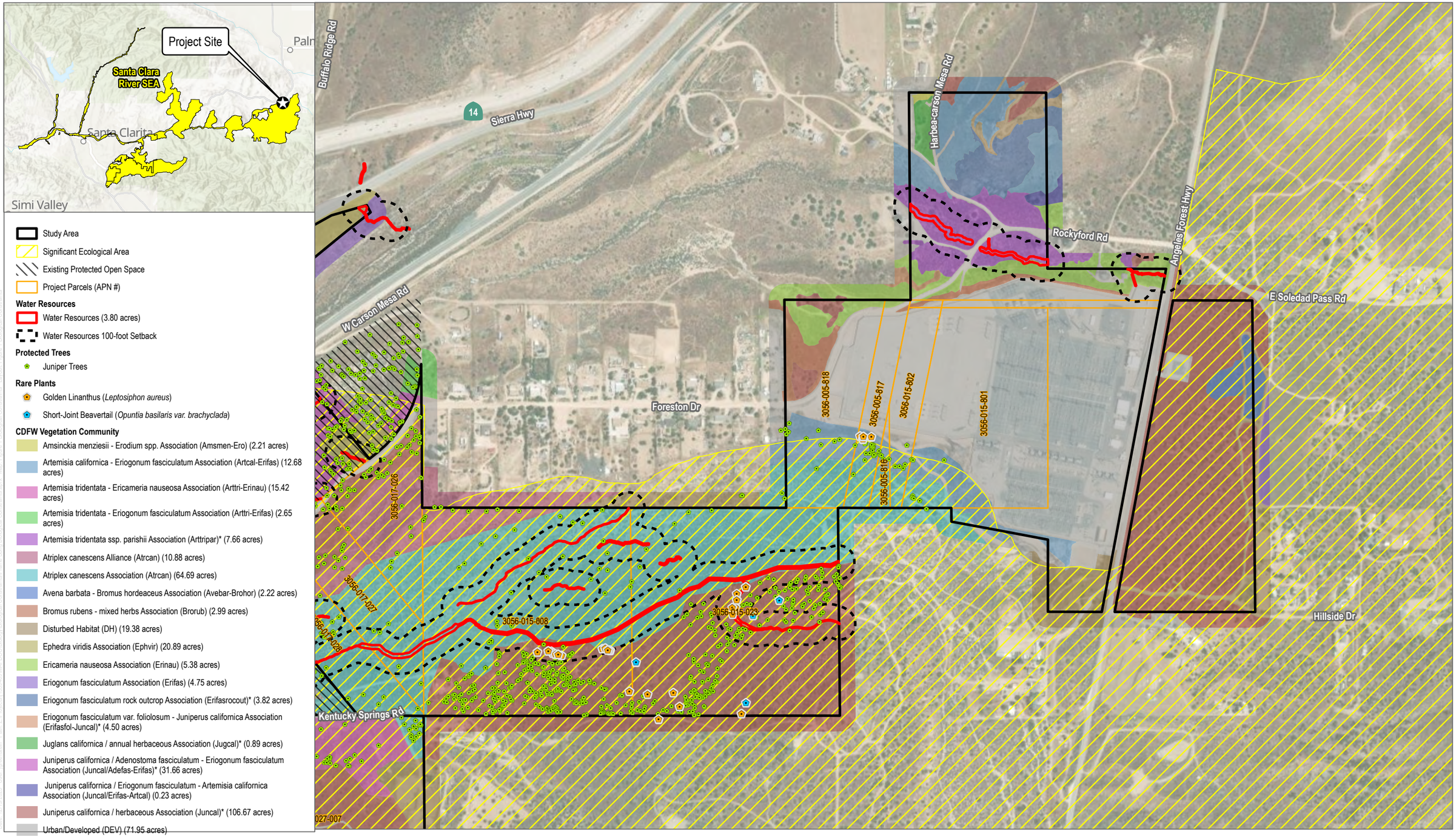
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0 300 600 Feet

FIGURE 1A

Biological Constraints

Prairie Song Reliability Project



- Study Area
- Significant Ecological Area
- Existing Protected Open Space
- Project Parcels (APN #)

Water Resources

- Water Resources (3.80 acres)
- Water Resources 100-foot Setback

Protected Trees

- Juniper Trees

Rare Plants

- Golden Linanthus (*Leptosiphon aureus*)
- Short-Joint Beavertail (*Opuntia basilaris var. brachyclada*)

CDFW Vegetation Community

- Amsinckia menziesii - Erodium spp. Association (Amsmen-Ero) (2.21 acres)
- Artemisia californica - Eriogonum fasciculatum Association (Artcal-Erifas) (12.68 acres)
- Artemisia tridentata - Ericameria nauseosa Association (Arttri-Erinau) (15.42 acres)
- Artemisia tridentata - Eriogonum fasciculatum Association (Arttri-Erifas) (2.65 acres)
- Artemisia tridentata ssp. parishii Association (Arttripar)* (7.66 acres)
- Atriplex canescens Alliance (Atrcan) (10.88 acres)
- Atriplex canescens Association (Atrcan) (64.69 acres)
- Avena barbata - Bromus hordeaceus Association (Avebar-Brohor) (2.22 acres)
- Bromus rubens - mixed herbs Association (Brorub) (2.99 acres)
- Disturbed Habitat (DH) (19.38 acres)
- Ephedra viridis Association (Ephvir) (20.89 acres)
- Ericameria nauseosa Association (Erinau) (5.38 acres)
- Eriogonum fasciculatum Association (Erifas) (4.75 acres)
- Eriogonum fasciculatum rock outcrop Association (Erifasrocout)* (3.82 acres)
- Eriogonum fasciculatum var. foliolosum - Juniperus californica Association (Erifasfol-Juncal)* (4.50 acres)
- Juglans californica / annual herbaceous Association (Jugcal)* (0.89 acres)
- Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum Association (Juncal/Adefas-Erifas)* (31.66 acres)
- Juniperus californica / Eriogonum fasciculatum - Artemisia californica Association (Juncal/Erifas-Artcal) (0.23 acres)
- Juniperus californica / herbaceous Association (Juncal)* (106.67 acres)
- Urban/Developed (DEV) (71.95 acres)

SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

0 300 600 Feet

FIGURE 1B

Biological Constraints

Prairie Song Reliability Project

Appendix C

Potential to Occur Tables and Compendia

Potential to Occur Tables

Endangered, rare, or threatened plant species as defined in Section 15380(b) of the California Environmental Quality Act Guidelines (CEQA) (14 CCR 15000 et seq.) are referred to as "special-status plant species" and, as used in this document, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act[1] (FESA); and/or (2) plant species with a California Rare Plant Rank as designated by the California Native Plant Society[2].

Endangered, rare, or threatened wildlife species as defined in Section 15380(b) of the CEQA Guidelines (14 CCR Section 15380(b)), are referred to as "special-status wildlife species" and, as used in this document, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA[3]; (2) California Species of Special Concern as designated by the California Department of Fish and Wildlife[4]; and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511[5].

The potential for special-status plant species to occur within the Study Area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region. Potential for special-status wildlife species to occur within the Study Area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence. After completion of the reconnaissance surveys, the potential for special-status plant and wildlife species to occur on or near the Project site was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided:

- Known to occur: the species has been documented on the property by a reliable source.
- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity and suitable habitat is present.
- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.
- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
    - A low potential to occur is also given to species that have suitable habitat present and the site is within the geographic and elevation range of the species, but the species was not observed during surveys that were conducted during the species' blooming period.
- Not expected to occur: the property is outside the known geographic or elevational range of the species and/or the site does not support suitable habitat for the species.

[1] CDFW. 2025. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Accessed April 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.
[2] CNPS. 2025. Inventory of Rare and Endangered Plants (online edition, v8-03). Accessed April 2025. www.rareplants.cnps.org.
[3] CDFW. 2025. State and Federally Listed Endangered and Threatened Animals of California. Accessed April 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.
[4] CDFW. 2025. Species of Special Concern. Accessed April 2025. https://www.wildlife.ca.gov/Conservation/SSC.
[5] CDFW. 2025h. Fully Protected Animals. Accessed April 2025. https://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html.

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Special-Status Plants

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Acanthoscyphus parishii var. *abramsii*	Abrams' oxytheca	None/None/1B.2	Chaparral/annual herb/June–Aug/ 3,750–6,745	Not expected to occur. The Study Area is outside this species current range.
Androsace elongata ssp. *acuta*	California androsace	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Meadows and seeps, Pinyon and juniper woodland, Valley and foothill grassland/annual herb/ Mar–June/490–4,280	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Anomobryum julaceum	slender silver moss	None/None/4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest; Roadsides (usually)/moss/N.A./330–3,280	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Aphyllon validum ssp. *validum*	Rock Creek broomrape	None/None/1B.2	Chaparral, Pinyon and juniper woodland; Granitic/perennial herb (parasitic)/May–Sep/3,380–6,560	Not expected to occur. Suitable micro-habitat (granitic) for the species is not present in the Study Area.
Arctostaphylos glandulosa ssp. *gabrielensis*	San Gabriel manzanita	None/None/1B.2	Chaparral/perennial evergreen shrub/ Mar/1,950–4,920	Not expected to occur. This conspicuous species was not observed in the Study Area.
Arctostaphylos parryana ssp. *tumescens*	interior manzanita	None/None/4.3	Chaparral (montane), Cismontane woodland/perennial evergreen shrub/ Feb–Apr/6,890–7,580	Not expected to occur. This conspicuous species was not observed in the Study Area.
Asplenium vespertinum	western spleenwort	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub; Rocky/perennial rhizomatous herb/Feb–June/ 590–3,280	Low potential to occur. Suitable habitat for the species is present in the Study Area, but records for the species are from the southern and eastern San Gabriel Mountains.
Astragalus hornii var. *hornii*	Horn's milk-vetch	None/None/1B.1	Meadows and seeps, Playas; Alkaline, Lake Margins/annual herb/May–Oct/ 195–2,785	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/ perennial evergreen shrub/ (Feb)Mar–June/230–2,705	Not expected to occur. This conspicuous species was not observed in the Study Area.
Calochortus clavatus var. *clavatus*	club-haired mariposa lily	None/None/4.3	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Clay, Rocky, Serpentine (usually)/perennial bulbiferous herb/(Mar)May–June/100–4,265	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Calochortus clavatus var. *gracilis*	slender mariposa-lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/Mar–June (Nov)/1,045–3,280	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Calochortus palmeri var. *palmeri*	Palmer's mariposa-lily	None/None/1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps; Mesic/ perennial bulbiferous herb/Apr–July/ 2,325–7,840	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Calochortus plummerae	Plummer's mariposa-lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; Granitic, Rocky/perennial bulbiferous herb/May–July/330–5,580	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Calochortus striatus	alkali mariposa-lily	None/None/1B.2	Chaparral, Chenopod scrub, Meadows and seeps, Mojavean desert scrub; Alkaline, Mesic/perennial bulbiferous herb/Apr–June/230–5,230	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Calystegia peirsonii	Peirson's morning-glory	None/None/4.2	Chaparral, Chenopod scrub, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/Apr–June/ 100–4,920	Low potential to occur. The species was initially assessed as having high potential due to the presence of suitable in the Study Area and recent local records (Calflora 2025); however, the species was not observed during focused rare plant surveys.
Canbya candida	white pygmy-poppy	None/None/4.2	Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland; Granitic, Gravelly, Sandy/ annual herb/Mar–June/1,970–4,790	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Castilleja gleasoni	Mt. Gleason paintbrush	None/SR/1B.2	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; Granitic/perennial herb (hemiparasitic)/ May–June (Sep)/3,805–7,115	Not expected to occur. Suitable habitat for the species is present in the Study Area but the Study Area is outside the range of the species.
Castilleja plagiotoma	Mojave paintbrush	None/None/4.3	Great Basin scrub (alluvial), Joshua tree "woodland", Lower montane coniferous forest, Pinyon and juniper woodland/ perennial herb (hemiparasitic)/ Apr–June/985–8,205	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1	Marshes and swamps, Valley and foothill grassland, Vernal pools/annual herb/May–Nov/0–1,570	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	None/SE/1B.1	Coastal scrub, Valley and foothill grassland/annual herb/Apr–July/ 490–4,000	Not expected to occur. Marginal habitat is present in the Study Area; however, no recent records along the SR-14.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Chorizanthe spinosa	Mojave spineflower	None/None/4.2	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Playas; Alkaline (sometimes)/annual herb/Mar–July/20–4,265	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Claytonia peirsonii ssp. *peirsonii*	Peirson's spring beauty	None/None/1B.2	Subalpine coniferous forest, Upper montane coniferous forest; Granitic, Metamorphic, Scree, Talus/perennial herb/(Mar) May–June/4,955–9,005	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Clinopodium mimuloides	monkey-flower savory	None/None/4.2	Chaparral, North Coast coniferous forest; Mesic, Streambanks/perennial herb/June–Oct/1,000–5,905	Not expected to occur. Suitable micro-habitats (mesic and streambanks) for the species are not present in the Study Area.
Diplacus johnstonii	Johnston's monkeyflower	None/None/4.3	Lower montane coniferous forest (disturbed areas, gravelly, roadsides, rocky, scree)/annual herb/May–Aug/ 3,200–9,580	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Flood deposited terraces and washes/annual herb/Apr–June/ 655–2,490	Not expected to occur. Suitable micro-habitats (Flood deposited terraces and washes) for the species are not present in the Study Area.
Erigeron breweri var. *jacinteus*	San Jacinto Mountains daisy	None/None/4.3	Subalpine coniferous forest, Upper montane coniferous forest; Rocky/ perennial rhizomatous herb/June–Sep/ 8,860–9,515	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Eriogonum umbellatum var. *minus*	alpine sulfur-flowered buckwheat	None/None/4.3	Subalpine coniferous forest, Upper montane coniferous forest; Gravelly/ perennial herb/June–Sep/ 5,905–10,065	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Erythranthe diffusa	Palomar monkeyflower	None/None/4.3	Chaparral, Lower montane coniferous forest; Gravelly (sometimes), Sandy (sometimes)/annual herb/Apr–June/ 4,005–6,005	Not expected to occur. The Study Area is below the elevation range of the species.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Frasera neglecta	pine green-gentian	None/None/4.3	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest/perennial herb/May–July/4,595–8,205	Not expected to occur. The Study Area is below the elevation range of the species.
Galium angustifolium ssp. *gabrielense*	San Antonio Canyon bedstraw	None/None/4.3	Chaparral, Lower montane coniferous forest; Granitic, Rocky (sometimes), Sandy (sometimes)/perennial herb/ Apr–Aug/3,935–8,695	Not expected to occur. The Study Area is below the elevation range of the species.
Galium angustifolium ssp. *gracillimum*	slender bedstraw	None/None/4.2	Joshua tree "woodland", Sonoran desert scrub; Granitic, Rocky/perennial herb/ Apr–June (July)/425–5,085	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Galium jepsonii	Jepson's bedstraw	None/None/4.3	Lower montane coniferous forest, Upper montane coniferous forest; Granitic, Gravelly (sometimes), Rocky (sometimes)/perennial rhizomatous herb/July–Aug/5,055–8,205	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Galium johnstonii	Johnston's bedstraw	None/None/4.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, Riparian woodland/perennial herb/ June–July/4,005–7,545	Not expected to occur. The Study Area is below the elevation range of the species.
Goodmania luteola	golden goodmania	None/None/4.2	Meadows and seeps, Mojavean desert scrub, Playas, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/annual herb/Apr–Aug/ 65–7,220	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Heuchera abramsii	Abrams' alumroot	None/None/4.3	Upper montane coniferous forest (rocky)/perennial rhizomatous herb/ July–Aug/9,185–11,485	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Heuchera caespitosa	urn-flowered alumroot	None/None/4.3	Cismontane woodland, Lower montane coniferous forest, Riparian forest (montane), Upper montane coniferous forest; Rocky/perennial rhizomatous herb/May–Aug/3,790–8,695	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/ perennial herb/Feb–July (Sep)/ 230–2,660	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Hulsea vestita ssp. *gabrielensis*	San Gabriel Mountains sunflower	None/None/4.3	Lower montane coniferous forest, Upper montane coniferous forest; Rocky/perennial herb/May–July/ 4,920–8,205	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Hulsea vestita ssp. *parryi*	Parry's sunflower	None/None/4.3	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest; Carbonate (sometimes), Granitic (sometimes), Openings, Rocky/perennial herb/ Apr–Aug/4,495–9,500	Not expected to occur. The Study Area is below the elevation range of the species.
Imperata brevifolia	California satintail	None/None/2B.1	Chaparral, Coastal scrub, Meadows and seeps, Mojavean desert scrub, Riparian scrub; Mesic/perennial rhizomatous herb/Sep–May/0–3,985	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Juglans californica	Southern California black walnut	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/ perennial deciduous tree/Mar–Aug/ 165–2,955	Not expected to occur. This conspicuous species was not observed in the Study Area.
Juncus duranii	Duran's rush	None/None/4.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest; Mesic/perennial rhizomatous herb/July–Aug/ 5,800–9,200	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Lepechinia fragrans	fragrant pitcher sage	None/None/4.2	Chaparral/perennial shrub/Mar–Oct/ 65–4,300	Not expected to occur. This conspicuous species was not observed in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/ Jan–July/5–2,905	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Leptosiphon aureus	Golden linanthus	None/None/4.2	Chaparral, Cismontane woodland, Valley and foothill grassland/annual herb/Apr—May/5-2,300	Present. Numerous observations of the species were mapped within the gen-tie portion of the Study Area
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland; Openings/perennial bulbiferous herb/ Mar–July (Aug)/100–5,905	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Lilium parryi	lemon lily	None/None/1B.2	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest; Mesic/perennial bulbiferous herb/ July–Aug/4,000–9,005	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Linanthus concinnus	San Gabriel linanthus	None/None/1B.2	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest; Openings, Rocky/annual herb/ Apr–July/4,985–9,185	Not expected to occur. The Study Area is below the elevation range of the species.
Loeflingia squarrosa var. *artemisiarum*	sagebrush loeflingia	None/None/2B.2	Desert dunes, Great Basin scrub, Sonoran desert scrub; Sandy/annual herb/Apr–May/2,295–5,295	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Lupinus albifrons var. *johnstonii*	interior bush lupine	None/None/4.3	Chaparral, Lower montane coniferous forest; Decomposed granitic/perennial shrub/May–July/4,920–8,205	Not expected to occur. The Study Area is below the elevation range of the species.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Lupinus elatus	silky lupine	None/None/4.3	Lower montane coniferous forest, Upper montane coniferous forest/ perennial herb/June–Aug/ 4,920–9,845	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Lupinus peirsonii	Peirson's lupine	None/None/1B.3	Joshua tree "woodland", Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest; Gravelly, Rocky/ perennial herb/Apr–June/3,280–8,205	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Lycium torreyi	Torrey's box-thorn	None/None/4.2	Mojavean desert scrub, Sonoran desert scrub; Rocky, Sandy, Streambanks, Washes/perennial shrub/(Jan–Feb)Mar–June (Sep–Nov)/-165–4,005	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Malacothamnus davidsonii	Davidson's bush-mallow	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/ perennial deciduous shrub/June–Jan/ 605–3,740	Not expected to occur. This conspicuous species was not observed in the Study Area.
Monardella australis ssp. *gabrielensis*	San Gabriel Mountains monardella	None/None/1B.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest; Granitic, Openings/shrub/July–Sep/ 5,245–7,215	Not expected to occur. The Study Area is below the elevation range of the species.
Monardella australis ssp. *gabrielensis*	San Gabriel Mountains monardella	None/None/1B.2	Broadleafed upland forest, Chaparral (montane), Lower montane coniferous forest; Granitic, Openings/shrub/July–Sep/5,250–7,220	Not expected to occur. The Study Area is below the elevation range of the species.
Monardella exilis	Mojave monardella	None/None/4.2	Chenopod scrub, Desert dunes, Great Basin scrub, Joshua tree "woodland", Lower montane coniferous forest, Mojavean desert scrub, Pinyon and juniper woodland; Sandy/annual herb/ Apr–Sep/1,970–6,725	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Monardella viridis	green monardella	None/None/4.3	Broadleafed upland forest, Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Sep/ 330–3,315	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Mucronea californica	California spineflower	None/None/4.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/Mar–July (Aug)/0–4,595	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Muhlenbergia californica	California muhly	None/None/4.3	Chaparral, Coastal scrub, Lower montane coniferous forest, Meadows and seeps; Mesic, Seeps, Streambanks/perennial rhizomatous herb/June–Sep/330–6,560	Not expected to occur. Suitable micro-habitats (mesic, seeps, and streambanks) for the species are not present in the Study Area.
Muilla coronata	crowned muilla	None/None/4.2	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland/perennial bulbiferous herb/Mar–Apr (May)/ 2,200–6,430	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/ 100–2,150	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Nemacladus secundiflorus var. *robbinsii*	Robbins' nemacladus	None/None/1B.2	Chaparral, Valley and foothill grassland; Openings/annual herb/Apr–June/ 1,150–5,580	Low potential to occur. The species was initially assessed as having high potential due to the presence of suitable in the Study Area and recent local records (Calflora 2025); however, the species was not observed during focused rare plant surveys.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None/1B.2	Chaparral, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland/perennial stem/ Apr–June (Aug)/1,390–5,905	Present. Four individuals were identified in the gen-tie portion of the Study Area during the 2023 focused rare plant surveys.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Oreonana vestita	woolly mountain-parsley	None/None/1B.3	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; Gravelly (sometimes), Talus (sometimes)/ perennial herb/Mar–Sep/ 5,300–11,485	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Packera ionophylla	Tehachapi ragwort	None/None/4.3	Lower montane coniferous forest, Upper montane coniferous forest; Granitic, Rocky/perennial herb/ June–July/4,920–8,860	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Perideridia pringlei	adobe yampah	None/None/4.3	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland; Clay (often), Serpentine/ perennial herb/Apr–June (July)/ 985–5,905	Not expected to occur. Suitable micro-habitats (clay and serpentine soils) for the species are not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Phacelia mohavensis	Mojave phacelia	None/None/4.3	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pinyon and juniper woodland; Gravelly (sometimes), Sandy (sometimes)/ annual herb/Apr–Aug/4,595–8,205	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	Chaparral, cismontane woodland, Coastal scrub, Riparian woodland; gravelly benches, dry stream bottoms, Sandy/perennial herb/ (July) Aug–Nov (Dec)/0–6,885	Low potential to occur. The species was initially assessed as having moderate potential due to the presence of suitable in the Study Area; however, the species was not observed during focused rare plant surveys.
Quercus durata var. *gabrielensis*	San Gabriel oak	None/None/4.2	Chaparral, Cismontane woodland/ perennial evergreen shrub/Apr–May/ 1,475–3,280	Not expected to occur. This conspicuous species was not observed in the Study Area.
Quercus engelmannii	Engelmann oak	None/None/4.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/perennial deciduous tree/ Mar–June/165–4,265	Not expected to occur. This conspicuous species was not observed in the Study Area.
Selaginella asprella	bluish spike-moss	None/None/4.3	Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest; Granitic, Rocky/perennial rhizomatous herb/July/5,250–8,860	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Senecio astephanus	San Gabriel ragwort	None/None/4.3	Chaparral, Coastal scrub; Rocky, Slopes/perennial herb/May–July/ 1,310–4,920	Not expected to occur. The Study Area is outside the range of the species.
Sidotheca caryophylloides	chickweed oxytheca	None/None/4.3	Lower montane coniferous forest (sandy)/annual herb/July–Sep (Oct)/3,655–8,530	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur[2]
Stylocline masonii	Mason's neststraw	None/None/1B.1	Chenopod scrub, Pinyon and juniper woodland; Sandy/annual herb/ Mar–May/330–3,935	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Symphyotrichum greatae	Greata's aster	None/None/1B.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Riparian woodland; Mesic/perennial rhizomatous herb/ June–Oct/985–6,590	Not expected to occur. Suitable micro-habitat (mesic conditions) for the species is not present in the Study Area.
Syntrichopappus lemmonii	Lemmon's syntrichopappus	None/None/4.3	Chaparral, Joshua tree "woodland", Pinyon and juniper woodland; Gravelly (sometimes), Sandy (sometimes)/ annual herb/Apr–May (June)/ 1,640–6,005	Low potential to occur. The species was initially assessed as having high potential due to the presence of suitable in the Study Area and recent local records (Calflora 2025); however, the species was not observed during focused rare plant surveys.
Thysanocarpus rigidus	rigid fringepod	None/None/1B.2	Pinyon and juniper woodland; Dry, Rocky, Slopes/annual herb/Feb–May/ 1,965–7,215	Not expected to occur. Herbarium records for the species are only from San Diego and Riverside counties.
Yucca brevifolia	western Joshua tree	None/SC/CBR	Great Basin grassland, Great Basin scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland, Sonoran desert scrub, Valley and foothill grassland/perennial leaf succulent/Apr–May/1,310–6,560	Not expected to occur. This conspicuous species was not observed in the Study Area.

Status Legend
Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SC: State candidate for listing
SE: State listed as endangered
SR: State designated as rare
CRPR: California Rare Plant Rank
1B: Plants rare, threatened, or endangered in California and elsewhere

2B: Plants rare, threatened, or endangered in California but more common elsewhere
4: Plants of limited distribution
CBR: Considered by Rejected for a CRPR
Threat Rank

0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20% - 80% of occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat)

Plant References

Calflora. 2025. The CalFlora Database: Information on California plants for education, research, and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. Berkeley, California. Accessed February 2025. https://www.calflora.org/.

CDFW (California Department of Fish and Wildlife). 2025. *RareFind,* Version 5.2.14. California Natural Diversity Database (CNDDB). Accessed February 2025. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CNPS (California Native Plant Society). 2025. *Inventory of Rare and Endangered Plants.* Online Ed. Version 8-03 0.45. Sacramento, California: CNPS. Accessed February 2025. http://www.rareplants.cnps.org/advanced.html.

Consortium of California Herbaria (CCH). 2025. CCH1: Featuring California vascular plant data from the Consortium of California Herbaria and other sources. Regents of the University of California. Accessed February 2025. https://ucjeps.berkeley.edu/consortium/.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed February 2025. http://ucjeps.berkeley.edu/eflora/.

USFWS. 2025. IPaC: Information for Planning and Consultation. Powered by ECOS – the Environmental Conservation Online System. Accessed February 2025. https://ecos.fws.gov/ipac/.

Special-Status Wildlife

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/CSL	Open grassland and scrub communities supporting suitable floral resources	Moderate potential to occur. The species may nest and forage in the Study Area; however, 2024 focused surveys for the species conducted in the Study Area were negative for the species.
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to occur (overwintering). Suitable habitat for the species is not present in the Study Area; however, the species may be transient through the area during migration.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include Plantago erecta, Antirrhinum coulterianum, and Plantago patagonica (Silverado Occurrence Complex)	Not expected to occur. The Study Area is outside the current range of the species.
Glyptostoma gabrielense	San Gabriel chestnut	None/None	Native to a narrow strip of the front range of the San Gabriel Mountains about 15 miles (24 km) long near Pasadena, California, where it inhabits riparian canyons and other areas with sufficient seasonal moisture	Not expected to occur. The Study Area is outside the current range of the species.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Helminthoglypta fontiphila	Soledad shoulderband	None/None	known only from Little Rock Creek Canyon on the north flank of the San Gabriel Mountains and from the Santa Clara River in Soledad Canyon	Not expected to occur. The Study Area is outside the current range of the species.
Helminthoglypta traskii pacoimensis	Pacoima shoulderband	None/None	Known only from Pacoima Canyon on the west slope of the San Gabriel Mountains	Not expected to occur. The Study Area is outside the current range of the species.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Fish				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE/FP, SE	Slow-moving and backwater areas	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Rhinichthys gabrielino	Santa Ana speckled dace	None/SSC	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Rana boylii pop. 6	foothill yellow-legged frog - south coast DPS	FE/SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Rana muscosa	mountain yellow-legged frog	FE/SE	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Taricha torosa (Monterey Co. south only)	California newt	None/SSC	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Reptiles				
Actinemys pallida	southwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Anniella pulchra/ Anniella stebbinsi/ Anniella spp.	northern California legless lizard/ southern California legless lizard/ California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Moderate potential to occur. Suitable habitat is present throughout the Study Area and there are recent records in the region; however, moist sandy or loose, loamy soils are limited in the Study Area to beneath the larger California junipers due to the expected higher moisture content of the soil.
Arizona elegans occidentalis	California glossy snake	None/SSC	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils	Low potential to occur. Suitable habitat is present throughout the Study Area.
Aspidoscelis tigris stejnegeri	Coastal whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas	Low potential to occur. Suitable habitat is present throughout the Study Area; however, the Study Area is in the northern limits of the species.
Diadophis punctatus modestus	San Bernardino ring-necked snake	None/None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Gopherus agassizii	Mojave desert tortoise	FT/ST	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides	Not expected to occur. Suitable habitat for the species is not present in the Study Area, which is also outside the range of the species.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Moderate potential to occur. Suitable habitat is present throughout the Study Area and there are recent nearby records.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Not expected to occur (nesting). Suitable habitat for the species is not present in the Study Area.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Moderate potential to occur. Suitable habitat is present throughout the Study Area.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to nest in the Study Area. Low potential for wintering and as a transient during foraging and migration. There is a 1965 record for nesting by the species to the south of the Study Area in Aliso Canyon.
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Moderate potential to occur. Suitable habitat is present throughout the Study Area.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/CSL	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur in the Study Area. The Study Area is outside of the predicted habitat for the species (CDFW 2024b) and no diagnostic sign of the species was observed during the many surveys of the Study Area

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Buteo regalis (wintering)	ferruginous hawk	None/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	Low potential to occur. Marginal wintering habitat is present in the Study Area but local wintering records of the species are from the Antelope Valley, north of the Study Area.
Buteo swainsoni (nesting)	Swainson's hawk	BCC/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Not expected to occur for nesting in the Study Area but may occur as a transient during migration.
Charadrius (*Anarhynchus*) *montanus* (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Falco mexicanus (nesting)	prairie falcon	None/WL	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Geococcyx californianus	greater roadrunner	None/None	Include areas dominated by creosote, mesquite, chaparral, and tamarisk, as well as grasslands, riparian woodlands and canyons; nest sites are 3 to 10 feet or more off the ground, on a horizontal branch or in the crotch of a sturdy bush, cactus, or small tree	Occurs. The species was observed in the Study Area during the surveys and nesting habitat is found in the California juniper woodland. The species is included in this table since it is considered a Los Angeles County sensitive bird species (Los Angeles Audubon 2009).

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Gymnogyps californianus	California condor	FE/FP, SE	Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees *(Sequoiadendron giganteus*); forages in relatively open habitats where large animal carcasses can be detected	Not expected to occur for nesting. Suitable nesting habitat for the species is not present in the Study Area. The species could be a transient in the area for foraging.
Icterus parisorum	Scott's oriole (breeding)	None/None	Breeding in Los Angeles County is concentrated in a few tracts of extensive Joshua tree woodland in the eastern Antelope Valley and patches of pinyon-juniper woodland on the north flank of the San Gabriel Mountains	Low potential to occur. While the Study Area does have juniper woodland, breeding records of the species in the region are from the desert slope of the San Gabriel Mountains (eBird 2025). The species is included in this table since it is considered a Los Angeles County sensitive bird species (Los Angeles Audubon 2009).
Lanius ludovicianus (nesting)	loggerhead shrike	BCC/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches	Present. An individual was observed in 2023, suitable habitat for the species is present in the Study Area, and there are recent local records.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Pooecetes gramineus	vesper sparrow	None/None	Breeds in the northern United States and Canada and in the West in mountain meadows, grassy mesas, and sagebrush steppe up to 9,800 feet; winters in open grasslands and sparse shrublands in the valley and desert regions of Los Angeles County.	Low potential to occur. The species could occur during the winter season but it is not expected to nest. The species is included in this table since it is considered a Los Angeles County sensitive bird species (Los Angeles Audubon 2009).

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Setophaga petechia (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Sturnella neglecta	western meadowlark	None/None	Commonly be found in agricultural land and other open habitats in the Antelope Valley	Low potential to occur. The Study Area lacks breeding habitat for the species but it could forage on site. The species is included in this table since it is considered a Los Angeles County sensitive bird species (Los Angeles Audubon 2009).
Toxostoma lecontei	LeConte's thrasher	BCC/SSC	Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Low potential to occur for roosting and may forage over the Study Area. Suitable roosting habitat (trees) for the species is present in the Study Area.
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None/None	Desert wash, desert scrub, desert succulent scrub, and pinyon–juniper woodland	Not expected to occur. In Los Angeles County, records of the species are from the eastern desert foothills of the San Gabriel Mountains.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur for roosting but may forage over the Study Area. Suitable roosting habitat for the species is not present in the Study Area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. Suitable habitat is present throughout the Study Area; however, the Study Area is in the northern limits of the species.
Ovis canadensis nelsoni	Nelson's bighorn sheep	None/FP	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes, and alluvial fans	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Myotis thysanodes	fringed myotis	None/None	Drier woodlands (oak, pinyon–juniper, and ponderosa pine), desert scrub, mesic coniferous forest, grassland, and sage–grass steppe; sea level to 9,350 ft; roosts in buildings, mines, rocks, cliff faces, bridges, and large, decadent trees and snags	Not expected to occur for roosting but may forage over the Study Area. Suitable roosting habitat for the species is not present in the Study Area.
Myotis volans	long-legged myotis	None/None	Primarily coniferous forests, but also seasonally in riparian and desert habitats; roosts in crevices in cliffs, caves, mines, buildings, exfoliating tree bark, and snags	Not expected to occur for roosting but may forage over the Study Area. Suitable roosting habitat for the species is not present in the Study Area.
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Not expected to occur for roosting but may forage over the Study Area. Suitable roosting habitat for the species is not present in the Study Area.
Neotamias speciosus speciosus	lodgepole chipmunk	None/None	Lodgepole pine forests	Not expected to occur. Suitable habitat for the species is not present in the Study Area.

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	Grassland and sparse coastal scrub	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Ovis canadensis nelsoni	Nelson's bighorn sheep	None/FP	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes, and alluvial fans	Not expected to occur. Suitable habitat for the species is not present in the Study Area.
Perognathus inornatus	San Joaquin pocket mouse	None/None	Open grassland and scrub areas on fine-textured soils	Not expected to occur. In Los Angeles County, records of the species are from the foothills of the Liebre Mountains.
Puma concolor (Southern California/Central Coast Evolutionarily Significant Unit)	mountain lion	None/CSL	Require large areas of relatively undisturbed habitats with adequate connectivity; these often consist of pine forests, riparian and oak woodlands, streams, chaparral, and grasslands, though they are also known to occur in desert habitats	High potential to occur. The Study Area is part of large areas of relatively undisturbed habitats with adequate connectivity so it is expected that the species could use the Study Area as part of a home range. State Route 14 may reduce connectivity between the San Gabriel and Sierra Pelona mountains but not prohibit it. The species is not expected to have natal dens in the Study Area since females typically avoid establishing a den near human activity (Center for Biological Diversity and the Mountain Lion Foundation 2019)
Taxidea taxus	American badger	None/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils; needs sufficient food, friable soils and open, uncultivated ground; preys on burrowing rodents and digs burrows	Low potential to occur. Suitable habitat is present in the Study Area but no individuals were observed and no diagnostic sign (i.e., burrows or digs with the species' conspicuous claw marks) were observed during the extensive surveys. There is one record within 20 miles of the Study Area from 1930 at Lake Los Angeles (CDFW 2025). There is one 2021 iNaturalist record approximately 8.6 miles to the west near Agua Dulce (iNaturalist 2025).

Scientific Name	Common Name	Status[1] (Federal/State)	Habitat	Potential to Occur
Xerospermophilus mohavensis	Mohave ground squirrel	None/ST	Desert scrub habitats including those dominated by creosote bush and burrobush, desert sink scrub, and desert saltbush scrub	Not expected to occur. Suitable habitat for the species is not present in the Study Area and it is outside the range of the species.

Status Legend
Federal
BCC: Bird of Conservation Concern (U.S. Fish and Wildlife Service)
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listed as threatened
State
FP: California Fully Protected Species
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
CSL: Candidate for State Listing
WL: CDFW Watch List Species

Wildlife References

Allen, L.W., K.L. Garrett, and M.C. Wimer. 2016. *Los Angeles County Breeding Bird Atlas*. Los Angeles, Calif.: Los Angeles Audubon Society.

Blood, B. 2024. Guide to the Terrestrial Mammals of Southern California and Eastern and Southern Sierra Nevada. California. Outskirts Press.

CDFW (California Department of Fish and Wildlife). 2025a. *RareFind*, Version 5.2.14. California Natural Diversity Database (CNDDB). Accessed May 2025. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CDFW. 2025b. CWHR Life History Accounts and Range Maps – Website. Updated versions of species information in Zeiner et al. 1988–1990. CDFW, CWHR Program. Accessed May 2025. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

Center for Biological Diversity and the Mountain Lion Foundation. 2019. A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA). Accessed May 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171208&inline.

Cornell Lab. 2025. Greater roadrunner life history. All About Birds. Accessed September 2025. https://www.allaboutbirds.org/guide/Greater_Roadrunner/lifehistory#habitat.

eBird. 2025. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Accessed May 2025. http://www.ebird.org.

Hansen, R. and Shedd, J. 2025. California Amphibians and Reptiles. New Jersey. Princeton University Press. January 2025.

iNaturalist. 2025. iNaturalist, an online community database. Accessed May 2025. https://www.inaturalist.org/.

Los Angeles Audubon. 2009. Los Angeles County's Sensitive Bird Species. Western Tanager, vol. 75, no. 3, January/February 2009. Accessed September 2025. https://planning.lacounty.gov/wp-content/uploads/2022/11/LA-Countys-Sensitive-Bird-Species.pdf.

Magney, D. 2009. Los Angeles County Wildlife - Terrestrial Gastropods (Snails and Slugs). Accessed May 2025. https://magney.org/photofiles/Snails-LosAngelesCounty.htm.

Miner, K.L., and D.C. Stokes. 2005. "Bats in the South Coast Ecoregion: Status, Conservation Issues, and Research Needs." USDA Forest Service Gen. Tech. Rep. PSW-GTR-195:211-277.

Mock, P. 2004. California Gnatcatcher (*Polioptila californica*). In The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California. California Partners in Flight. Accessed May 2025. http://www.prbo.org/calpif/htmldocs/scrub.html.

Nafis, G. 2025. *California Herps - A Guide to the Amphibians and Reptiles of California*. Accessed May 2025. http://www.californiaherps.com/.

PISCES. 2014. PISCES Range Data. California Fish Data and Management Software. Center for Watershed Sciences. University of California, Davis. Accessed May 2025. https://pisces.ucdavis.edu/fish.

USFWS. 2019. Recovery Plan for Quino checkerspot butterfly (*Euphydryas editha quino*) Draft Amendment 1. Original Approved August 11, 2003. Original prepared by Alison Williams-Anderson for U.S. Fish and Wildlife Service, Region 8. Carlsbad, California. March 2019. Accessed May 2025. https://ecos.fws.gov/docs/recovery_plan/Draft%20RP%20Amendment%20for%20QCB_1.pdf.

The Xerces Society. 2018. *A Petition to the State of California Fish and Game Commission to List the Crotch bumble bee (Bombus crotchii), Franklin's bumble bee (Bombus franklini), Suckley cuckoo bumble bee (Bombus suckleyi), and western bumble bee (Bombus occidentalis occidentalis) as Endangered under the California Endangered Species Act*. Submitted by The Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. October 2019. Accessed May 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161902&inline.

WBWG (Western Bat Working Group). 2017. "Western Bat Species." Western Bat Working Group Website. Accessed May 2025. https:// http://wbwg.org/western-bat-species/.

Plant and Wildlife Compendia

The following compendia documents the plant and wildlife species that were observed during the surveys for the Project.

Plants

Gymnosperms and Gnetophytes

CUPRESSACEAE—CYPRESS FAMILY

Juniperus californica—California juniper

EPHEDRACEAE—EPHEDRA FAMILY

Ephedra californica—California joint fir

Ephedra viridis—Mormon tea

Eudicots

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

APIACEAE—CARROT FAMILY

Lomatium mohavense—Mojave desertparsley

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia acanthicarpa—flatspine bur ragweed

Ambrosia salsola var. *salsola*—burrobrush

Artemisia ludoviciana—white sagebrush

Artemisia tridentata ssp. *parishii*—big sagebrush

Artemisia tridentata ssp. *tridentata*—basin big sagebrush

Artemisia tridentata—big sagebrush

Chaenactis artemisiifolia—white pincushion

Chaenactis fremontii—pincushion flower

Chaenactis glabriuscula—yellow pincushion

Corethrogyne filaginifolia—sand-aster

Encelia actoni—Acton's brittle brush

Encelia farinosa—brittle bush

Encelia frutescens—button brittlebush

Ericameria brachylepis—chaparral goldenbush

Ericameria linearifolia—narrowleaf goldenbush

Ericameria nauseosa var. *hololeuca*—rubber rabbitbrush

Ericameria pinifolia—pinebush

Eriophyllum confertiflorum var. *confertiflorum*—golden-yarrow
Eriophyllum pringlei—Pringle's woolly sunflower
Gutierrezia californica—California match weed
Lasthenia glaberrima—smooth goldfields
Lasthenia gracilis—needle goldfields
Layia glandulosa—whitedaisy tidytips
Layia platyglossa—coastal tidytips
Malacothrix glabrata—smooth desertdandelion
Matricaria discoidea—disc mayweed
Senecio flaccidus—threadleaf ragwort
Stephanomeria pauciflora—brownplume wirelettuce
Tetradymia stenolepis—Mojave cottonthorn
Uropappus lindleyi—Lindley's silverpuffs

BORAGINACEAE—BORAGE FAMILY

Amsinckia douglasiana—Douglas' fiddleneck
Amsinckia menziesii—Menzies' fiddleneck
Cryptantha angustifolia—Panamint cryptantha
Cryptantha intermedia—Clearwater cryptantha
Harpagonella palmeri—Palmer's grapplinghook
Nemophila menziesii—baby blue eyes
Phacelia crenulata var. *ambigua*—purplestem phacelia
Phacelia distans—distant phacelia
Phacelia fremontii—Fremont's phacelia
Phacelia tanacetifolia—lacy phacelia
Pholistoma membranaceum—white fiestaflower

BRASSICACEAE—MUSTARD FAMILY

* *Hirschfeldia incana*—shortpod mustard
* *Sisymbrium altissimum*—tall tumblemustard

CACTACEAE—CACTUS FAMILY

Cylindropuntia echinocarpa—Wiggins' cholla
Opuntia basilaris var. *basilaris*—beavertail pricklypear
Opuntia basilaris var. *brachyclada*—short-joint beavertail
Opuntia littoralis—coast prickly pear

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex argentea—silverscale saltbush
Atriplex canescens—fourwing saltbush
Chenopodium californicum—California goosefoot
Grayia spinosa—spiny hop sage

CUCURBITACEAE—GOURD FAMILY

Marah macrocarpa—Cucamonga manroot

EUPHORBIACEAE—SPURGE FAMILY

Euphorbia albomarginata—whitemargin sandmat

FABACEAE—LEGUME FAMILY

Acmispon glaber—deer weed

Acmispon maritimus var. *maritimus*—coastal bird's-foot trefoil

Acmispon parviflorus—desert deervetch

Lupinus bicolor—miniature lupine

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

LAMIACEAE—MINT FAMILY

Salvia apiana—white sage

Salvia carduacea—thistle sage

Salvia *columbariae*—chia

Salvia dorrii var. *pilosa*—purple sage

Scutellaria mexicana—Mexican bladdersage

LOASACEAE—LOASA FAMILY

Mentzelia ravenii—no common name

MONTIACEAE—MONTIA FAMILY

Calyptridium monandrum—common pussypaws

NYCTAGINACEAE—FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia*—California four o'clock

ONAGRACEAE—EVENING PRIMROSE FAMILY

Camissonia contorta—plains evening primrose

Eulobus californicus—California suncup

* *Oenothera biennis*—common evening primrose

OROBANCHACEAE—BROOM-RAPE FAMILY

Castilleja exserta ssp. *exserta*—exserted Indian paintbrush

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

Eschscholzia minutiflora—pygmy poppy

Platystemon californicus—creamcups

PLANTAGINACEAE—PLANTAIN FAMILY

Penstemon spectabilis—showy penstemon

POLEMONIACEAE—PHLOX FAMILY

Eriastrum densifolium—giant woollystar

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum—California buckwheat

Rumex hymenosepalus—canaigre dock

RANUNCULACEAE—BUTTERCUP FAMILY

Delphinium parishii—desert larkspur

SOLANACEAE—NIGHTSHADE FAMILY

Lycium cooperi—peach thorn

Monocots

AGAVACEAE—AGAVE FAMILY

* *Agave americana*—American century plant

Hesperoyucca whipplei—chaparral yucca

POACEAE—GRASS FAMILY

* *Avena fatua*—wild oat

Bromus carinatus—California brome

* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis* ssp. *rubens*—red brome
* *Bromus tectorum*—cheatgrass

Elymus elymoides—squirreltail

Festuca microstachys—small fescue

Hordeum jubatum—foxtail barley

* *Hordeum murinum*—mouse barley

Melica imperfecta—smallflower melicgrass

Poa secunda—onesided bluegrass

* *Schismus arabicus*—Arabian schismus

Stipa speciosa—desert needlegrass

THEMIDACEAE—BRODIAEA FAMILY

Dichelostemma capitatum ssp. *capitatum*—bluedicks

Wildlife

Invertebrate

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Junonia coenia—common buckeye

PIERIDAE—WHITES AND SULFURS BUTTERFLIES

Pieris rapae—cabbage white

Reptile

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis longipes—western fence lizard

Uta stansburiana elegans—western side-blotched lizard

TEIIDAE—WHIPTAIL LIZARDS

Aspidoscelis tigris tigris—Great Basin whiptail

Bird

ICTERIDAE—BLACKBIRDS

Icterus bullockii—Bullock's oriole

Icterus cucullatus—hooded oriole

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus lawrencei—Lawrence's goldfinch

Spinus psaltria—lesser goldfinch

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Tyrannus vociferans—Cassin's kingbird

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

TROCHILIDAE—HUMMINGBIRDS
Calypte anna—Anna's hummingbird
Calypte costae—Costa's hummingbird

CORVIDAE—CROWS AND JAYS
Aphelocoma californica—California scrub-jay
Corvus corax—common raven

ALAUDIDAE—LARKS
Eremophila alpestris—horned lark

MIMIDAE—MOCKINGBIRDS AND THRASHERS
Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

ODONTOPHORIDAE—NEW WORLD QUAIL
Callipepla californica—California quail

PASSERIDAE—OLD WORLD SPARROWS
* *Passer domesticus*—house sparrow
COLUMBIDAE—PIGEONS AND DOVES
Zenaida macroura—mourning dove

* *Streptopelia decaocto*—Eurasian collared-dove
CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS
Geococcyx californianus—greater roadrunner

LANIIDAE—SHRIKES
Lanius ludovicianus—loggerhead shrike

HIRUNDINIDAE—SWALLOWS
Stelgidopteryx serripennis—northern rough-winged swallow

TURDIDAE—THRUSHES
Sialia currucoides—mountain bluebird
Sialia mexicana—western bluebird

REMIZIDAE—PENDULINE TITS AND VERDINS
Auriparus flaviceps—verdin

PARULIDAE—WOOD-WARBLERS
Setophaga coronata—yellow-rumped warbler

TROGLODYTIDAE—WRENS

Campylorhynchus brunneicapillus—cactus wren
Salpinctes obsoletus—rock wren
Thryomanes bewickii—Bewick's wren

PASSERELLIDAE—NEW WORLD SPARROWS

Artemisiospiza belli—Bell's sparrow
Chondestes grammacus—lark sparrow
Melozone crissalis—California towhee
Passerculus sandwichensis—savannah sparrow
Zonotrichia leucophrys—white-crowned sparrow

Mammal

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

LEPORIDAE—HARES AND RABBITS

Lepus californicus—black-tailed jackrabbit
Sylvilagus bachmani—brush rabbit

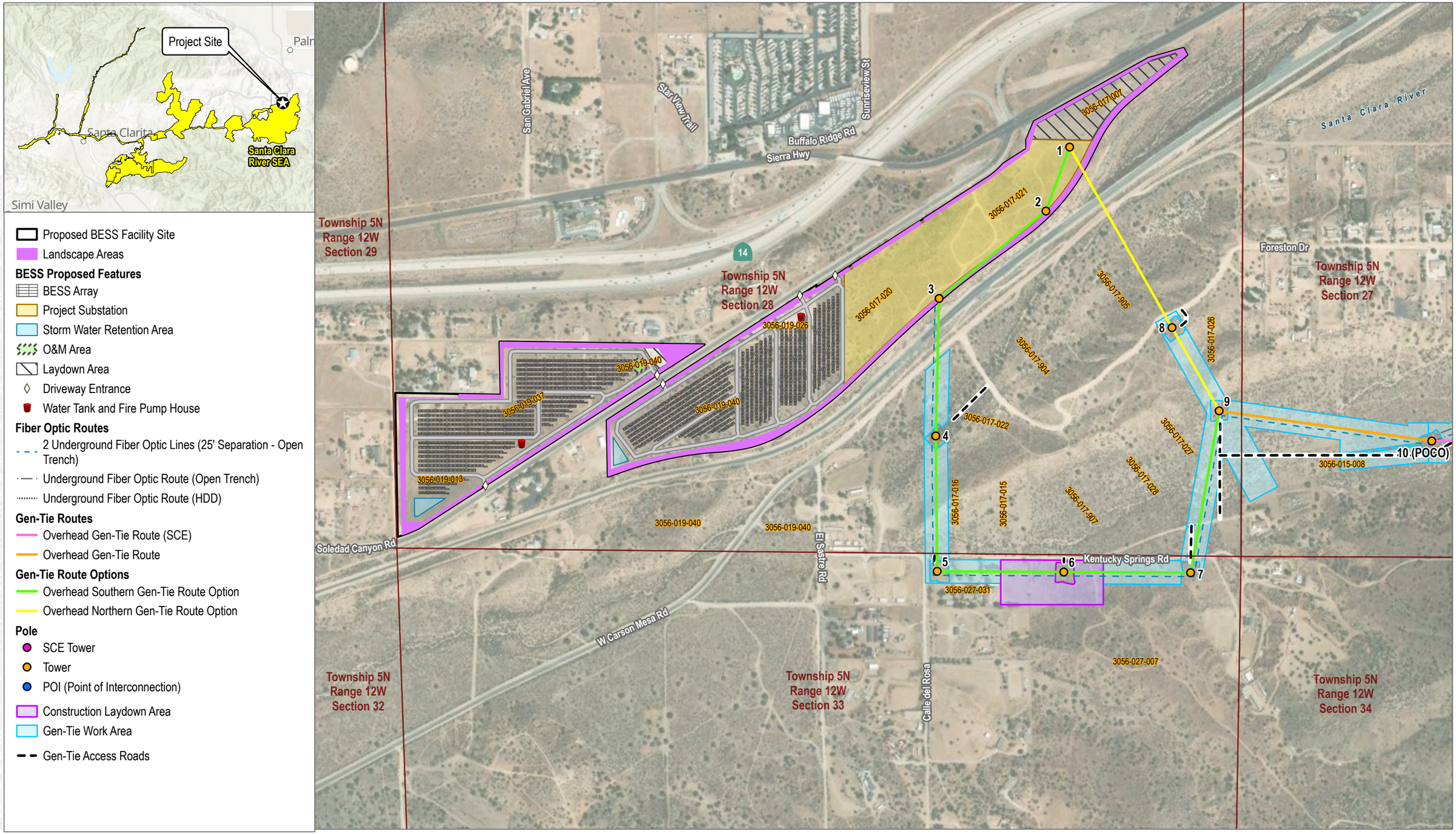
SCIURIDAE—SQUIRRELS

Ammospermophilus leucurus—white-tailed antelope squirrel
Spermophilus (*Otospermophilus*) *beecheyi*—California ground squirrel

* signifies introduced (non-native) species

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Appendix D
Conceptual Project Design



SOURCE: Maxar 2024; Los Angeles County 2025

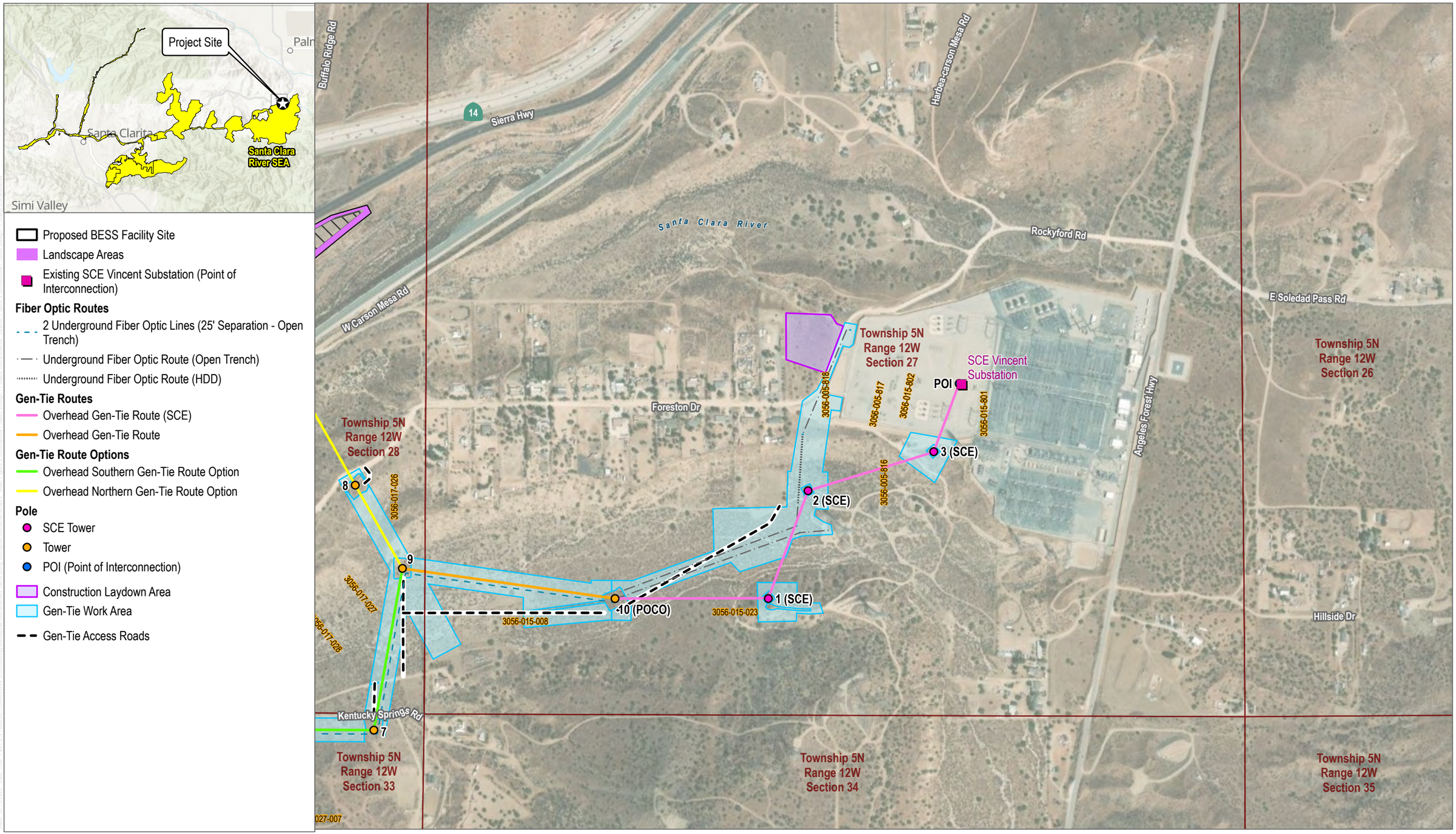
DUDEK

0 300 600 Feet

FIGURE 2A

Conceptual Project Design - Project Components

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

0 300 600 Feet

FIGURE 2B

Conceptual Project Design - Project Components

Prairie Song Reliability Project

Attachment 4A

Incidental Take Permit Application (Redline)

DUDEK
225 SOUTH LAKE AVENUE
SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

~~February 6, 2026~~September 16, 2026

California Department of Fish and Wildlife
South Coast Region 5
ATTN: Erinn Wilson-Olgin
3883 Ruffin Road, San Diego, CA 92123

Subject: **California Department of Fish and Wildlife Incidental Take Permit Application Package, Prairie Song Reliability Project, Los Angeles County, California**

Consistent with Sections 2081(b) and 783.2–783.8 of the California Fish and Game Code, Prairie Song Reliability Project LLC (applicant) is submitting this application package for Incidental Take Permit (ITP) authorization to be issued by the California Energy Commission per Public Resources Code 25500 *et seq.* for potential impacts to the state-listed candidate endangered Crotch's bumble bee (*Bombus crotchii*) for the Prairie Song Reliability Project (Project) in Los Angeles County, California. This application package provides the information required by California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 6, Article 1, Section 783.2.

Sincerely,

Garrett Lehman
Applicant
Prairie Song Reliability Project LLC

Michael Cady
Authorized Agent
Dudek

Attachments: *1 - CDFW Incidental Take Permit Application Package, Prairie Song Reliability Project*
2 - Figures 1–7

cc: *Erin Phillips (Dudek)*

Attachment 1

California Department of Fish and Wildlife Incidental Take Permit Authorization Application Package, Prairie Song Reliability Project

1 Applicant Information

Applicant

Prairie Song Reliability LLC
Garrett Lehman, Director
(888) 287-9058
glehman@covalinfra.com

Authorized Agent

Michael Cady, Senior Biologist
Dudek
mcady@dudek.com

2 Species Proposed for Incidental Take Permit Authorization Coverage

The species proposed for coverage in this ITP application package are presented below in Table 1.

Table 1. Project Proposed Species for Incidental Take Authorization

Common Name	Scientific Name	CESA Status
Crotch's bumble bee	*Bombus crotchii*	SCE

Notes: SCE= state candidate endangered

Crotch's bumble bee is one of several bumble bee species proposed (The Xerces Society for Invertebrate Conservation et al. 2018) for listing as endangered under California's Endangered Species Act. Crotch's bumble bee is generally distributed through wildlands and rural areas in low to middle elevations (sea level to at least 6,000 feet) of California and exploits a wide range of habitats including native and exotic grasslands, coastal marshes, scrub lands, chaparral, oak-juniper woodlands, pinon woodlands, and desert transition vegetation (on western margins of the Mojave and Colorado deserts). The range and overall abundance of the Crotch's bumble bee is believed to have declined substantially over the last two decades (Hatfield et al. 2021, The Xerces Society for Invertebrate Conservation et al. 2018) due to habitat loss from urban and agricultural expansion, as well as the effects of herbicides (Motta et al. 2018) and insecticides (Whitehorn et al. 2012, Muth, F. and A. S. Leonard. 2019) in agricultural settings, especially in California's central valley.

Over recent centuries, competition for floral resources (as well as associated exotic diseases) from the introduced European honeybee (*Apis mellifera*) has likely led to a decline of many bumble bee species (and many other bees) across the western hemisphere. Like most bumble bees, Crotch's bumble bee nest in cavities in the soil, often abandoned rodent burrows, and the adults (queens, workers, and males), active in the daytime, all visit nectar and pollen resources. Crotch's bumble bee utilize a diverse range of floral resources including those among Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae, and Solanaceae families; and exhibit clear contextual preferences associated with flower species availability on any given time and location. Typically, *Asclepias* spp., *Salvia* spp., *Astragalus* spp., *Acmispon* spp., and *Vicia* spp. are among the preferred flowers by the species. Bumble bees commonly utilize floral resources 0.2 to 0.3 km from their nests but may forage more than two kilometers from their nests (Osborne et al. 1999, Keyer et al., 2004). This vagility allows the bumble bees to utilize disconnected patches of suitable forage resources on such a landscape scale that populations may exist on habitat patches within a matrix of urban developed areas.

As the spring season progresses, workers (small female non-reproductive bees) are produced with increasing numbers and escalate the provisioning of the colony, which continues to grow until in early to mid-summer when new males (from unfertilized eggs) are produced along with the new generation of future queens. Workers and males live for only a few weeks. Thus, overall Crotch's bumble bee numbers are highest (include workers and males) in late spring through mid-summer seasons, very low in fall and early spring (gynes only). The species can be virtually undetectable during the overwintering season (when dormant underground) (The Xerces Society for Invertebrate Conservation et al. 2018).

3 Project Description

Prairie Song Reliability Project LLC, a Delaware limited liability company (Applicant), a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW), approximately 9,200-megawatt hour (MWh), Prairie Song Reliability Project (Project) located on up to approximately ~~107~~ 114 acres in unincorporated Los Angeles County (Figure 1, Project Location, All figures can be found in Attachment 3. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

Electrical energy will be transferred from the existing power grid to the Project for storage and from the Project to the power grid when additional electricity is needed. The Project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The Project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The Project will be remotely operated and monitored year-round as well as supported by on-site O&M staff seven (7) days a week. The Project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians will inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

3.1 Project Components

The Project will include construction, operations and maintenance (O&M), and eventual decommissioning of an up to 1,150MW Battery Energy Storage System (BESS). A 500kV gen-tie connecting the Project substation to the Point of Interconnection (POI) within the existing Southern California Edison (SCE) Vincent Substation, will facilitate charging and discharging to the electrical grid.

3.1.1 General Facility Description, Design, and Operation

The BESS facility will include the following primary components:

- Battery Energy Storage System (BESS) Enclosures

- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads
- Laydown Yards
- Stormwater Detention Facilities
- Site Security and Fencing
- Fire Detection and Suppression System
- Operations and Maintenance Building
- Existing Distribution Line Reroute

Project components are described in the following subsections. Figure 2, Project Site Plan, shows the Project layout. Table 2 summarizes the preliminary dimensions of major BESS facility components, and Table 3 summarizes the preliminary footprint/disturbance acreage associated with the BESS facility.

Table 2. Preliminary Dimensions of Major BESS Facility Components

Component	Quantity	Approximate Dimensions
BESS Enclosures	2,035*	20 ft × 8 ft × 9.5 ft (L × W × H)
PCS	517*	20 ft × 8 ft × 9.5 ft (L × W × H)
MV Collection system	—	Buried in trenches up to 10 ft × 10 ft (W × D)
Project Substation Area	1	2,545 ft × 440 ft (L × W); seven (7) 150 ft (H) (lightning masts)
Control Building	1	27 ft W × 95 ft L × 10 ft H (to ceiling)
Access Roads	—	26 ft (W) internal radii 55 ft minimum
Fire Water Tanks	2	33 ft in Diameter × 16 ft H
Laydown Yards	3	Variable
Stormwater Detention Facilities	2	Variable
Security Wall	—	Minimum 8 ft H block wall topped with 1 ft of barbed/razor wire
Operations and Maintenance Building	2	20 ft × 60 ft × 15 ft (L × W × H)

Notes: BESS = battery energy storage system; PCS = power conversion system; MV = medium voltage.
* The number of BESS enclosures and PCS units will depend on the manufacturer selected. The total number of BESS enclosures and PCS units may increase or decrease in the final design. It is also possible that the BESS units ultimately procured may incorporate the PCS units within the BESS enclosures.

Table 3. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
BESS Yards	30.0 acres
Project Substation	23.1 acres
Access Roads	7.9 acres
Laydown Yards	1.0 acres
Stormwater Detention Facilities	4.1 acres
*Other**	*4.7 acres*

Table 3. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
Total+	70.8 acres

Notes: BESS = battery energy storage system.
* Other areas include maximum grading limits. The analyses assume that all areas used for the BESS facility are permanently disturbed.
+ The total permanent disturbance acreage is a conservative estimate, and final designs may require fewer acres. Underground components within the BESS facility will be located within the footprint of above ground disturbance areas.

3.1.1.1 Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common presently being lithium iron phosphate (LFP) cells, or similar. LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The initial Project concept has been developed assuming an LFP technology. By the time the Project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the Project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed based on this Project Description. The Sungrow Power Titan II has been selected for this project application package as a representative BESS enclosure. Sungrow Power Titan II design and operation information is used in this application to set maximum potential impact envelopes, for site design and modeling analysis, and to set baseline safety standards. A final manufacturer for the BESS enclosures will be selected during the detailed design process post-certification. The Project will provide defensible space by setting back all BESS enclosures at least 100 feet from the property boundary.

The BESS enclosures will be prefabricated off site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system, fire detection systems, thermal management systems (either liquid or air cooled depending on final selected technology), and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed 15 feet in height.

Over the life of the project the storage capacity of the battery cells will naturally degrade. The project will implement an augmentation strategy to maintain the contractually required capacity of the system. Augmentation will entail either a capacity maintenance approach of adding/replacing individual battery modules in the existing BESS yard or designing the BESS system to incorporate space for additional BESS enclosures for later augmentation. The Project design and analysis front loads the work for the Project augmentation and assumes that it will install the end-of-life capacity at the start of construction. This assumption is made to capture augmentation impacts during construction instead of trying to assume the augmentation schedule for the Project. Equipment type/specifications, capacity agreements, and tax incentives can all change how and when augmentation is completed. Front loading augmentation to occur during construction creates a conservative case for the analysis of potential impacts that could arise from augmentation and sets a maximum impact envelope for the Project. During Project operations, the Project analysis assumes that one (1) crane and one (1) forklift will operate in support of augmentation once every three (3) to five (5) years for eight (8) hours per day.

3.1.1.2 Power Conversion System

A PCS is a packaged and integrated, or assembled, system consisting of a bi-directional inverter, MV transformers, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and a connection cabling system. A PCS functions to both convert between DC/AC and change the voltage level from the MV collection voltage to the working voltage of the BESS enclosures.

The PCS will convert electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. Each PCS will also include transformers that convert the AC side output of the inverter between low and medium AC voltage to increase the overall efficiency of the BESS. Inverters within the PCS units will be unattended systems designed to operate in all conditions. The inverters will be monitored and controlled remotely, and there will be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

PCS units will be installed on concrete foundations or steel piles and connected to multiple BESS enclosures with wiring and cables installed underground. All outside electrical equipment will be housed in the appropriate National Electrical Manufacturers Association-rated enclosures.

3.1.1.3 MV Collection System

The MV collection system will include multiple components that connect the PCS units to the Project substation including underground conductor circuits, switchboards, switchgear, and panels at 34.5kV. The conductors for the MV collection system will be installed underground during construction using trenching.

To connect the portion of the BESS yard north of Soledad Canyon Road to the Project substation, which is located south of Soledad Canyon Road, a portion of the MV collection system will need to be located underground within Soledad Canyon Road. An 180-foot-wide underground corridor will house the MV collection system as it traverses the road. The MV collection lines under Soledad Canyon Road will be installed using horizontal directional drilling, will be inside six (6) in conduit, covered by a minimum of 42 inches, and spaced 10 feet apart.

3.1.1.4 Project Substation

The Project onsite substation will include six (6) main power transformers (MPTs). When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the Project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the Project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A control building will be installed within the Project substation area and contain an energy management system, metering, and telecommunication equipment for communication with SCE/California Independent System Operator (CAISO) facilities and to support remote Project operations monitoring. The Project substation area will also include seven (7) static masts, up to 150 feet tall, for lightning protection.

3.1.1.5 BESS Facility Access Roads

The Project's roadway system will utilize existing roads wherever available and feasible and include new facility access roads and driveways, a perimeter road, and internal access roads. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with asphalt. All internal roadways and private driveways will be constructed to meet access requirements for construction, O&M, and emergency response.

3.1.1.6 Laydown Yards

The Project will include up to three (3) laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located in the northernmost portion of the BESS site. The primary laydown yard will be bladed, compacted, and surfaced with aggregate, while an additional laydown yard to facilitate construction of the gen-tie line will be cleared of vegetation and surfaced with aggregate or other soil stabilizing materials. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards. The O&M building and required number of parking spaces for O&M staff will be constructed within the primary laydown following construction of the BESS facility components.

The proposed Project's preliminary layout, earthwork volumes, and Project component dimensions assumed for environmental analyses in subsequent chapters are conservatively large to allow for design flexibility within the project footprint and Project schedule preservation.

3.1.1.7 Stormwater Detention Facilities

Regulatory standards require that volumes and flow rates of stormwater discharge after construction are not to exceed pre-development conditions. Stormwater generated on-site will flow to underground stormwater detention chambers located in the southwestern portions BESS facility site (Figure 2, Project Site Plan). Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. After a rainfall event, stormwater will infiltrate into the subgrade underneath the stormwater chambers. If the design capacity of the stormwater chambers is exceeded, however, stormwater may be stored in available upstream areas such as catch basins, infiltration trenches, or drain as sheet flow from the surface.

3.1.1.8 Site Security

The BESS facility site will be enclosed with a minimum eight-foot-tall block wall topped with one (1) foot of three-strand barbed wire or razor wire. The wall will be installed on the outside of the perimeter roads. The wall will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the wall and equipped with locks and Knox boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site. The wall will serve a dual purpose for security and off-site noise reduction.

Lighting will only be in areas where it is required for safety, security, or operations. Controlled security lighting, no more than 28 feet tall, will be installed at the Project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded

and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24/7.

3.1.1.9 Fire Detection and Suppression System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard battery management system that monitors the appropriate state of individual battery cells and relays information 24/7 and an internal Fire Alarm Control Panel that will identify which units have incidents and will notify first responders. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design will comply with California Fire Code 2022, Section 1207 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). BESS enclosures will be Underwriters Laboratories (UL) listed, tested, and certified to the most rigorous international safety standards. UL independently tests equipment for compliance with the latest fire safety code requirements, and the methods were developed to minimize fire risk and safety concerns about battery storage equipment raised by fire departments and building officials in the United States.

Faults, mechanical damage, or manufacturing defects in lithium-ion batteries can cause thermal runaway, which can lead to fires or other hazards. Should a thermal runaway event occur, the BESS enclosures are designed and constructed in such a way that fire will not propagate from one enclosure to a neighboring enclosure. The Project's BESS enclosures, as part of the testing and listing process, will be subjected to destructive testing including fire testing. The Project's BESS enclosures will include the following UL certifications:

- UL 1642 – Standard for Lithium Batteries (cell level certification).
- UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).
- UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).
- UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.
- IEC 62619 – Standard for Battery Safety in Stationary Applications.

The BESS facility ingress/egress and circulation will be designed to comply with applicable LA County's fire regulations. Each portion of the BESS facility (the BESS yards north and south of Soledad Canyon Road) will have primary and secondary access points. The BESS yard north of Soledad Canyon Road. will have a primary access point in the southwest corner of the site and a secondary access point in the northwest corner of the site, near the O&M buildings and laydown yard. The BESS yard south of Soledad Canyon Road. will have a secondary access point directly across from the secondary access point for the northern BESS yard and a primary access point that is approximately 1,030 feet east of the secondary access point. There will also be an access point for the Project Substation that is approximately 340 feet east of the BESS yard primary access point, in the approximate middle of the Project area that is south of Soledad Canyon Road. All access points will have Knox boxes and will connect to roads that are 26 feet wide.

Water for fire defense will be provided via an on-site well that will serve two (2) 40,000-gallon water tanks. There will be a separate water tank and booster pump in each of the BESS yards. The water tanks will serve hydrants

located throughout the BESS yards. Hydrants were specifically located to be no more than 300 feet apart throughout the BESS yards. The project commissioned a fire water supply assessment that concluded that the maximum amount of water necessary to fight a fire on the site would be 15,000 gallons. The project will provide 40,000 gallons of water at each BESS yard.

The fire water line system has been highlighted in PSR-BE-201. PSR-BE-201 shows the existing well in the south BESS yard and the water line connection to the water tank in that same yard (approximately 245 feet to the northeast of the existing well). The water tank and associated pumphouse serve as the distribution point for the fire water line. Three (3) lines leave the pumphouse. Two (2) fire water lines support the hydrant system in the south BESS yard. The loops follow the road and surround each of the BESS blocks. The third fire water line runs southwest along the northern road in the south BESS yard until it comes to the first responder secondary entrance. The fire water line then heads north and crosses Soledad Canyon Road along the northeastern side of the two (2) opposing first responder secondary entrances. Once in the north BESS yard, the fire water line heads back southwest along the southern road in the north BESS yard for approximately 1,030 feet. The fire water line then heads north and connects to the pump house and water tank in the north BESS yard. There are two (2) fire water lines that exit the pump house in the north BESS yard that serve the hydrants that are spaced along access roads and surround the BESS blocks.

The Los Angeles County Fire Department will review and comment on the facility fire protection and suppression plans.

3.1.1.10 Operations and Maintenance Building

O&M buildings will be constructed for the Project's anticipated 16 full-time operations staff and is planned to be in the easternmost portion of the BESS yard north of Soledad Canyon Road. The O&M buildings will include parking, outside equipment and laydown areas, basic offices, meeting rooms, washroom facilities and climate-controlled storage for certain equipment and materials. An existing groundwater well will provide water for washroom and a septic system will provide for sanitary facilities. The existing groundwater well is located south of Soledad Canyon Road on APN 3056-019-026. To serve the O&M buildings and fire water needs, which are located north of Soledad Canyon Road, an underground water line will be constructed from the existing groundwater well to the O&M buildings as shown in Figure 2, Project Site Plan. A portion of the water line will be located within Soledad Canyon Road as shown in Figure 2, Project Site Plan. The water line will run under Soledad Canyon Road along the northeast edge of the opposing first responder secondary access points between the north and south BESS yards. The water line will be covered by a minimum of 24 inches of material. The water line will be installed via horizontal directional drilling.

3.1.1.11 Existing Distribution Line Reroute

There is currently an SCE overhead electrical distribution line that bisects the southern portion of the BESS facility site. The distribution line consists of wooden poles with a cross bar carrying the distribution lines. The Project plans to reroute this line around the BESS facility site using similar distribution poles and wires. The Project will alter the existing distribution line route from where it enters the property on the south side of the BESS facility site. The Project will install approximately nine (9) poles similar to the existing poles, outside of the BESS facility site wall, along the southern and western boundary of the BESS facility site south of Soledad Canyon Road until they connect with Soledad Canyon Road. At Soledad Canyon Road, the new distribution line will tie into the existing distribution line at the western boundary of the southern BESS facility site.

3.1.2 Transmission and Interconnection Description, Design, and Operation

The Project will be interconnected to the regional electrical transmission grid via an approximately 1.21 ~~1~~-mile-long or 1.98 ~~8~~-mile-long new single-circuit 500kV gen-tie line within an up-to 150-foot-wide corridor between the Project substation and the SCE Vincent Substation. The Applicant will construct and own the portion of the gen-tie line between the Project substation and the Point of Change of Ownership (POCO) transmission structure (see Figure 2, Project Site Plan, site layout Pole 10), and SCE will construct and own the remaining portion of the gen-tie from the POCO to the POI within the Vincent Substation. The Project's transmission and interconnection facilities will include the following components:

- 500kV Gen-Tie Line including Transmission Structures and Conductors
- Fiber Optic Telecommunications Utility Poles and Fiber Optic Lines
- Access Paths
- Temporary Work Areas
- Interconnection Facilities within Existing SCE Vincent Substation Footprint (SCE constructed and owned)

The proposed route was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize the number of turning structures required, and enter the Vincent Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Project components associated with transmission and interconnection facilities are described in the following subsections. Where the gen-tie routes, scattered rural residences, scenic areas (scenic drives and the Los Angeles National Forest), and existing transmission lines within one (1) mile of the proposed routes. There are no parks or recreational areas within one (1) mile of the proposed routes. Table 4 summarizes the preliminary dimensions of major transmission components, and Table 5 summarizes the preliminary new ground disturbance area associated with construction of the transmission and interconnection facilities (Southern Gen-Tie scenario).

Table 4. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
500kV Gen-Tie Line	1	Applicant Owned: North: 3,500 ft long / South: 7,300 ft long
		SCE Owned: ~~2,800~~3,200 ft long
Substation Bay Dead-End Transmission Structure	1	Applicant Owned: 170 ft tall
		SCE Owned: n/a
Angled Dead-End Transmission Structure	up to 7	Applicant Owned: 175 ft tall to 195 ft tall
		SCE Owned: n/a
Tangent Delta Transmission Structure	1	Applicant Owned: 155 ft tall (Northern Gen-Tie Route) to 180 ft tall (Southern Gen-Tie Route)
		SCE Owned: n/a
Lattice Tower Transmission Structure	~~2~~3	Applicant Owned: n/a
		SCE Owned: 2304 ft tall to ~~243~~ 270 ft tall
Conductors	1	Applicant Owned: North: 30,800 ft / South: 63,000 ft

Table 4. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
		SCE Owned: 16,000 ft
Overhead Shield Wire	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 3,200 ft
Fiber Optic Cables on Gen-Tie Structures	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 3,200 ft
Fiber Optic Cables Underground	2	Applicant Owned: 12,000 ft
		SCE Owned: ~~5,700~~7,600 ft
Transmission Structure Access Path	Varies	26 ft wide
~~Transmission Line Corridor~~	~~1~~	~~150 ft wide~~

Notes: kV = kilovolt; SCE = Southern California Edison; gen-tie = generation interconnection.

Table 5. Approximate New Ground Disturbance Area Associated with Transmission and Interconnection Facilities

Component	Permanent Disturbance	Temporary Disturbance
Applicant Portion		
Transmission Structure Pads	2.48 acres	—
Transmission Structure Access Path	1.14 acres	—
Laydown Area	—	4.23 acres
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	19.4 acres
Applicant Total[1]	**3.62 acres**	**23.63 acres**
SCE Portion		
Transmission Structure Pad and Access Roads	0.623 acres	—
~~Transmission Structure Access Path~~	~~0.5 acres~~	~~—~~
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	~~8.99~~13.82 acres
Laydown Area	—	2.40
SCE Total	**0.628 acres**	**16.22~~8.99~~ acres**

Note: gen-tie = generation interconnection; SCE = Southern California Edison.
[1] Represents the impacts associated only with the Southern Gen-Tie Route, which defines the maximum impact footprint.

3.1.2.1 500kV Gen-Tie Line

The 500kV gen-tie line will originate at the Project substation within the BESS facility site and extend south and east, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, as close to perpendicular as possible, and then proceed northeast to the POI at the Vincent Substation. The Project proposes a Northern Gen-Tie Route and Southern Gen-Tie Route. The Los Angeles County Metropolitan Transportation Authority (LACMTA) requires a crossing agreement application to include a 90% design package. The Project expects to submit the LACMTA application in 2026.

The interconnecting 500kV transmission single-circuit configuration will be overhead. The gen-tie line will be constructed with either monopole tubular steel poles or steel lattice towers. Gen-tie structures will be at least 155 feet tall, with a maximum height of 243 feet. There will be a total of approximately one (1) monopole or steel lattice tower structures. The total number of gen-tie structures will be determined by the final design of the gen-tie line. The Project transmission facilities will be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) where feasible. Transmission facilities will also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012).

The POCO will be located on APN 3056-015-023 (see Pole 10 within Figure 2, Project Site Plan). The POCO is the point where the conductors of the ~~Generation Tie-Line~~gen-tie line are attached to the ~~L~~last Applicant-owned ~~S~~structure~~, which will be connected on the side of the last project owned structure (Last Structure)~~ facing Vincent Substation. The ~~project~~ Applicant shall own and maintain ~~the Last Structure~~gen-tie facilities between the Project substation and Pole 10, including, the conductors, insulators and jumper loops. ~~from such Last Structure to the Interconnection Customer's Large Generating Facility.~~ SCE will own and maintain the facilities between Pole 10 and the Vincent Substation, including three dead-end lattice steel ~~as well as all~~ towers, associated conductors and shield wires, the line drop, and the interconnection facilities within the ~~transmission lines, circuit breakers, disconnects, relay facilities and metering within the Vincent Substation, together with the line drop, in their entirety, from the Last Structure to~~ Vincent Substation. ~~SCE will own the insulators that are used to attach the project owned conductors to the Last Structure.~~

The conductor from the site to the POCO is planned to be triple bundle 795 Drake or equivalent. The conductor from the POCO to the Vincent Substation will be double bundle 2156 Bluebird or equivalent.

Table 4 includes the approximate number and dimensions of the different types of transmission structures that will be used.

3.1.2.2 Transmission Structure Access Path

Where possible, the transmission structure access path will utilize existing access roads to minimize new ground disturbance. A transmission structure access path up to 26 feet wide will be located within portions of the transmission corridor outside of the BESS facility and Vincent Substation footprints and generally follow the centerline of the gen-tie.

3.1.2.3 Telecommunication Facilities

The facility will be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) System to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling required for the monitoring system typically will be installed in buried conduit within ~~the~~ access roads or planned ~~trenching~~ trenches leading to the~~a~~ SCADA system cabinet at the Project substation. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.

The Project's SCADA system will interconnect to an external fiber optic network or fixed wireless service at the Project substation through ~~and will require installation of~~ buried fiber optic cables ~~underground~~ or fixed wireless antennas. These facilities will be located within the Project's planned disturbance areas; therefore, ~~External~~

~~telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers, so no additional~~no separate disturbance associated with telecommunications is anticipated. ~~As such, the Project will not require any substantial construction efforts regarding telecommunications facilities and structures.~~ No relocation of existing telecommunication structures will occur.

Telecommunications equipment will be installed between the control building at the Project substation and the Vincent Substation to facilitate communication with SCE/CAISO facilities. Three diverse telecommunications paths will support line protection, remedial action scheme (RAS), and remote terminal unit requirements:~~To achieve communication requirements with the Vincent Substation, the project will involve the following:~~

- Install optical ground wire on the Generation Tie-Line to provide one (1) of three (3) telecommunication paths required for the line protection scheme, the remote terminal units. A minimum of eight (8) strands within the optical ground wire shall be provided for SCE's exclusive use into Vincent Substation.
- Install appropriate single-mode fiber optic cable from the Project Site to a point near the POCO to the Vincent Substation to provide the second telecommunication path required for the line protection scheme and the RAS. A minimum of eight (8) strands within the single-mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- Install appropriate single mode fiber optic cables from the Project Site to a point designated by SCE near the Vincent Substation to provide a third telecommunication path required for the ~~Generation Tie-Line~~gen-tie line protection scheme. A minimum of eight (8) strands within the single mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- The Applicant will ~~O~~own, operate and maintain all three (3) telecommunications paths (including ~~optical ground wire~~OPGW, ~~any~~ underground fiber-optic cables, and appurtenant facilities) up to the POCO. SCE will own, operate, and maintain the telecommunications facilities between the POCO and Vincent Substation.

In addition to the telecommunications equipment installed by the Project, the Applicant understands that SCE will install the following equipment:

- Lightwave, channel, and associated equipment (including terminal equipment), supporting protection and the remote terminal unit requirements at the Project s~~S~~ite and Vincent Substation for the interconnection of the Project. Notwithstanding that certain telecommunication equipment, including the telecommunications terminal equipment, will be located on the Interconnection Customer's side of the POCO, SCE shall own, operate and maintain such telecommunication equipment as part of ~~the~~ SCE's Interconnection Facilities.
- ~~Route 1 will include approximately 1,400 linear feet of new underground conduit and fiber-optic cable between the POCO and existing lattice tower M40-T3 to the east, where the new cable will connect to existing fiber. Approximately two (2) new 4' x by 4' x 6' vaults will be installed along this route. Route 1 will be installed via open trench. Route 1 is located south of Route 2, as shown in Figure 2-1. Install appropriate length of fiber optic cable, including conduit and vaults, from the Vincent Substation 500kV switchrack to extend the fiber optic cable and conduit into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) 4 foot × 4 foot × 6 foot vault to extend the fiber optic cable into the~~

~~communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of SCE's Interconnection Facilities.~~

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- ~~•~~ Route 2 will include approximately 5,000 linear feet of new underground conduit and fiber-optic cable between the POCO and the Vincent Substation communications room. This route will include approximately 4,600 linear feet installed by trenching, approximately 400 linear feet installed by directional boring, two (2) bore pits, and approximately seven (7) new 4' x by 4' x 6' vaults, as shown in Figure 2-1.~~Install appropriate length of fiber optic cable, including conduit and vaults, to extend the Project's second diverse telecommunications from the point designated by SCE near the SCE's Vincent Substation into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 250 feet of underground fiber optic cable and associated conduit, and one (1) vault to extend the Project's diverse telecommunications into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the SCE's Interconnection Facilities.~~

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- Route 3 will use the OPGW installed on the transmission towers and will include approximately 100 linear feet of new underground conduit and fiber-optic cable between the dead-end rack and the cable/control trench and approximately 1,100 linear feet of underground fiber-optic cable to the Vincent Substation communications room. Final route lengths and the locations and number of vaults will be determined during final engineering.

- ~~Install appropriate length of fiber optic cable, including conduit and vaults, from the point designated by the SCE to extend the Project's third diverse fiber optic cable to into the communication room at Vincent Substation. The 2021 Reassessment Study assumed the installation of approximately 950 feet of underground fiber optic cable and associated conduit, and one (1) 4 foot × 4 foot × 6 foot vault to extend the fiber optic cable into the communication room at Vincent Substation. The actual location and length of fiber optic cable and conduit, and location and number of vaults, will be determined during final engineering of the Participating TO's Interconnection Facilities.~~

~~To meet these requirements, the Applicant and SCE will install one (1) of the three (3) fiber optic lines aboveground on the gen tie structures. The two (2) other fiber optic lines will be installed underground within trenches anticipated to be up to 4 feet wide within the Southern Gen Tie Route corridor and separated by at least 25 feet. The two (2) other fiber optic lines will be installed underground within the Southern Gen Tie Route corridor regardless of which Gen Tie Route corridor option is selected.~~ Where the underground fiber optic line leaves the BESS facility site, it will be installed via horizontal directional drilling underneath the railroad tracks. Horizontal directional drilling is a trenchless construction technique used to install underground utilities like pipelines and conduits without disturbing the surface. A ~~The Applicant understands a~~ crossing agreement with LACMTA will be required prior to construction, and the application will ~~. LACMTA requires a crossing agreement application to~~ include a 90% design package. This will be provided as the Project design progresses. The Applicant submitted an application to LACMTA in summer 2026.~~The Project expects to submit the application in 2026.~~

3.1.2.4 Interconnection Facilities within Existing SCE Vincent Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, SCE will need to install one (1) 500kV dead end structure, ~~nine~~ three (3~~9~~) 500kV coupling capacitor voltage transformers, ~~three~~ one (1~~3~~) 500kV line drop~~s~~, three (3) line current relays, and one (1) 500kv line position which includes the following equipment: ~~seven~~ two (2~~7~~) 500kV circuit breakers, ~~seven~~ four (4~~7~~) 500kV disconnect switches, one (1) grounding switch, ~~,~~ ~~84~~33 bus support insulators, and ~~two~~ three (3~~2~~) 500kV surge arresters, ~~breaker failure backup relays~~3-2156 KCMIL ACSR/phase conductors, and related conduit. No additional network upgrades outside of the Vincent Substation are necessary to interconnect the P~~p~~roject to the grid.

3.2 Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the Project.

3.2.1 Schedule and Workforce

The Project is anticipated to be built over an approximately 20-month period from the onset of site preparation activities through energization. Following energization, testing and commissioning will take place over 6 months. Initial mobilization and site preparation is anticipated to begin no later than March 2027 and testing and commissioning is anticipated to conclude no later than April 2029. The commercial operation date (COD) is expected shortly following the completion of testing and commissioning in June 2029. It is anticipated that construction crews will work 8 hours to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the Project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws and County regulations. Estimated durations of construction activities are presented in Table 6.

Table 6. Estimated Construction Activity Duration

Construction Activity	Estimated Duration	Estimated Timeframe
Demolition	2 weeks	3/1/2027–3/12/2027
Site Preparation	1.5 months	3/1/2027–4/15/2027
Substation Site Preparation	2 weeks	4/16/2027–4/30/2027
Civil Work and Grading	4 months	5/1/2027–8/31/2027
Substation Civil Work and Grading	1 month	9/1/2027–9/30/2027
Paving	1.5 months	8/15/2027–9/30/2027
Battery Enclosure/PCS Installation	12 months	10/1/2027–10/1/2028
Project Substation Installation	8 months	2/1/2028–10/1/2028
Gen-Tie Foundations and Structure Erection	4 months	2/1/2028–5/31/2028
Gen-Tie Line Stringing and Pulling	1 month	6/1/2028–7/1/2028
SCE Interconnection Facility Upgrades within Vincent Substation	6 months	4/1/2028–10/1/2028
Testing and Commissioning	6 months	10/2/2028–4/1/2029

Note: PCS = power conversion system.

3.2.2 Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The daily number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately 50 to 250 workers, depending on the phase of construction. It is estimated that construction will require the vehicle trips and equipment listed in Table 7.

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
Demolition	10	4	6	Rubber tired dozer	1	10
				Concrete/Industrial Saws	1	10
				Tractors/Loaders/ Backhoes	2	10
Site Preparation	242	12	24	Tractors/Loaders/ Backhoes	2	10
				Excavator	2	10
				Rubber tired dozer	2	10
Substation Site Preparation	242	12	100	Tractors/Loaders/ Backhoes	1	10
				Excavator	1	10
				Rubber tired dozer	1	10
Grading	242	12	524	Graders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Rollers	2	10
Substation Grading	242	12	486	Graders	1	10
				Tractors/Loaders/ Backhoes	1	10
				Rollers	1	10
Paving	16	0	0	Pavers	2	10
				Paving Equipment	2	10
				Rollers	2	10
Battery Enclosure/ PCS Installation	121	12	20	Air Compressors	1	10
				Cranes	1	10
				Forklift	1	10
				Tractors/Loaders/ Backhoes	1	10
Substation Installation	121	12	4	Aerial Lifts	1	10
				Air Compressors	1	10

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
				Bore/Drill Rigs	1	10
				Forklift	1	10
				Trenchers	1	10
Gen-Tie Foundation and Tower Erection	121	12	0	Air Compressors	1	10
				Cranes	1	10
				Forklifts	1	10
				Pumps	1	10
				Welders	1	10
Gen-Tie Stringing and Pulling	121	12	0	Aerial Lift	1	10
				Tractors/Loaders/ Backhoes	1	10
SCE Interconnection Facility Upgrades	121	12	0	Air Compressors	4	10
				Cranes	2	10
				Excavators	2	10
				Rough Terrain Forklifts	2	10
				Skid Steer Loaders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Trencher	1	10
Testing and Commissioning	242	12	0	NA	NA	NA
Decommissioning	242	12	20	Concrete/Industrial Saws	2	10
				Cranes	2	10
				Rubber Tired Dozers	2	10
				Tractors/Loaders/ Backhoes	2	10

Notes: PCS = power conversion system; gen-tie = generation interconnection; SCE = Southern California Edison.

1 The average daily haul truck trips for each phase consider phase durations from Table 6.

* The Project layout depicted in Figure 2, Project Site Plan, shows the "End of Life" configuration of the BESS, meaning it shows the equipment layout after all augmentation units are implemented. The numbers in this table conservatively assume that foundations and BESS equipment installation related to augmentation occurs during initial construction of the facility. Construction of foundations and BESS equipment installation for augmentation may occur during O&M periodically within the BESS facility footprint.

3.2.3 Site Preparation

Environmental clearance surveys will be performed at the Project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include

installation of erosion and sediment control measures prior to start of major earthwork activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention chambers and stormwater facilities as needed will be created for hydrologic control. The construction contractor will be required to incorporate applicable best management practices (BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2024), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed Project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation will be consistent with applicable BMPs and the Antelope Valley Air Quality Management District's Fugitive Dust Rules. Site preparation will involve the removal and proper disposal of existing debris that will unduly interfere with Project construction or the health and safety of on-site personnel. Dust-minimizing techniques will be employed, such as placement of wind control fencing, application of water, and application of dust suppressants. All applicable governmental requirements and BMPs will be incorporated into the construction activities for the Project site.

Vegetation on the site will be removed where necessary to ensure the BESS facility is free from combustible vegetation to allow for fire protection and defensible space. Where feasible, in compliance with fire protection requirements, vegetation root mass within appropriate portions of the BESS facility lease area on the outside of the perimeter and substation access roads will be left in place for soil stabilization. However, the environmental analyses in subsequent sections conservatively assume that all areas within the maximum anticipated grading limits of the BESS facility will be permanently disturbed.

3.2.4 Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the Project site. Preliminary designs conservatively assume that grading will include up to approximately 175,410 cubic yards (cy) of cut and up to approximately 625,095 cy of fill, resulting in a net of 449,685 cy of fill. Blasting is not expected but may be required if large boulders are encountered during excavation and grading. Fill material requirements will be satisfied by offsite borrow pits or quarries.

Conventional grading will be performed throughout the Project site but minimized to the maximum extent feasible to reduce unnecessary soil movement. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or paving. Once the roadways have been constructed, the Project perimeter fence and access gates will be constructed.

3.2.5 Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the Project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT

foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to 7 feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M buildings, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be slab on grade, or pile foundations embedded up to 24 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these Project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work will include trenching for the placement of underground electrical and communications lines, including the MV collection system, AC and DC cables, and fire alarm cable. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application

3.2.6 BESS and Project Substation Equipment Installation

Where possible, major equipment will be delivered directly to its permanent location and offloaded directly into place with a crane or heavy equipment. Where staging or sequencing does not allow, equipment will be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment will be the MPTs and other Project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and material for the O&M buildings.

Electrical work will include installing cables, terminations, and splices. Electrical wiring will be installed underground, at-grade, and above ground, depending on the application and location. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

3.2.7 Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 150-foot-wide transmission corridor. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

Cast-in-place concrete foundations will be installed for the Applicant-owned transmission structures by placing reinforcing steel and a structure stub or anchor bolt cage into the foundation hole, positioning the stub, and encasing it in concrete. Each transmission structure foundation will be set on anchor bolts on top of the foundation with cranes. Holes will be excavated using a truck-mounted drill rig or standalone auger rig. Poles will be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes will be backfilled with concrete or soil. Excavated spoil material not used for backfilling will be spread around the structure work areas.

Each SCE-owned lattice steel tower will be supported by four cast-in-place concrete footings. Shaft holes will be drilled using truck- or track-mounted augers sized in accordance with final engineering requirements. Forms, reinforcing steel cages, and stub angles will be installed within the shaft holes, and concrete will be placed after the stub-angle locations are verified. Excavated material will be distributed at the tower site, reused as backfill, used to rehabilitate existing access roads, or transported to an authorized off-site disposal facility in accordance with applicable requirements. Once the concrete has cured sufficiently, crews will remove the forms and clean the work area. Steel bundles will be delivered to each tower site and assembled within an approximately 250' x 250' temporary assembly area. Assembly will include leg extensions, body panels, box sections, and bridge sections. The assembled sections will generally be lifted into place by crane and secured by an erection and torquing crew. If terrain or tower height limits crane use, a helicopter may be used for tower erection. Helicopter operations would occur within designated landing zones near construction areas, which may require vegetation clearing.

3.2.8 Gen-Tie Stringing and Pulling

For a conductor pulling location, the distance needed behind the dead-end structures should be equal to or greater than a 3:1 ratio (300 feet needed for a 100-foot-tall structure), or as recommended by the conductor manufacturer, to mitigate potential damage to the conductor during installation. The width of the pulling area is consistent with the 150-foot-wide ~~Gen Tie~~gen-tie corridor. The pulling area will need to be relatively flat since trucks, trailers and various other small vehicles will need room to maneuver for placement of materials and equipment. The area will be cleared of any brush or obstacles, to facilitate unobstructed travel. For the wire end of a pull, there will be a minimum of two (2) 53-foot-long semi-trailers side by side, loaded with three (3) conductor reels each. One (1) trailer will be feeding the conductor to a tensioner, as the other trailer will be utilized for replacement of empty reels, and then facilitate a continuation of pulling efforts. The tensioner will be approximately the size of a semi-trailer and is responsible for tensioning the conductor during installation. A heavy-duty forklift or a large size all-terrain crane will be needed to support placement/removal of reels to the wire trailers, due to size and weight. After conductor installation, a bulldozer will be used to secure the installed conductors during application of additional tensions for the sagging process. The pulling equipment utilized is comparable in size/quantity to equipment utilized to support the new conductor reels. Pulling equipment utilizes multiple reels of high-tension pulling cables, mounted to semi-trailers, to support the new conductor placement into position on the structures.

A helicopter may be used as needed to complete gen-tie stringing and pulling where the gen-tie crosses the railroad. For this portion of the stringing and pulling work it is assumed that a MD600 helicopter would be used for up to three (3) 10-hour days consisting of 1 day for mobilization, 1 day for stringing and pulling, and 1 day for demobilization. For the purposes of project analysis, it is anticipated that the helicopter would facilitate pulling of conductors and shield wires from proposed transmission structures No. 1 to No. 9 if the Northern Gen-Tie Route is selected, and transmission structures No. 3 to No. 5 if the Southern Gen-Tie Route is selected. Helicopter use would be supported by one (1) primary landing zone located within an approximately 2.4-acre construction laydown area. An alternate landing zone would be located within the gen-tie work area between the POCO and second SCE pole. ~~approximately 150 foot by 100 foot landing zone.~~ Landing zones would primarily be used for staging materials, picking up and transporting electrical personnel and equipment, and refueling helicopters. ~~The landing zone is anticipated to be located at the main laydown area but may need to shift to one (1) of the other two (2) laydown areas depending on the sequencing of construction.~~

3.2.9 SCE-Owned Gen-Tie Segment and Interconnection Facilities within Vincent Substation Footprint

SCE will construct the segment of the gen-tie between the POCO and the POI within the SCE Vincent Substation, and the fiber optic routes between the POCO and the SCE control building within the Vincent Substation footprint. The Applicant will bring the fiber optic cables to underground pull boxes at the POCO structure, and SCE will install the segment of the fiber optic cables between the POCO and control building in conduit placed in underground trenches. The trenches are anticipated to be up to 4 feet wide, and the trenches for the redundant routes will need to be at least 25 feet apart to meet SCE's diverse path requirements. It is anticipated that SCE will install the trenches within the access road to the angled dead-end structure outside the Vincent Substation fence line. However, SCE may install the cables within existing roadways or other pre-disturbed areas along the perimeter of the substation fence depending on final design and routing. SCE will also construct the interconnection upgrades within the Vincent Substation footprint at the POI.

Construction of the three SCE-owned lattice steel towers, including foundation installation, tower assembly, and erection, will occur as described in Section 2.4.7.

3.2.10 Construction Water Use

Construction water is anticipated to be purchased from a local water purveyor and trucked to the site. During construction, an estimated 18 million gallons (approximately 55 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the Project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom facilities will be stored in on-site tanks and serviced by trucks. Drinking water will be provided via portable water coolers.

3.2.11 Solid and Non-hazardous Waste

The Project will produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. This waste will be segregated, where practical, for recycling. Non-recyclable waste will be placed in covered dumpsters, located in project laydown areas, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III (non-hazardous waste) landfill.

3.2.12 Hazardous Materials

The hazardous materials used for construction will be typical of most construction Projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliatives, herbicides, and welding materials/supplies. A hazardous materials business plan will be prepared prior to commencement of construction activities. The hazardous materials business plan will include a complete list of all materials used on site and information regarding how the materials will be transported and in what form they will be used. This information will be recorded to maintain safety and prevent possible

environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the site will be made readily available to on-site personnel.

3.2.13 Hazardous Waste

Small quantities of hazardous waste will most likely be generated over the course of construction. This waste may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers will be trained to properly identify and handle all hazardous materials. Hazardous waste will be either recycled or disposed of at a permitted and licensed treatment, recycling, or disposal facility in accordance with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

3.2.14 Commissioning

As part of Project construction activities, and after installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel, and in accordance with various codes, standards and specifications including IEEE, Institute of Electrical and Electronic Engineers, NEC National Electrical Code (NFPA 70), NETA International Electrical Testing Association, specific provisions of NFPA National Fire Protection Association, and the relevant OEM / manufacturers installation and commissioning manuals. Documentation necessary for commissioning will include (but is not limited to) complete sets of electrical plans, itemized equipment descriptions, control narratives, and other procedural requirements such as persons or entities to notify when equipment has become available for acceptance tests.

Commissioning will include testing of mechanical, electrical, fire protection, and other systems at substantial completion. Systems to be commissioned and tested include (but are not limited to) BESS enclosures, PCS units, auxiliar service transformers, MV collection system, DC cables, SCADA systems, power backup systems, and fire protection system. Performance testing will also be completed to ensure charge and discharge performance of the systems as designed and in accordance with the utility requirements. Full details of the commissioning activities will be made available in a commissioning plan, prepared by the BESS supplier and construction contractor and reviewed by the Engineer of Record, as part of the construction documentation package.

3.3 Operations and Maintenance

Once constructed, the Project will be available to operate seven (7) days per week, 365 days per year. The facility will be remotely monitored and operated by an Owner contracted O&M provider, by means of a NERC-CIP compliant remote operations center. Project operations will be monitored remotely through the SCADA system and by the Project's anticipated full-time operations staff members. It is estimated that there will be four (4) full-time staff members for remote monitoring and 16 full-time operations staff members on site.

On-site maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, O&M staff will visit the substation periodically for switching and other operation activities. Light duty maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one (1) major maintenance inspection will take place annually. Even when considering routine maintenance and augmentation activities, the project expects to provide no less than a 96% annual availability factor to the grid.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the Project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the Project site will occur to maintain the capacity over an approximate 40-year life. As batteries slowly lose their capacity to store energy, extra batteries will be installed at the beginning of the Project and at several intervals through the Project life, which is referred to as augmentation. Augmentation is expected to occur in order to maintain an annual lifetime capacity of approximately 9,200MWh. If the project were to discharge for eight (8) hours daily and have an annual availability of 96% then the Project would have an annual capacity factor of approximately 32%. The Project's final augmentation strategy will be determined by market-based contracting requirements, actual degradation, and the power density of then-available battery systems. Augmentation may include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work all within the existing Project footprint. The preliminary site layout depicted on Figure 2, Project Site Plan, shows an "end of life" configuration, meaning it shows the equipment layout after all augmentation units are implemented. The construction sequencing and equipment usage assumptions in Tables 6 and 7 above, and environmental analyses in subsequent chapters, conservatively assume that all initial BESS equipment and augmentation BESS equipment are constructed at the same time.

3.3.1 Solid and Non-hazardous Waste

The Project will produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning electrical materials, empty containers, and other miscellaneous solid waste, including typical refuse generated by workers. Most of these materials will be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste will be placed in covered dumpsters, located near the O&M buildings, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

3.3.2 Hazardous Materials

Limited amounts of hazardous materials will be stored or used on the site during operations, including diesel fuel, gasoline, and motor oil for vehicles; refrigerant within the BESS enclosures; mineral oil to be sealed within the transformers; and lead-acid-based batteries for emergency backup. Appropriate spill containment and cleanup kits will be maintained during operation of the Project. A spill prevention control and countermeasures plan will be developed for site operations.

3.3.3 Hazardous Waste

Fuels and lubricants used in operations will be subject to the spill prevention control and countermeasures plan to be prepared for the proposed Project. Solid waste, if generated during operations, will be subject to the material disposal and solid waste management plan to be prepared for the proposed Project.

3.4 Decommissioning

In general, the BESS will be recycled at the expiration of the Project's life (estimated to be 40 years). Most parts of the proposed system are recyclable. Batteries include lithium, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and

parts that do not have free-flowing oil may be sent for salvage. Materials 3 feet or more below the ground surface will be left in place.

Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller container lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be kept in a locked utility structure with integral secondary containment that meets Certified Unified Program Agencies and Resource Conservation and Recovery Act requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Additional procedures will be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies. Transportation of the removed hazardous materials will comply with regulations for transporting hazardous materials, including those set by the Department of Transportation, the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

4 Project Location/Environmental Setting

The Prairie Song Reliability Project is in unincorporated Los Angeles County (County), California, south of State Route 14 (SR 14) approximately three miles northeast of the unincorporated community of Acton. The Project is within the USGS 7.5-minute Acton and Pacifico Mountain Quadrangles, Township 5N, Range 12W, Sections 27, 28, 33 and 34 (Figure 1, Project Location). The BESS site is comprised of Assessor Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. Development of the BESS facility will occur on an area of land situated between two existing transportation corridors, the Antelope Valley Freeway (SR 14) to the north and Southern Pacific Railroad lines and Carson Mesa Road to the south, which are approximately 1,200 feet apart.

The Study Area is in the western San Gabriel Mountains, in the Transverse Ranges Geomorphic Province (CGS 2002). The Transverse Ranges are an east-west trending series of steep mountains and valleys (CGS 2002). The Study Area is located at the conjunction of Soledad Canyon and Kentucky Springs Canyon (USGS 2025a), and at the boundary of the Western Transverse Ranges ecological subregion and Mojave Desert ecological region (Jepson Flora Project 2025). Elevations in the Study Area range from approximately 2,700 feet above mean sea level along the southwestern side to 3,500 feet above mean sea level along the northern hillsides (Google Earth 2025).

The Study Area has an arid climate with the site being located on the northern side of the San Gabriel Mountains and bordering the Antelope Valley. August is the average warmest month with an average high of 93 degrees Fahrenheit (˚F) and December is the coolest month on average with a low of 36 ˚F. Rainfall occurs primarily between November and April, with the maximum average precipitation occurring in February. The mean annual rainfall for the area is approximately nine (9) inches of rain per year (LACPW 2025).

According to the U.S. Department of Agriculture's (USDA) Websoil Survey (USDA 2025), there are seven soil map units that occur within the Study Area, as shown in Figure 3, Soils: Greenfield sandy loam, 2 to 9 percent slopes (GsC); Hanford coarse sandy loam, 0 to 2 percent slopes (HbA); Hanford coarse sandy loam, 2 to 9 percent slopes (HbC); Hanford coarse sandy loam, 9 to 15 percent slopes (HbD); Hanford sandy loam, 2 to 9 percent slopes (HcC);

Terrace escarpments (TsF); and Vista coarse sandy loam, 30 to 50 percent slopes (VsF). Of the seven soil map units, only one is ranked as partially hydric: Hanford coarse sandy loam, 0 to 2 percent slopes.

The National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) were reviewed to identify wetland or hydrologic features in the Study Area (USFWS 2025a, USGS 2025b). Figure 4, Hydrologic Features, depicts the mapped wetland and hydrologic features in the Study Area. Approximately 3.8 acres of potential jurisdictional waters were delineated within the Study Area. Features included non-wetland waters, swales, and erosional features (Figure 5, Aquatic Resources)

Thirteen vegetation communities and two land cover types were mapped within the Study Area. The vegetation communities and land cover locations are illustrated in Figure 6, Vegetation Communities and Land Cover.

5 Analysis of the Potential for Take

The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). Under Section 2081 of the California Fish and Game Code, CDFW may authorize acts that are otherwise prohibited if the take is incidental to otherwise lawful activities. The Project could potentially result in take of one species listed under the California Endangered Species Act and potentially occurring in the Project vicinity: Crotch's bumble bee. Incidental take could occur if work occurs in areas of the Project site where Crotch's bumble bee occupy habitat during construction. The nature of potential take is discussed below. The Project would also result in permanent, temporary, and indirect impacts to habitat for this species (Table 8; Figure 7). For the purposes of this ITP application package, permanent impacts are defined as those that involve permanent land conversion resulting in the loss of existing biological resources (e.g., vegetation community, species habitat, jurisdictional aquatic resource). Temporary impacts are those that involve disturbance of areas that currently support biological resources but which would be actively restored to a natural vegetation community after construction is completed.

Short-term indirect impacts can include dust, human activity, erosion, release of pollutants, and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations-related or that persist after construction is complete. Compensatory mitigation is being proposed for permanent, temporary, and indirect impacts, as described in Section 8.2, in addition to revegetation/restoration of all temporarily impacted areas when Project construction is complete.

Proposed measures to avoid and reduce the potential for take of Crotch's bumble bee, are listed under Section 8, Proposed Minimization and Mitigation Measures.

5.1 Crotch's Bumble Bee

Protocol surveys for Crotch's bumble bee conducted in 2024 and 2025 were negative for the species and there are no documented occurrences of Crotch's bumble bee within the Study Area or within five miles of the Project (CDFW 2025). During the initial survey each year, it was noted that there were very limited foraging opportunities within the Study Area. However, bumble bees are opportunistic and highly mobile. The species typically nests underground, so nesting individuals could be highly vulnerable to injury and mortality during construction, which could crush nests and individuals, if present on site. Suitable foraging (nectar source) habitat for Crotch's bumble bee was identified

as the native and naturalized vegetation communities and the potential nesting habitat was identified as those communities plus disturbed habitat.

As illustrated in Figure 7 and summarized in Table 8, the proposed Project will result in approximately ~~101.12~~107.33 acres (approximately 34.32~~27.83~~ acres temporary and approximately ~~73.29~~73.01 acres permanent if the Northern Gen-Tie Route is selected) of direct impacts to vegetation communities and land covers through the removal of vegetation and grading of land to construct the proposed Project. The proposed Project will result in approximately ~~108.19~~114.39 acres (approximately ~~33.56~~40.05 acres temporary and approximately ~~74.63~~74.34 acres permanent if the Southern Gen-Tie Route is selected) of direct impacts to vegetation communities and land covers through the removal of vegetation and grading of land to construct the proposed Project. Permanent impacts will occur due to the construction and operation of the BESS portion of the Project and access roads and transmission pole pads associated with the gen-tie line. Temporary impacts will occur due to the construction of the two underground fiber optic lines within the Southern Gen-Tie Route corridor, within areas proposed for construction laydown areas for the gen-tie work, within pull areas from stringing the gen-tie, and within other gen-tie work areas that are outside of the transmission pole pads and access roads.

The Project could result in incidental take of individual Crotch's bumble bee from activities related to Project construction. Project construction could result in the destruction of potential nesting sites, soil compaction that reduces access to pollinator nesting habitat, and the possible increase in invasive plant species that displace native flowering food resources. Crotch's bumble bee occurrences near ground-disturbing activities could be adversely affected by temporary construction-related effects such as dust, noise, and vibration that could result in disturbance to habitat or additional harm to Crotch's bumble bee. Much of the potential for take of Crotch's bumble bee will be reduced through measures including pre-construction surveys for Crotch's bumble bee (See Section 8.1, Take Minimization Measures).

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
Native Communities								
Cheesebush – sweetbush scrub	*Ambrosia salsola – Larrea tridentata*	No	G4/S4	–	–	–	–	0.05
	Ambrosia salsola Association	No	G4/S4	–	–	–	0.54	1.57
Fiddleneck – phacelia fields	*Amsinckia menziesii – Erodium* spp.	No	G5/S5	2.08	–	–	–	–
California sagebrush – (purple sage) scrub	*Artemisia californica – Eriogonum fasciculatum*	No	G4/S4	–	0.08	0.08	1.85~~44~~	1.85~~44~~
Big sagebrush	*Artemisia tridentata – Ericameria nauseosa*	No	G5/S5	0.42	–	0.46	1.15~~14~~	2.21
	Artemisia tridentata – Eriogonum fasciculatum	No	G5/S5	2.60	–	–	–	–
	Artemisia tridentata ssp. *parishii*	Yes	G2/S2	–	–		0.06	0.20
Fourwing saltbush scrub	*Atriplex canescens*	No	G5/S4	0.67	1.58~~2.07~~	1.58~~2.07~~	18.98~~16.06~~	21.01~~18.09~~
Mormon tea scrub	*Ephedra viridis*	No	G4/S4	17.84	–	–	–	–
Rubber rabbitbrush scrub	*Ericameria nauseosa – Juniperus californica*/herb	No	G5/S5	10.98	–	–	0.43	1.23
	Ericameria nauseosa	No	G5/S5	–	–	–	0.87~~–~~	0.87~~–~~
California buckwheat scrub	*Eriogonum fasciculatum*	No	G5/S5	4.75	–	–	0.16~~5~~	–

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
	Eriogonum fasciculatum var. *foliolosum* – *Juniperus californica*	Yes	G3/S3	4.32	–	–	–	–
California buckwheat – Parish's goldeneye scrub	*Eriogonum fasciculatum* rock outcrop	Yes	Unranked	–	–	–	–	–
California walnut groves	*Juglans californica / annual herbaceous*	Yes	G3/S3	–	–	–	–	–
California juniper woodland	*Juniperus californica / Adenostoma fasciculatum – Eriogonum fasciculatum*	Yes	Unranked	10.68	–	0.53	0.26	0.35
	Juniperus californica / herbaceous	Yes	Unranked	7.16	0.59~~0.39~~	0.20~~–~~	1.71~~1.16~~	2.03~~1.49~~
	Juniperus californica / Eriogonum fasciculatum – Artemisia californica	No	G5/S5	–	–	–	–	–
			Subtotal:	*61.49*	*2.25~~2.53~~*	*2.85~~3.13~~*	*26.00~~21.25~~*	*31.38~~26.63~~*
Naturalized (Non-Native)								
Avena spp. – *Bromus* spp.	*Avena barbata – Bromus hordeaceus*	No	GNA/SNA	–	–	–	–	–

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
Bromus rubens – Schismus (*arabicus*, *barbatus*)	*Bromus rubens* – mixed herbs	No	GNA/SNA	–	–	–	1.39~~–~~	1.39~~–~~
			Subtotal:	–	–		*1.39~~–~~*	*1.39~~–~~*
Land Cover Types								
Disturbed habitat	Not applicable	No	NA/NA	6.00	–	0.36	3.61	3.3~~4~~
Urban/Developed	Not applicable	No	NA/NA	3.25	0.02	0.39	3.32~~2.96~~	3.94~~3.58~~
			Subtotal:	*9.26*	*0.02*	*0.75~~0.75~~*	*6.93~~6.57~~*	*7.29~~6.92~~*
			Total:	70.74	2.27~~55~~	3.60[5]~~3.89~~	34.32[5]~~27.83~~	40.05[5]~~33.56~~

Notes:
There are no temporary impacts associated with the BESS.
Permanent impacts for the gen-tie are for access roads and tower pads.
Temporary impacts will occur due to the construction of the two (2) underground fiber optic lines within the Southern Gen-Tie Route corridor, within areas proposed for construction laydown areas for the gen-tie work, within pull areas from stringing the gen-tie, and within other gen-tie work areas that are outside of the transmission pole pads and access roads.

6 Analysis of the Impacts of the Proposed Taking

This section discusses the impacts of the proposed take on Crotch's bumble bee resulting from the Project activities. Measures to avoid and minimize take are listed under Section 8.

6.1 Crotch's Bumble Bee

The Project would result in the permanent and temporary loss of suitable Crotch's bumble bee habitat as quantified in Section 5.1. and would potentially result in the take of an unknown number of Crotch's bumble bee individuals, including potential direct take from injury and mortality due to Project activities. The Project will avoid directly impacting approximately ~~65.17~~58.97 acres (Southern Gen-Tie Route option) or ~~72.24~~66.04 acres (Northern Gen-Tie Route option) of suitable habitat for Crotch's bumble bee in the Project Study Area (PSA), as shown on Figure 7.

Compensatory mitigation for impacts to Crotch's bumble bee habitat will involve on-site habitat preservation. If necessary, compensatory mitigation may also be provided through off-site habitat acquisition and preservation. Compensatory habitat mitigation is proposed at a 1:1 ratio (acres of lands preserved: acres of habitat impacted). Additional details regarding proposed compensatory mitigation for Project impacts on Crotch's bumble bee are provided in Section 8.2, Habitat Mitigation Measures.

Upon Project completion, construction areas, staging areas, and any temporary access subject to temporary disturbance will be restored. Measures that will result in avoidance and minimization of take of individual Crotch's bumble bee would include authorization of approved biologists and Crotch's bumble bee pre-activity surveys of habitat. See Section 8.1, Take Minimization Measures, for more detail.

7 Analysis of Whether Issuance of the Incidental Take Authorization Would Jeopardize the Species

In determining whether or not the issuance of ITP authorization would jeopardize the continued existence of Crotch's bumble bee pursuant to Title 14, Section 783.2(a)(7) of the California Code of Regulations, this section includes consideration of each species' (a) capability to survive and reproduce, and (b) any adverse impacts of the incidental taking on those abilities in light of (1) known population trends, (2) known threats to the species, and (3) reasonably foreseeable impacts on the species from other related projects and activities. This analysis describes how the proposed minimization and mitigation measures (Section 8) will ensure that those impacts will not jeopardize the continued existence of the covered species.

7.1 Crotch's Bumble Bee

The Project would result in the permanent removal of a small amount of suitable foraging and nesting habitat for Crotch's bumble bee, as well as potential take of individual Crotch's bumble bee. The Project is anticipated to permanently impact up to approximately ~~74.63~~64.33 acres (Southern Gen-Tie Route option) or up to approximately ~~73.29~~ 63.73 acres (Northern Gen-Tie Route option) of habitat for Crotch's bumble bee in the PSA. The temporary loss of habitat could result in disruption of foraging and nesting behaviors, potentially resulting in stress of Crotch's bumble bee and temporary displacement. Additionally, Project indirect effects include potential spread of invasive

plants and human presence during construction. Implementation of minimization and avoidance measures described in Section 8 would limit these effects. The loss of ~~74.63~~64.33 acres or ~~73.29~~63.73 acres of nesting/foraging habitat constitutes a relatively small loss of habitat compared to the amount of suitable habitat within the PSA and available habitat for the species within its range. Habitat mitigation, as described in Section 8, would offset the loss of suitable habitat.

Population Trends

Crotch's bumble bee occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California (Hatfield et al. 2015). This species was historically common in the Central Valley of California but now appears to be absent from most of it, especially in the center of its historic range, which is likely due to extensive agricultural intensification (Hatfield et al. 2015, The Xerces Society for Invertebrate Conservation et al. 2018). The current range size (based upon records of the species from 2002-2012) of Crotch's bumble bee has been assessed as being 74.67% of its historic range size (based upon records of the species from 1805-2001) (Hatfield et al. 2015). The species has seen an average decline of abundance of 67.51% in its range (Hatfield et al. 2015).

CDFW's California Natural Diversity Database records of the species include 146 records within Los Angeles County (CDFW 2026). Forty-five of these are from 1911 to 2018, which corresponds to when the petition to list the species was submitted to the California Fish and Game Commission (CDFW 2026). The remaining 101 records were made after the petition was submitted and the candidacy was granted, when it is assumed that biologists had a focus on the species (CDFW 2026). CDFW has included all of Los Angeles County within the range of the species including the approximately 700,00 acres of mostly undeveloped lands of the Angeles National Forest (CDFW 2023a). As such, the loss of 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres of potentially suitable nesting and foraging habitat is not expected to have a substantial effect on the available suitable habitat in Los Angeles County and the loss is not expected to decrease the Crotch's bumble bee population in the county or within its total range.

Survival and Reproduction

In southern California Crotch's bumble bee faces threats from habitat alterations that can interfere with primary habitat requirements, including access to: sufficient food (nectar and pollen from flowers), nesting sites (such as underground abandoned rodent cavities or above ground in clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil and leaf litter) (The Xerces Society for Invertebrate Conservation et al. 2018). The Central Valley's conversion to agriculture has also led to high uses of glyphosate, the most commonly used herbicide in California, which reduces the availability of wildflowers in field margins, lowered the diversity of flowering weeds, and led to an increase in herbicide application (The Xerces Society for Invertebrate Conservation et al. 2018).

Project activities will remove up to 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres of potential habitat that support seasonally staggered floral resources used by Crotch's bumble bee for nectar and pollen. If clearing occurs during March or April, it would overlap the queen nest-founding period. Direct effects could include potential mortality of undetected subterranean nests during grading, if present, and the immediate loss of early-season floral resources needed for ovarian activation and brood initiation. Indirect effects include increased foraging travel distances and reduced worker survival due to diminished floral density in mid-season, leading to lower colony growth and reduced production of gynes (new queens) and males. However, in the context of the regional availability of nesting opportunities and floral resources in the surrounding natural open space areas, including Angeles

National Forest lands, the loss of the nests and foraging opportunity is not expected to jeopardize the existence of Crotch's bumble bee populations or decrease the fecundity of nests in offsite areas.

Known Threats

Each of the following factors pose a substantial threat to the survival of Crotch's bumble bee: present or threatened modification or destruction of its habitat; herbicide; competition; disease; and other natural events and human-related activities, including pesticide use, genetic factors, and climate change (The Xerces Society for Invertebrate Conservation et al. 2018). Habitat loss caused by development, agriculture, livestock grazing, and fire or fire suppression reduces the availability of nesting sites and floral resources used by the species. Herbicide use can remove or degrade floral resources. Competition with managed honey bees can result in the removal of foraging opportunities and managed honey bees can pass on pathogens to bumble bees that result in mortalities in bumble bees (The Xerces Society for Invertebrate Conservation et al. 2018). Any application of pesticides can threaten bumble bees, but pesticide drift from aerial spraying can be particularly harmful (The Xerces Society for Invertebrate Conservation et al. 2018).

The Project may use herbicides and pesticides but the judicious use would be guided by an Integrated Pest Management approach (Cal-IPC et al. 2012). The Project would not include the use honey bees and aerial pesticide applications. The Project would remove up to 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres of potential nesting and foraging habitat. However, in the context of the regional availability of nesting opportunities and floral resources in the surrounding natural open space areas, including Angeles National Forest lands, the loss of the nests and foraging opportunity is not expected to jeopardize the existence of Crotch's bumble bee populations or decrease the fecundity of nests in offsite areas.

Cumulative Impacts

On a regional level, renewable energy development in the Antelope Valley constitutes the potential effect on habitat for Crotch's bumble bee. Residential development in the region, including the potential buildout of the Ritter Ranch Specific Plan and the Quail Valley Planned Development, could remove additional potential habitat. The Palmdale to Burbank segment of the High Speed Rail would also be in the vicinity of the Project. Each of these projects would be required to avoid or minimize their potential effects. The Project through mitigation measures and avoidance strategies would similarly mitigate for its potential contribution to regional cumulative impacts. While the Project will remove potential suitable unoccupied habitat for the species, it will not have long-term direct and indirect impacts that would have the potential to be cumulatively considerable.

Potential cumulative impacts to Crotch's bumble bee from construction and/or operation of the proposed Project are not expected. The Project will have a less than significant effect on Crotch's bumble bee in the immediate vicinity of the project site. Projects that could result in a cumulative impact would also be required to comply with applicable federal, state, and local LORS. The proposed Project is unlikely, therefore, to result in cumulative impacts to Crotch's bumble bee in combination with other closely related past, present, and reasonably foreseeable future projects.

Conclusions

The Project would impact 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres of potential nesting habitat for Crotch's bumble bee in areas where burrows occur. While most of the 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres

have some potential for foraging opportunities for the species, the vegetations communities impacted are primarily Mormon tea scrub, California juniper woodland, and rubber rabbitbrush scrub. These communities are dominated by shrubs that are not included in the plant families that Crotch's bumble bee is expected to forage on, so foraging potential in those areas are expected to be relegated to the herbaceous understory. The mean annual rainfall for the area is approximately nine (9) inches of rain per year (LACPW 2025), so it is expected that the blooming season is limited to the spring. As such the Project site is expected to provide limited foraging opportunities and extensive natural open space areas are found in the Project vicinity that could provide higher quality foraging habitat.

If present during construction, foraging Crotch's bumble bee would be at increased risk of injury or mortality from construction traffic. These impacts (i.e., increased risk of injury or mortality, disruption of normal behavior) would reduce survival and reproduction of any Crotch's bumble bee breeding during that time but is not expected to jeopardize their continued existence. Direct effects to Crotch's bumble bee due to construction activities would be avoided/minimized through measures described in Section 8. However, as previously mentioned, a small but indeterminable number of Crotch's bumble bee may be directly impacted due to ground disturbance.

In summary, the Project would not jeopardize the ability of Crotch's bumble bee to survive and reproduce within its range for three primary reasons: (1) take minimization measures would be implemented during construction to avoid or minimize injury and mortality of individual Crotch's bumble bee; (2) the permanent loss of the 64.33 acres or 63.73 ~~74.63 acres or 73.29~~ acres of potential nesting/foraging habitat constitutes a relatively small loss of habitat compared to the approximately ~~173.36~~390.11 acres of nesting/foraging habitat within the PSA; and (3) habitat mitigation, including permanent preservation of habitat, as described in Section 8.2, would compensate for the loss of habitat.

8 Proposed Minimization and Mitigation Measures

8.1 Take Minimization Measures

Prairie Song Reliability Project proposes implementing the following measures to minimize incidental take of state-listed species:

1. **Approved Biologists.** At least 30 days prior to start of ground disturbance, the names and credentials of personnel seeking to act as approved biologists shall be submitted to CFDW for review. Biologists shall have appropriate training and experience with the species for which they are seeking approval. All biologists shall be approved in writing by CDFW prior to conducting proposed Project activities.
2. **Education Program.** An approved biologist shall conduct environmental awareness training for all individuals working on the Project before work begins. An approved biologist is defined as someone with training, knowledge, and experience with the species discussed in this document. The education program shall cover life history, habitat requirements, and conservation measures for the Covered Species. The training shall also include information on federal and state regulatory protections, restrictions, and guidelines that must be followed by crews to avoid and minimize impacts to threatened and endangered species and their habitat. The training shall include the definition of "take," potential penalties for violating environmental regulations, the benefits of compliance, and required reporting for sightings of potential listed species. Upon completion of training, crews shall sign a form stating that they attended the training

and understand all conservation measures. If new personnel are added to the Project, the new personnel shall receive the training prior to starting work.

3. **Approved Biologist Authority.** An approved biologist shall be available to inspect all Project activities to ensure compliance with avoidance and minimization measures of the proposed Project.
   a. Prior to mobilizing, the biologist shall inspect the site for the presence of Covered Species.
   b. A biologist shall be available on-call whenever work is being done and shall have the authority to stop work if a state-listed species is encountered within the active work area.
   c. The approved biologist shall have the authority to stop work if activities might result in take of state-listed species.
4. **Establish Environmentally Sensitive Areas and Non-Disturbance Zones.** Prior to any ground-disturbing activity in a work area, the Project biologist shall use flagging to mark environmentally sensitive areas that support special-status species or aquatic resources and are subject to seasonal restrictions or other avoidance and minimization measures. The Project biologist shall also direct the installation of wildlife exclusion fencing to prevent special-status wildlife species from entering work areas.
5. **Work Stoppage.** If a potential state-listed species is encountered, all activities that have the potential to result in take shall immediately cease. The approved biologist shall be notified and shall inspect the site to positively identify the species. Work shall resume once the biologist has determined the species is not a listed species or once the species has left the area on its own.
6. **Prevent Invasive Species Spread.** The Project site (including roads) shall be maintained in a manner that avoids the spread of invasive species, incorporating a weed control plan. To prevent the transport of non-native invasive species onto the Project site, before bringing any equipment onto the site, equipment must be cleaned of mud, dirt, and plant material.
7. **Biological Surveys.**
   a. Crotch's Bumble Bee
      - A pre-construction survey shall be conducted for Crotch's bumble bee including (1) a habitat assessment, and (2) focused surveys. The habitat assessment shall include historical and current species occurrences; document potential habitat on site including foraging, nesting, and/or overwintering resources; quantify which plant species are in bloom and their percent cover; and other items described in Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023b).
      - The pre-construction survey shall be performed by a qualified biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. The timing of these surveys shall coincide with the colony active period (April through August for Crotch's bumble bee). Surveys shall occur at least 1 hour after sunrise and 2 hours before sunset. Surveys shall not be conducted during wet conditions (e.g., foggy, raining, or drizzling), and surveyors shall wait at least 1 hour following rain. Optimal surveys are conducted when there are sunny to partly sunny skies and the temperature is greater than 60° F. Surveys may be conducted earlier than 1 hour after sunrise if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the qualified biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the qualified biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive at and exit an active nest site with frequency, such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is

detected, then a representative shall be identified to species. Qualified biologists shall be able to view several burrows at one time to sufficiently determine if bees are entering/exiting them depending on their proximity to one another. It is up to the discretion of the qualified biologist to determine the actual survey viewshed limits from the chosen vantage point that would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

- A written survey report shall be submitted to CDFW within 30 days of the pre-construction survey. The report shall include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any Crotch's bumble bee nest sites or individuals observed. If Crotch's bumble bee nests are observed, the survey report shall also include the qualifications/resumes of the surveyor and qualified biologists for identification of photo vouchers, detailed habitat assessment, and recommendations for avoidance; the location information shall be submitted to the CNDDB at the time of, or prior to, submittal of the survey report.

8. **Fire Prevention.** A fire prevention and suppression plan shall be prepared prior to the start of Project activities.
9. **Speed Limits.** Project-related vehicles shall observe a daytime speed limit of 20 mph and a nighttime speed limit of 10 mph, except on Los Angeles County roads and state and federal highways. Emergency vehicles are exempt from these restrictions. Any road mortality/injury observed by workers of any animal that may be a state-listed species shall be reported to an approved biologist, who shall inspect the remains and notify CDFW within 24 hours if the animal is determined to be a state-listed species.
10. **Off-Road Traffic Prohibition.** Off-road traffic outside of designated Project areas shall be prohibited.
11. **Pesticide Use.** Pesticide use on or near suitable Crotch's bumble bee habitat shall also be restricted, particularly while treated plants are in flower.
12. **Rodenticide:** No rodenticide shall be used on site, to prevent impacts to Crotch's bumble bee.
13. **No Pets in Construction Areas.** To avoid harm and harassment of native species, workers and visitors shall not bring pets onto the Project site.
14. **Trash Abatement.** All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in a closed container and removed daily from the Project site, and construction personnel shall not feed or otherwise attract wildlife to the area where construction activities are taking place.
15. **Spill Prevention.** A spill prevention control and countermeasure plan shall be prepared prior to Project implementation. All machinery shall be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from equipment shall be reported and cleaned up in accordance with applicable local, state, and/or federal regulations.
16. **Exclusion Fencing.** Orange construction fencing or the equivalent shall be installed to ensure that ground disturbance does not extend beyond the allowed construction footprint (i.e., the limit of Project construction plus equipment staging areas and access roads). The Project shall mark the outer boundary of any habitat setback adjacent to or within the Project site with orange construction fencing prior to ground disturbance. The exclusion fencing shall be maintained until all construction activities are completed.
17. **Lighting.** To minimize disturbance to wildlife, temporary and permanent exterior lighting shall be installed such that:
    a. lamps and reflectors have limited visibility beyond the Project site.

b. reflective glare shall be minimized to the extent feasible.
c. illumination of the Project and its immediate vicinity is minimized.
d. lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated.
e. all lighting shall be of minimum necessary brightness consistent with operational safety and security.

8.2 Habitat Mitigation Measures

To fully mitigate Project-related impacts on state-listed species and their habitat, Prairie Song Reliability Project LLC proposes to provide for the permanent protection and perpetual management of compensatory habitat and to revegetate/restore temporarily disturbed on-site habitat due to project activities and any historically disturbed areas in the preserved areas through the following measures.

A Conservation Management Plan (CMP) will be prepared to meet the mitigation requirement for the proposed Project. The CMP will include a description of management tasks for the up to 135 acres of land that will be designated as the on-site Open Space Preserve and protected under a conservation easement. Specific management actions within the on-site Open Space Preserve that will be prescribed in the CMP are expected to include the following.

- **Non-Native Plant Assessments and Control**. The resource manager will identify, assess, and control non-native plant species infestations if they should occur in accordance with an Integrated Pest Management approach (Cal-IPC et al. 2012).

  The resource manager will coordinate assessments of non-native plant species during planned site visits. If invasive plant species considered a high priority for management (Cal-IPC 2026; Cal-IPC et al. 2012) are observed, the resource manager will coordinate appropriate control measures as necessary.

  Due to many non-native plant species having become naturalized (e.g., annual grasses) or widely established in the landscape (e.g., mustards and clover), complete control of these species is not always feasible (Cal-IPC et al. 2012). However, new infestations of naturalized annual grasses or widely established mustards categorized as moderate or high priority in the Cal-IPIC Inventory, will also be managed.

  Interim and final performance standards will be described in detail in the CMP, but general guidance on proposed final performance standards are included herein. As referenced above, if non-native plant species have become naturalized within the landscape, they will not be included as part of the vegetation coverage estimations when compared to the performance standards. In temporarily impacted areas, exotic species control should result in a less than or equal to 10% relative cover of non-native plant species and less than 1% invasive species (CAL-IPC rating of moderate or high) cover at the end of year seven. For disturbed preservation lands habitat, areas designated to receive treatment should result in less than or equal to 15% relative cover of non-native plant species and less than 1% invasive species (CAL-IPC rating of moderate or high) cover prior to supplemental seeding of native species.

Weed control measures will be implemented, as necessary, to control existing non-native invasive plant species and prevent spread of new invasive plant species in the on-site Open Space Preserve. The selection of the appropriate removal methodology should be determined with consideration of many variables, including the time of year, severity of infestation, the presence of sensitive plants and wildlife, phenology, the degree of intermixing of invasive plant species with sensitive native habitats, access, and proximity to surface water. General recommendations for weed control are provided in the following subsections:

- Manual vegetation removal (e.g., hand-pulling, grubbing, and hoeing) is a low-impact method of controlling invasive non-native plant species within a focused area. Due to the perennial nature of many of the target invasive plant species, their large size, and/or the difficulty of control, manual vegetation control is primarily applicable to the smaller annual species. Appropriate applications for manual removal are small occurrences of annual weeds and seedlings of perennial species when complete removal of the root system is possible. More mature perennial plants will have limited application of manual removal based on their size and root mass. Manual removal should be incorporated where herbicide application alone is inadequate, or where proximity of sensitive plant species prevents safe application (e.g., overspray or drifting of herbicides could affect nearby sensitive plants). All invasive non-native plant material that is feasibly removable (portions of trees may be too large to remove without significant effort or impact) should be removed and disposed of in a manner that does not promote spread or infestation of the species into new areas.

- Mechanical removal may be necessary for control of some larger target invasive non-native plant species, and is recommended to be combined with herbicide application. Cutting and removal of the aboveground plant material can be conducted with chainsaws and/or hand saws. The resulting material should be chipped and hauled off site. Subsequent application of herbicides should follow product guidelines for safe transport, storage, and application. Stumps remaining on site after cutting and herbicide application are not recommended for removal or grinding, but should be left to decompose in place.

- The application of herbicides to control target invasive non-native plant species may be used on its own or as a secondary treatment following manual or mechanical removal for controlling sprout growth and regeneration. Herbicide application is recommended following removal of all target invasive tree species and other perennial species with the ability to regenerate from root fragments when removal of all plant material is not feasible. To eliminate the possibility of drift and impacts to neighboring desirable plant species, herbicide use should be limited to localized applications rather than foliar applications. A wide range of herbicides are available for such types of treatment. Herbicides should be applied in accordance with herbicide labels and all state and federal laws.

- Cut and daub treatment is recommended for larger invasive plants to control regrowth and kill the portion of the plant remaining belowground. Cut and daub involves the cutting of invasive plant stalks or trunks and then the direct application of an appropriate herbicide directly to the freshly cut stump. Other related methods include drill and fill, where holes are drilled into the trunk of a tree and herbicide is injected. It is critical that the herbicide treatment occur immediately after the plants are severed so that the herbicide is carried into the plant tissue.

If enough time elapses to allow the cut surface of the severed plant to dry out, a fresh cut should be made prior to herbicide application.

- Regular assessments of exotic plant species and implementation of appropriate treatment actions will benefit the species by reducing the potential of degradation or loss of suitable habitat. Additionally, these actions will enhance degraded patches of native vegetation communities over time and open new areas for native species recruitment, that will ultimately provide additional suitable habitat for Crotch's bumble bee.

- **Supplemental Native Seeding**: Bare areas within the Open Space Preserve will be assessed and potentially receive supplemental native seed. These bare areas may already exist within the Open Space Preserve or may result from effective implementation of exotic species control. Due to the difficulty of predicting the locations and extent of these areas, this activity is included as an adaptive management action. While the specific species included in the supplemental seed mix will be based on the habitat and growing conditions present, inclusion of species suitable for use by Crotch's bumble bee will be prioritized. The species considered for inclusion that are suitable for Crotch's bumble bee include those from the Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae, and Solanaceae families.

- **Off-Highway Vehicle (OHV) Control.** Signs will be posted along the perimeter of the Open Space Preserve; and at existing dirt roads within the Open Space Preserve to prevent OHV use. The signs must be corrosion resistant, at least 12 inches by 18 inches in size, placed on posts not less than 3 feet in height from the ground surface and state "Sensitive Environmental Resources Protected by Easement". Signage placement will be consistent with California Penal Code Part 1, Title 14, Section 602.8 regarding the placement of "No Trespassing" signs to be posted "at intervals not less than three to the mile along all exterior boundaries and at all roads and trails entering the lands."

  Barriers may be constructed at select areas along the preserve boundary and within the Open Space Preserve to prevent access to the Open Space Preserve. These barriers may consist of large boulders, K-Rail, fencing, or similar material that will prevent OHV use, but will allow natural water flow to occur where installed at drainages. Where barriers occur at drainages, their placement shall be such that no additional permitting is required from resource agencies. The resource manager will report unauthorized OHV use to the local sheriff and will identify additional measures that may be necessary should OHV use become a problem. Potential measures to keep OHVs out of the Open Space Preserve include additional signs, dispersal of educational materials to nearby residents, and additional strategic installation of barriers at OHV access points.

  - This action will benefit the species by reducing the potential for unauthorized access to the Open Space Preserve that could result in degradation and impacts to suitable habitat and associated vegetation communities in the form of unauthorized trials, encampments, and illegal dumping.

- **Other Tasks.** Other tasks include annual reporting that will summarize the overall condition of vegetation communities and sensitive species in the Open Space Preserve, outline proposed

management tasks for the following year, and provide results of management activities proposed in the previous report. Submitted annually by the end of January, this letter report will compare the most recent data with those collected in previous years, evaluate sensitive species status and local wildlife corridor use, and outline appropriate remedial measures.

The resource manager will also conduct general trash removal within the Open Space Preserve during regular management site visits. Upon initiation of the Open Space Preserve, existing trash will be removed to provide for a clean baseline. Following the initial trash removal effort, trash removal will be a regularly scheduled occurrence during quarterly site inspections (small items) and annually (larger items). Additionally, damage caused by vandalism will be repaired.

- These actions will benefit the species by providing a record of management actions conducted within the Open Space Preserve through perpetuity. This will provide both a summary for all parties involved as well as a reference for future Resource Managers. Previously conducted maintenance or adaptive management activities within the Open Space Preserve that are captured in annual reports will allow for on-site data to be used when considering implementation of certain activities in the future.

  Additionally, the removal of trash and anthropogenic debris will benefit the species by removing potential hazards and making more areas available for native vegetation to establish, that will in turn support Crotch's bumble bee populations.

A **Temporary Impact Restoration Plan** will be prepared for those areas that will be temporarily impacted by construction. It is assumed that a perimeter temporary fence (post/rope) will be installed around the temporary impact areas to protect the area during restoration activities and during the 7-year maintenance and monitoring period. After the 7-year maintenance and monitoring period is complete, the temporary restoration areas will be turned over to the resource manager for long-term management in perpetuity. Restoration of temporary impact areas is expected to include site preparation and minor recontouring, installation of signage and BMPs, hydroseeding, installation of California juniper container plants, and transplanting of short-jointed beavertail. Upon completion of the restoration activities, a 7-year maintenance and monitoring period will commence. Activities to be performed during the 7-year maintenance and monitoring period include weeding, watering, supplemental hand seeding and replacement of container planting as needed, and qualitative and quantitative biological monitoring and reporting over the 7-year period.

Lands are expected to be managed in perpetuity by the following parties:

- **Resource Manager.** The Resource Manager shall be one of the following: Conservancy group; Natural resources land manager; or Natural resources Consultant.
- **Landowner**. Fee title of separate open space lots may be held by the land/resource manager or another appropriate landowner (e.g., land trust, conservancy, or public agency), depending on the particular circumstance. A third-party non-profit organization will hold the endowment funds and be responsible for allocating those funds to the resource manager.
- **Easement Holder**. If the land is transferred in fee title to a non-governmental entity, a Conservation Easement must be recorded. This easement will be dedicated to the County, but it may also include other appropriate agencies as a grantee or third-party beneficiary. As described above, the current plan

is for land title to be held by the Applicant with a conservation easement dedicated to an approved land manager (to be selected upon finalization).

- **Restoration Entity**. Management responsibility for the revegetation/restoration of the temporary impact areas shall remain with the restoration entity until restoration/revegetation has been completed. The work of the restoration entity shall be accomplished by a qualified restoration specialist. Upon agency acceptance of the revegetated/restored temporary impact area, management responsibility for the revegetation/restoration area will be transferred to the resource manager.

Acceptable financial mechanisms include the following:

- **Endowment**. A one-time, non-wasting endowment, which is tied to the property and intended to be used by the resource manager to implement the CMP.
- **Transfer.** Transfer of ownership for management.

The Applicant will be responsible for all CMP funding requirements, including direct funds to support the CMP start-up tasks as well as establishment of an ongoing funding source for annual tasks through perpetuity, which is tied to the property to fund long-term CMP implementation. As described above, the funding mechanism will include a one-time non-wasting endowment (perpetual management) and transfer of ownership.

The final endowment level will be determined through preparation of a Property Analysis Record (PAR) that involves the thorough evaluation and inclusion of all management, maintenance, and monitoring activities required to sustain the Open Space Preserve and the Crotch's bumble bee found within it in perpetuity. The CMP and Temporary Impact Restoration Plan, described above, will be used as a basis for estimating the long-term management activities required for the site as well as the associated level of effort and funding for each task. An evaluation of potential future conditions that may require adaptive management actions to be implemented will be conducted. Through this evaluation, contingency funds will be determined during the preparation of the PAR. Additional tasks and associated fees will also be accounted for as other entities (endowment holder, landowners, resource managers), permits, and project documents are approved.

The PAR will include prices and rates based on real costs at the time of preparation. Costs included in the PAR will generally be valid for one year and should be updated to capture current costs and rates as close to the time of funding as feasible. The endowment holder will determine inflation adjustments for dispersals during the long-term management period (into perpetuity) based on market conditions.

While the process of determining the endowment will be iterative, a preliminary high-level estimate of the endowment funding required is outlined below. The amounts outlined in the table are based on assumptions and known factors at this point in the project, Further refinement of these costs will be required as additional project documents are prepared and more details are known.

Estimate of Funding Required for Ongoing Long-Term Management Activities[1]

Task	Estimated Annual Cost[1]
Biological Monitoring	$7,200.00
Habitat Maintenance	$37,450.00
Perimeter Signage	$495.00

Estimate of Funding Required for Ongoing Long-Term Management Activities[1]

Task	Estimated Annual Cost[1]
Fencing Repair/Replacement	$500.00
Reporting	$2,500.00
Adaptive Management	$400.00
Administration, Coordination, Budgeting, Database Management	$5,025.00
Total	$53,570.00[2]

Notes:
1 Costs presented are organized to fit the suggested categories provided by CDFW staff. More detailed categories should be expected once a formal PAR is prepared.
2 The total endowment amount required will be determined once a formal PAR is prepared.

Regarding how CESA funding changes during construction to operation of the facility:

- The Applicant will also be responsible for all temporary impact restoration funding requirements, including the 7-year maintenance and monitoring period. The Applicant intends to contract directly with a Restoration Entity for all temporary impact restoration activities and 7-year maintenance and monitoring.

- Further, during construction, the Applicant will be responsible for funding and implementing avoidance and minimization measures during construction (preconstruction surveys, biological monitoring, etc.). The Applicant intends to contract directly with a qualified biological resources consultant to implement avoidance and minimization measures during construction.

9 Plan to Monitor Compliance

Compliance with the minimization measures described under Section 8 will be monitored by CDFW-approved biologists present on site during construction as described therein. Biologists approved by CDFW to conduct on-site monitoring will have demonstrated their experience with Covered Species biology and identification and will therefore be able to effectively monitor construction activities for potential take of individuals. A preserve management plan will be prepared for any preserves established as compensatory mitigation and will describe both management and monitoring activities and reporting requirements. The Project will prepare monthly and annual reports documenting compliance with all mitigation measures and requirements set forth in the preserve management plan and would be subject to reporting in compliance with the preserve management plan.

10 A Description of the Funding Source and the Level of Funding Available for Implementation of the Minimization and Mitigation Measures

Prairie Song Reliability Project LLC, as the Project applicant, is required to ensure that all mitigation, minimization, and avoidance measures identified in this Section 2081 Permit Application package (Section 8) are fully funded. Funding for on-site preservation lands, or lands acquired and preserved off site, will be estimated through preparation of a Property Analysis Record (PAR), or PAR-Equivalent Analysis, which is an itemized cost estimate of the initial and capital period costs and annual ongoing costs.

11 References

California Geological Survey. 2002. California Geomorphic Provinces: Note 36. 4 pp. Accessed September 2025. https://koordinates.com/layer/97118-california-geomorphic-provinces/.

CDFW (California Department of Fish and Wildlife). 2023a. Crotch's Bumble Bee Range - CDFW [ds3095], geospatial data. Accessed February 2026. https://filelib.wildlife.ca.gov/Public/BDB/GIS/BIOS /Public_Datasets/3000_3099/ds3095.zip.

CDFW. 2023b. *Surveys Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*. June 6, 2023. Accessed December 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID =213150&inline.

CDFW. 2026. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed April 2025. https://nrmsecure. dfg.ca.gov/cnddb/Default.aspx.

Google. 2025. Google Earth, desktop application; centered on the property. Accessed December 2025. https://www.google.com/earth/.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. Bombus crotchii. The IUCN Red List of Threatened Species 2015: e.T44937582A46440211. Accessed February 2026. https://www.iucnredlist.org/species/44937582/46440211.

Hatfield, R., and S.J. Jepsen. 2021. "A Conservation Conundrum: Protecting Bumble Bees under the California Endangered Species Act." *California Fish and Wildlife Journal* (Special CESA Issue): 98–106.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed September 2025. http://ucjeps.berkeley.edu/interchange/.

Keyer, D., A. Oed, K. Walther-Hellwig, R. Frankl. 2004. Are forests potential landscape barriers for foraging bumblebees? Landscape scale experiments with Bombus terrestris agg. and Bombus pascuorum (Hymenopte, Apidae). Biological Conservation, 2004 – Elsevier Biological Conservation 116:111-118.

LACPW (Los Angeles County Public Works). 2025. Precipitation – Acton Camp Station. Accessed September 2025. http://ladpw.org/wrd/precip/.

Motta, E.V., Raymann, K. and Moran, N.A. 2018. Glyphosate perturbs the gut microbiota of honey bees. *Proceedings of the National Academy of Sciences*, *115*(41), pp.10305-10310. Accessed September 2025. https://people.tamu.edu/~erick.motta/papers/motta2018pnas.pdf.

Muth, F., A. S. Leonard. 2019. A neonicotinoid pesticide impairs foraging, but not learning, in free-flying bumblebees. Sci. Rep. (9) 4764. Accessed September 2025. https://www.nature.com/articles/s41598-019-39701-5.

Osborne, Juliet & Martin, Andrew & Carreck, Norman & Swain, Jennifer & Knight, Mairi & Goulson, Dave & Hale, Roddy & Sanderson, Roy. (2008). *Bumblebee Flight Distances in Relation to The Forage Landscape*. The Journal of animal ecology. 77. 406-15. 10.1111/j.1365-2656.2007.01333. x.

The Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch's bumble bee *(Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. Accessed September 2025. https://fgc.ca.gov/CESA/index.

USDA. 2025. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed December 2025. http://websoilsurvey.nrcs.usda.gov/.

USFWS (U.S. Fish and Wildlife Service). 2025a. National Wetlands Inventory [interactive map application]. Accessed April 2025. https://www.fws.gov/program/national-wetlands-inventory.

USGS (U.S. Geologic Survey). 2025a. Acton, California and Pacifico Mountain, California 7.5-minute topographic quadrangles. Accessed September 2025. https://www.usgs.gov/tools/75-15-minute-topographic-maps-usgs-store.

USGS. 2025b. National Hydrography and Watershed Boundary Dataset. USGS National Hydrography Products. Accessed April 2025. https://www.usgs.gov/national-hydrography.

Whitehorn PR, O'Connor S, Wackers FL, Goulson D. Neonicotinoid pesticide reduces bumble bee colony growth and queen production. Science. 2012 Apr 20;336(6079):351-2. doi: 10.1126/science.1215025. Epub 2012 Mar 29. PMID: 22461500. Accessed September 2025. https://pubmed.ncbi.nlm.nih.gov/22461500.

Attachment 2
Figures

Attachment 4B

Incidental Take Permit Application (Clean)

DUDEK
225 SOUTH LAKE AVENUE
SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

September 16, 2026

California Department of Fish and Wildlife
South Coast Region 5
ATTN: Erinn Wilson-Olgin
3883 Ruffin Road, San Diego, CA 92123

Subject: **California Department of Fish and Wildlife Incidental Take Permit Application Package, Prairie Song Reliability Project, Los Angeles County, California**

Consistent with Sections 2081(b) and 783.2–783.8 of the California Fish and Game Code, Prairie Song Reliability Project LLC (applicant) is submitting this application package for Incidental Take Permit (ITP) authorization to be issued by the California Energy Commission per Public Resources Code 25500 *et seq.* for potential impacts to the state-listed candidate endangered Crotch's bumble bee (*Bombus crotchii*) for the Prairie Song Reliability Project (Project) in Los Angeles County, California. This application package provides the information required by California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 6, Article 1, Section 783.2.

Sincerely,

Garrett Lehman
Applicant
Prairie Song Reliability Project LLC

Michael Cady
Authorized Agent
Dudek

Attachments: *1 - CDFW Incidental Take Permit Application Package, Prairie Song Reliability Project*
2 - Figures 1–7

cc: *Erin Phillips (Dudek)*

Attachment 1

California Department of Fish and Wildlife Incidental Take Permit Authorization Application Package, Prairie Song Reliability Project

1 Applicant Information

Applicant

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Garrett Lehman, Director
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Authorized Agent

Michael Cady, Senior Biologist
Dudek
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2 Species Proposed for Incidental Take Permit Authorization Coverage

The species proposed for coverage in this ITP application package are presented below in Table 1.

Table 1. Project Proposed Species for Incidental Take Authorization

Common Name	Scientific Name	CESA Status
Crotch's bumble bee	*Bombus crotchii*	SCE

Notes: SCE= state candidate endangered

Crotch's bumble bee is one of several bumble bee species proposed (The Xerces Society for Invertebrate Conservation et al. 2018) for listing as endangered under California's Endangered Species Act. Crotch's bumble bee is generally distributed through wildlands and rural areas in low to middle elevations (sea level to at least 6,000 feet) of California and exploits a wide range of habitats including native and exotic grasslands, coastal marshes, scrub lands, chaparral, oak-juniper woodlands, pinon woodlands, and desert transition vegetation (on western margins of the Mojave and Colorado deserts). The range and overall abundance of the Crotch's bumble bee is believed to have declined substantially over the last two decades (Hatfield et al. 2021, The Xerces Society for Invertebrate Conservation et al. 2018) due to habitat loss from urban and agricultural expansion, as well as the effects of herbicides (Motta et al. 2018) and insecticides (Whitehorn et al. 2012, Muth, F. and A. S. Leonard. 2019) in agricultural settings, especially in California's central valley.

Over recent centuries, competition for floral resources (as well as associated exotic diseases) from the introduced European honeybee (*Apis mellifera*) has likely led to a decline of many bumble bee species (and many other bees) across the western hemisphere. Like most bumble bees, Crotch's bumble bee nest in cavities in the soil, often abandoned rodent burrows, and the adults (queens, workers, and males), active in the daytime, all visit nectar and pollen resources. Crotch's bumble bee utilize a diverse range of floral resources including those among Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae, and Solanaceae families; and exhibit clear contextual preferences associated with flower species availability on any given time and location. Typically, *Asclepias* spp., *Salvia* spp., *Astragalus* spp., *Acmispon* spp., and *Vicia* spp. are among the preferred flowers by the species. Bumble bees commonly utilize floral resources 0.2 to 0.3 km from their nests but may forage more than two kilometers from their nests (Osborne et al. 1999, Keyer et al., 2004). This vagility allows the bumble bees to utilize disconnected patches of suitable forage resources on such a landscape scale that populations may exist on habitat patches within a matrix of urban developed areas.

As the spring season progresses, workers (small female non-reproductive bees) are produced with increasing numbers and escalate the provisioning of the colony, which continues to grow until in early to mid-summer when new males (from unfertilized eggs) are produced along with the new generation of future queens. Workers and males live for only a few weeks. Thus, overall Crotch's bumble bee numbers are highest (include workers and males) in late spring through mid-summer seasons, very low in fall and early spring (gynes only). The species can be virtually undetectable during the overwintering season (when dormant underground) (The Xerces Society for Invertebrate Conservation et al. 2018).

3 Project Description

Prairie Song Reliability Project LLC, a Delaware limited liability company (Applicant), a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW), approximately 9,200-megawatt hour (MWh), Prairie Song Reliability Project (Project) located on up to approximately 114 acres in unincorporated Los Angeles County (Figure 1, Project Location, All figures can be found in Attachment 3. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

Electrical energy will be transferred from the existing power grid to the Project for storage and from the Project to the power grid when additional electricity is needed. The Project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The Project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The Project will be remotely operated and monitored year-round as well as supported by on-site O&M staff seven (7) days a week. The Project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, qualified technicians will inspect the Project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.

3.1 Project Components

The Project will include construction, operations and maintenance (O&M), and eventual decommissioning of an up to 1,150MW Battery Energy Storage System (BESS). A 500kV gen-tie connecting the Project substation to the Point of Interconnection (POI) within the existing Southern California Edison (SCE) Vincent Substation, will facilitate charging and discharging to the electrical grid.

3.1.1 General Facility Description, Design, and Operation

The BESS facility will include the following primary components:

- Battery Energy Storage System (BESS) Enclosures

- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads
- Laydown Yards
- Stormwater Detention Facilities
- Site Security and Fencing
- Fire Detection and Suppression System
- Operations and Maintenance Building
- Existing Distribution Line Reroute

Project components are described in the following subsections. Figure 2, Project Site Plan, shows the Project layout. Table 2 summarizes the preliminary dimensions of major BESS facility components, and Table 3 summarizes the preliminary footprint/disturbance acreage associated with the BESS facility.

Table 2. Preliminary Dimensions of Major BESS Facility Components

Component	Quantity	Approximate Dimensions
BESS Enclosures	2,035*	20 ft × 8 ft × 9.5 ft (L × W × H)
PCS	517*	20 ft × 8 ft × 9.5 ft (L × W × H)
MV Collection system	—	Buried in trenches up to 10 ft × 10 ft (W × D)
Project Substation Area	1	2,545 ft × 440 ft (L × W); seven (7) 150 ft (H) (lightning masts)
Control Building	1	27 ft W × 95 ft L × 10 ft H (to ceiling)
Access Roads	—	26 ft (W) internal radii 55 ft minimum
Fire Water Tanks	2	33 ft in Diameter × 16 ft H
Laydown Yards	3	Variable
Stormwater Detention Facilities	2	Variable
Security Wall	—	Minimum 8 ft H block wall topped with 1 ft of barbed/razor wire
Operations and Maintenance Building	2	20 ft × 60 ft × 15 ft (L × W × H)

Notes: BESS = battery energy storage system; PCS = power conversion system; MV = medium voltage.
* The number of BESS enclosures and PCS units will depend on the manufacturer selected. The total number of BESS enclosures and PCS units may increase or decrease in the final design. It is also possible that the BESS units ultimately procured may incorporate the PCS units within the BESS enclosures.

Table 3. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
BESS Yards	30.0 acres
Project Substation	23.1 acres
Access Roads	7.9 acres
Laydown Yards	1.0 acres
Stormwater Detention Facilities	4.1 acres
*Other**	*4.7 acres*

Table 3. Preliminary Footprint of BESS Facility

Component	Permanent Disturbance
Total+	70.8 acres

Notes: BESS = battery energy storage system.
* Other areas include maximum grading limits. The analyses assume that all areas used for the BESS facility are permanently disturbed.
+ The total permanent disturbance acreage is a conservative estimate, and final designs may require fewer acres. Underground components within the BESS facility will be located within the footprint of above ground disturbance areas.

3.1.1.1 Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common presently being lithium iron phosphate (LFP) cells, or similar. LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The initial Project concept has been developed assuming an LFP technology. By the time the Project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the Project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed based on this Project Description. The Sungrow Power Titan II has been selected for this project application package as a representative BESS enclosure. Sungrow Power Titan II design and operation information is used in this application to set maximum potential impact envelopes, for site design and modeling analysis, and to set baseline safety standards. A final manufacturer for the BESS enclosures will be selected during the detailed design process post-certification. The Project will provide defensible space by setting back all BESS enclosures at least 100 feet from the property boundary.

The BESS enclosures will be prefabricated off site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system, fire detection systems, thermal management systems (either liquid or air cooled depending on final selected technology), and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed 15 feet in height.

Over the life of the project the storage capacity of the battery cells will naturally degrade. The project will implement an augmentation strategy to maintain the contractually required capacity of the system. Augmentation will entail either a capacity maintenance approach of adding/replacing individual battery modules in the existing BESS yard or designing the BESS system to incorporate space for additional BESS enclosures for later augmentation. The Project design and analysis front loads the work for the Project augmentation and assumes that it will install the end-of-life capacity at the start of construction. This assumption is made to capture augmentation impacts during construction instead of trying to assume the augmentation schedule for the Project. Equipment type/specifications, capacity agreements, and tax incentives can all change how and when augmentation is completed. Front loading augmentation to occur during construction creates a conservative case for the analysis of potential impacts that could arise from augmentation and sets a maximum impact envelope for the Project. During Project operations, the Project analysis assumes that one (1) crane and one (1) forklift will operate in support of augmentation once every three (3) to five (5) years for eight (8) hours per day.

3.1.1.2 Power Conversion System

A PCS is a packaged and integrated, or assembled, system consisting of a bi-directional inverter, MV transformers, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and a connection cabling system. A PCS functions to both convert between DC/AC and change the voltage level from the MV collection voltage to the working voltage of the BESS enclosures.

The PCS will convert electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. Each PCS will also include transformers that convert the AC side output of the inverter between low and medium AC voltage to increase the overall efficiency of the BESS. Inverters within the PCS units will be unattended systems designed to operate in all conditions. The inverters will be monitored and controlled remotely, and there will be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

PCS units will be installed on concrete foundations or steel piles and connected to multiple BESS enclosures with wiring and cables installed underground. All outside electrical equipment will be housed in the appropriate National Electrical Manufacturers Association-rated enclosures.

3.1.1.3 MV Collection System

The MV collection system will include multiple components that connect the PCS units to the Project substation including underground conductor circuits, switchboards, switchgear, and panels at 34.5kV. The conductors for the MV collection system will be installed underground during construction using trenching.

To connect the portion of the BESS yard north of Soledad Canyon Road to the Project substation, which is located south of Soledad Canyon Road, a portion of the MV collection system will need to be located underground within Soledad Canyon Road. An 180-foot-wide underground corridor will house the MV collection system as it traverses the road. The MV collection lines under Soledad Canyon Road will be installed using horizontal directional drilling, will be inside six (6) in conduit, covered by a minimum of 42 inches, and spaced 10 feet apart.

3.1.1.4 Project Substation

The Project onsite substation will include six (6) main power transformers (MPTs). When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the Project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the Project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A control building will be installed within the Project substation area and contain an energy management system, metering, and telecommunication equipment for communication with SCE/California Independent System Operator (CAISO) facilities and to support remote Project operations monitoring. The Project substation area will also include seven (7) static masts, up to 150 feet tall, for lightning protection.

3.1.1.5 BESS Facility Access Roads

The Project's roadway system will utilize existing roads wherever available and feasible and include new facility access roads and driveways, a perimeter road, and internal access roads. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with asphalt. All internal roadways and private driveways will be constructed to meet access requirements for construction, O&M, and emergency response.

3.1.1.6 Laydown Yards

The Project will include up to three (3) laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located in the northernmost portion of the BESS site. The primary laydown yard will be bladed, compacted, and surfaced with aggregate, while an additional laydown yard to facilitate construction of the gen-tie line will be cleared of vegetation and surfaced with aggregate or other soil stabilizing materials. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards. The O&M building and required number of parking spaces for O&M staff will be constructed within the primary laydown following construction of the BESS facility components.

The proposed Project's preliminary layout, earthwork volumes, and Project component dimensions assumed for environmental analyses in subsequent chapters are conservatively large to allow for design flexibility within the project footprint and Project schedule preservation.

3.1.1.7 Stormwater Detention Facilities

Regulatory standards require that volumes and flow rates of stormwater discharge after construction are not to exceed pre-development conditions. Stormwater generated on-site will flow to underground stormwater detention chambers located in the southwestern portions BESS facility site (Figure 2, Project Site Plan). Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. After a rainfall event, stormwater will infiltrate into the subgrade underneath the stormwater chambers. If the design capacity of the stormwater chambers is exceeded, however, stormwater may be stored in available upstream areas such as catch basins, infiltration trenches, or drain as sheet flow from the surface.

3.1.1.8 Site Security

The BESS facility site will be enclosed with a minimum eight-foot-tall block wall topped with one (1) foot of three-strand barbed wire or razor wire. The wall will be installed on the outside of the perimeter roads. The wall will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the wall and equipped with locks and Knox boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site. The wall will serve a dual purpose for security and off-site noise reduction.

Lighting will only be in areas where it is required for safety, security, or operations. Controlled security lighting, no more than 28 feet tall, will be installed at the Project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded

and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24/7.

3.1.1.9 Fire Detection and Suppression System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard battery management system that monitors the appropriate state of individual battery cells and relays information 24/7 and an internal Fire Alarm Control Panel that will identify which units have incidents and will notify first responders. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The Project's fire protection design will comply with California Fire Code 2022, Section 1207 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). BESS enclosures will be Underwriters Laboratories (UL) listed, tested, and certified to the most rigorous international safety standards. UL independently tests equipment for compliance with the latest fire safety code requirements, and the methods were developed to minimize fire risk and safety concerns about battery storage equipment raised by fire departments and building officials in the United States.

Faults, mechanical damage, or manufacturing defects in lithium-ion batteries can cause thermal runaway, which can lead to fires or other hazards. Should a thermal runaway event occur, the BESS enclosures are designed and constructed in such a way that fire will not propagate from one enclosure to a neighboring enclosure. The Project's BESS enclosures, as part of the testing and listing process, will be subjected to destructive testing including fire testing. The Project's BESS enclosures will include the following UL certifications:

- UL 1642 – Standard for Lithium Batteries (cell level certification).
- UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).
- UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).
- UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.
- IEC 62619 – Standard for Battery Safety in Stationary Applications.

The BESS facility ingress/egress and circulation will be designed to comply with applicable LA County's fire regulations. Each portion of the BESS facility (the BESS yards north and south of Soledad Canyon Road) will have primary and secondary access points. The BESS yard north of Soledad Canyon Road. will have a primary access point in the southwest corner of the site and a secondary access point in the northwest corner of the site, near the O&M buildings and laydown yard. The BESS yard south of Soledad Canyon Road. will have a secondary access point directly across from the secondary access point for the northern BESS yard and a primary access point that is approximately 1,030 feet east of the secondary access point. There will also be an access point for the Project Substation that is approximately 340 feet east of the BESS yard primary access point, in the approximate middle of the Project area that is south of Soledad Canyon Road. All access points will have Knox boxes and will connect to roads that are 26 feet wide.

Water for fire defense will be provided via an on-site well that will serve two (2) 40,000-gallon water tanks. There will be a separate water tank and booster pump in each of the BESS yards. The water tanks will serve hydrants

located throughout the BESS yards. Hydrants were specifically located to be no more than 300 feet apart throughout the BESS yards. The project commissioned a fire water supply assessment that concluded that the maximum amount of water necessary to fight a fire on the site would be 15,000 gallons. The project will provide 40,000 gallons of water at each BESS yard.

The fire water line system has been highlighted in PSR-BE-201. PSR-BE-201 shows the existing well in the south BESS yard and the water line connection to the water tank in that same yard (approximately 245 feet to the northeast of the existing well). The water tank and associated pumphouse serve as the distribution point for the fire water line. Three (3) lines leave the pumphouse. Two (2) fire water lines support the hydrant system in the south BESS yard. The loops follow the road and surround each of the BESS blocks. The third fire water line runs southwest along the northern road in the south BESS yard until it comes to the first responder secondary entrance. The fire water line then heads north and crosses Soledad Canyon Road along the northeastern side of the two (2) opposing first responder secondary entrances. Once in the north BESS yard, the fire water line heads back southwest along the southern road in the north BESS yard for approximately 1,030 feet. The fire water line then heads north and connects to the pump house and water tank in the north BESS yard. There are two (2) fire water lines that exit the pump house in the north BESS yard that serve the hydrants that are spaced along access roads and surround the BESS blocks.

The Los Angeles County Fire Department will review and comment on the facility fire protection and suppression plans.

3.1.1.10 Operations and Maintenance Building

O&M buildings will be constructed for the Project's anticipated 16 full-time operations staff and is planned to be in the easternmost portion of the BESS yard north of Soledad Canyon Road. The O&M buildings will include parking, outside equipment and laydown areas, basic offices, meeting rooms, washroom facilities and climate-controlled storage for certain equipment and materials. An existing groundwater well will provide water for washroom and a septic system will provide for sanitary facilities. The existing groundwater well is located south of Soledad Canyon Road on APN 3056-019-026. To serve the O&M buildings and fire water needs, which are located north of Soledad Canyon Road, an underground water line will be constructed from the existing groundwater well to the O&M buildings as shown in Figure 2, Project Site Plan. A portion of the water line will be located within Soledad Canyon Road as shown in Figure 2, Project Site Plan. The water line will run under Soledad Canyon Road along the northeast edge of the opposing first responder secondary access points between the north and south BESS yards. The water line will be covered by a minimum of 24 inches of material. The water line will be installed via horizontal directional drilling.

3.1.1.11 Existing Distribution Line Reroute

There is currently an SCE overhead electrical distribution line that bisects the southern portion of the BESS facility site. The distribution line consists of wooden poles with a cross bar carrying the distribution lines. The Project plans to reroute this line around the BESS facility site using similar distribution poles and wires. The Project will alter the existing distribution line route from where it enters the property on the south side of the BESS facility site. The Project will install approximately nine (9) poles similar to the existing poles, outside of the BESS facility site wall, along the southern and western boundary of the BESS facility site south of Soledad Canyon Road until they connect with Soledad Canyon Road. At Soledad Canyon Road, the new distribution line will tie into the existing distribution line at the western boundary of the southern BESS facility site.

3.1.2 Transmission and Interconnection Description, Design, and Operation

The Project will be interconnected to the regional electrical transmission grid via an approximately 1.2-mile-long or 1.9-mile-long new single-circuit 500kV gen-tie line within an up-to 150-foot-wide corridor between the Project substation and the SCE Vincent Substation. The Applicant will construct and own the portion of the gen-tie line between the Project substation and the Point of Change of Ownership (POCO) transmission structure (see Figure 2, Project Site Plan, site layout Pole 10), and SCE will construct and own the remaining portion of the gen-tie from the POCO to the POI within the Vincent Substation. The Project's transmission and interconnection facilities will include the following components:

- 500kV Gen-Tie Line including Transmission Structures and Conductors
- Fiber Optic Telecommunications Utility Poles and Fiber Optic Lines
- Access Paths
- Temporary Work Areas
- Interconnection Facilities within Existing SCE Vincent Substation Footprint (SCE constructed and owned)

The proposed route was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize the number of turning structures required, and enter the Vincent Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Project components associated with transmission and interconnection facilities are described in the following subsections. Where the gen-tie routes, scattered rural residences, scenic areas (scenic drives and the Los Angeles National Forest), and existing transmission lines within one (1) mile of the proposed routes. There are no parks or recreational areas within one (1) mile of the proposed routes. Table 4 summarizes the preliminary dimensions of major transmission components, and Table 5 summarizes the preliminary new ground disturbance area associated with construction of the transmission and interconnection facilities (Southern Gen-Tie scenario).

Table 4. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
500kV Gen-Tie Line	1	Applicant Owned: North: 3,500 ft long / South: 7,300 ft long
		SCE Owned: 3,200 ft long
Substation Bay Dead-End Transmission Structure	1	Applicant Owned: 170 ft tall
		SCE Owned: n/a
Angled Dead-End Transmission Structure	up to 7	Applicant Owned: 175 ft tall to 195 ft tall
		SCE Owned: n/a
Tangent Delta Transmission Structure	1	Applicant Owned: 155 ft tall (Northern Gen-Tie Route) to 180 ft tall (Southern Gen-Tie Route)
		SCE Owned: n/a
Lattice Tower Transmission Structure	3	Applicant Owned: n/a
		SCE Owned: 230 ft tall to 270 ft tall
Conductors	1	Applicant Owned: North: 30,800 ft / South: 63,000 ft

Table 4. Preliminary Dimensions of Major Transmission Components

Component	Quantity	Approximate Dimensions
		SCE Owned: 16,000 ft
Overhead Shield Wire	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 3,200 ft
Fiber Optic Cables on Gen-Tie Structures	1	Applicant Owned: North: 3,600 ft / South: 7,300 ft
		SCE Owned: 3,200 ft
Fiber Optic Cables Underground	2	Applicant Owned: 12,000 ft
		SCE Owned: 7,600 ft
Transmission Structure Access Path	Varies	26 ft wide

Notes: kV = kilovolt; SCE = Southern California Edison; gen-tie = generation interconnection.

Table 5. Approximate New Ground Disturbance Area Associated with Transmission and Interconnection Facilities

Component	Permanent Disturbance	Temporary Disturbance
Applicant Portion		
Transmission Structure Pads	2.48 acres	—
Transmission Structure Access Path	1.14 acres	—
Laydown Area	—	4.23 acres
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	19.4 acres
Applicant Total[1]	**3.62 acres**	**23.63 acres**
SCE Portion		
Transmission Structure Pad and Access Roads	0.62 acres	—
Tension and Pulling Sites (i.e., Gen-Tie Work Area)	—	13.82 acres
Laydown Area	—	2.40
SCE Total	**0.62 acres**	**16.22 acres**

Note: gen-tie = generation interconnection; SCE = Southern California Edison.
[1] Represents the impacts associated only with the Southern Gen-Tie Route, which defines the maximum impact footprint.

3.1.2.1 500kV Gen-Tie Line

The 500kV gen-tie line will originate at the Project substation within the BESS facility site and extend south and east, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, as close to perpendicular as possible, and then proceed northeast to the POI at the Vincent Substation. The Project proposes a Northern Gen-Tie Route and Southern Gen-Tie Route. The Los Angeles County Metropolitan Transportation Authority (LACMTA) requires a crossing agreement application to include a 90% design package. The Project expects to submit the LACMTA application in 2026.

The interconnecting 500kV transmission single-circuit configuration will be overhead. The gen-tie line will be constructed with either monopole tubular steel poles or steel lattice towers. Gen-tie structures will be at least 155 feet tall, with a maximum height of 243 feet. There will be a total of approximately one (1) monopole or steel lattice tower structures. The total number of gen-tie structures will be determined by the final design of the gen-tie line. The Project transmission facilities will be designed consistent with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) where feasible. Transmission facilities will also be evaluated for potential collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of Art in 2012* (APLIC 2012).

The POCO will be located on APN 3056-015-023 (see Pole 10 within Figure 2, Project Site Plan). The POCO is the point where the conductors of the gen-tie line are attached to the last Applicant-owned structure facing Vincent Substation. The Applicant shall own and maintain gen-tie facilities between the Project substation and Pole 10, including, the conductors, insulators and jumper loops. SCE will own and maintain the facilities between Pole 10 and the Vincent Substation, including three dead-end lattice steel towers, associated conductors and shield wires, the line drop, and the interconnection facilities within the Vincent Substation.

The conductor from the site to the POCO is planned to be triple bundle 795 Drake or equivalent. The conductor from the POCO to the Vincent Substation will be double bundle 2156 Bluebird or equivalent.

Table 4 includes the approximate number and dimensions of the different types of transmission structures that will be used.

3.1.2.2 Transmission Structure Access Path

Where possible, the transmission structure access path will utilize existing access roads to minimize new ground disturbance. A transmission structure access path up to 26 feet wide will be located within portions of the transmission corridor outside of the BESS facility and Vincent Substation footprints and generally follow the centerline of the gen-tie.

3.1.2.3 Telecommunication Facilities

The facility will be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) System to allow remote monitoring of facility operation and/or remote control of critical components. The fiber optic or other cabling required for the monitoring system typically will be installed in buried conduit within access roads or planned trenches leading to the SCADA system cabinet at the Project substation. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.

The Project's SCADA system will interconnect to an external fiber optic network or fixed wireless service at the Project substation through buried fiber optic cables or fixed wireless antennas. These facilities will be located within the Project's planned disturbance areas; therefore, no separate disturbance associated with telecommunications is anticipated. No relocation of existing telecommunication structures will occur.

Telecommunications equipment will be installed between the control building at the Project substation and the Vincent Substation to facilitate communication with SCE/CAISO facilities. Three diverse telecommunications paths will support line protection, remedial action scheme (RAS), and remote terminal unit requirements:

- Install optical ground wire on the Generation Tie-Line to provide one (1) of three (3) telecommunication paths required for the line protection scheme, the remote terminal units. A minimum of eight (8) strands within the optical ground wire shall be provided for SCE's exclusive use into Vincent Substation.
- Install appropriate single-mode fiber optic cable from the Project Site to a point near the POCO to the Vincent Substation to provide the second telecommunication path required for the line protection scheme and the RAS. A minimum of eight (8) strands within the single-mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- Install appropriate single mode fiber optic cables from the Project Site to a point designated by SCE near the Vincent Substation to provide a third telecommunication path required for the gen-tie line protection scheme. A minimum of eight (8) strands within the single mode fiber optic cable shall be provided for SCE's exclusive use. The telecommunication path shall meet the Applicable Reliability Standards criteria for diversity.
- The Applicant will own, operate and maintain all three (3) telecommunications paths (including OPGW, underground fiber-optic cables, and appurtenant facilities) up to the POCO. SCE will own, operate, and maintain the telecommunications facilities between the POCO and Vincent Substation.

In addition to the telecommunications equipment installed by the Project, the Applicant understands that SCE will install the following equipment:

- Lightwave, channel, and associated equipment (including terminal equipment), supporting protection and the remote terminal unit requirements at the Project site and Vincent Substation for the interconnection of the Project. Notwithstanding that certain telecommunication equipment, including the telecommunications terminal equipment, will be located on the Interconnection Customer's side of the POCO, SCE shall own, operate and maintain such telecommunication equipment as part of SCE's Interconnection Facilities.
- Route 1 will include approximately 1,400 linear feet of new underground conduit and fiber-optic cable between the POCO and existing lattice tower M40-T3 to the east, where the new cable will connect to existing fiber. Approximately two (2) new 4' x by 4' x 6' vaults will be installed along this route. Route 1 will be installed via open trench. Route 1 is located south of Route 2, as shown in Figure 2-1.
- Route 2 will include approximately 5,000 linear feet of new underground conduit and fiber-optic cable between the POCO and the Vincent Substation communications room. This route will include approximately 4,600 linear feet installed by trenching, approximately 400 linear feet installed by directional boring, two (2) bore pits, and approximately seven (7) new 4' x by 4' x 6' vaults, as shown in Figure 2-1.
- Route 3 will use the OPGW installed on the transmission towers and will include approximately 100 linear feet of new underground conduit and fiber-optic cable between the dead-end rack and the cable/control trench and approximately 1,100 linear feet of underground fiber-optic cable to the Vincent Substation communications room. Final route lengths and the locations and number of vaults will be determined during final engineering.

Where the underground fiber optic line leaves the BESS facility site, it will be installed via horizontal directional drilling underneath the railroad tracks. Horizontal directional drilling is a trenchless construction technique used to install underground utilities like pipelines and conduits without disturbing the surface. A crossing agreement with LACMTA will be required prior to construction, and the application will include a 90% design package. This will be provided as the Project design progresses. The Applicant submitted an application to LACMTA in summer 2026.

3.1.2.4 Interconnection Facilities within Existing SCE Vincent Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, SCE will need to install one (1) 500kV dead end structure, three (3) 500kV coupling capacitor voltage transformers, one (1) 500kV line drop, three (3) line current relays, and one (1) 500kv line position which includes the following equipment: two (2) 500kV circuit breakers, four (4) 500kV disconnect switches, one (1) grounding switch, 33 bus support insulators, and three (3) 500kV surge arresters, 3-2156 KCMIL ACSR/phase conductors, and related conduit. No additional network upgrades outside of the Vincent Substation are necessary to interconnect the Project to the grid.

3.2 Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the Project.

3.2.1 Schedule and Workforce

The Project is anticipated to be built over an approximately 20-month period from the onset of site preparation activities through energization. Following energization, testing and commissioning will take place over 6 months. Initial mobilization and site preparation is anticipated to begin no later than March 2027 and testing and commissioning is anticipated to conclude no later than April 2029. The commercial operation date (COD) is expected shortly following the completion of testing and commissioning in June 2029. It is anticipated that construction crews will work 8 hours to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the Project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws and County regulations. Estimated durations of construction activities are presented in Table 6.

Table 6. Estimated Construction Activity Duration

Construction Activity	Estimated Duration	Estimated Timeframe
Demolition	2 weeks	3/1/2027–3/12/2027
Site Preparation	1.5 months	3/1/2027–4/15/2027
Substation Site Preparation	2 weeks	4/16/2027–4/30/2027
Civil Work and Grading	4 months	5/1/2027–8/31/2027
Substation Civil Work and Grading	1 month	9/1/2027–9/30/2027
Paving	1.5 months	8/15/2027–9/30/2027
Battery Enclosure/PCS Installation	12 months	10/1/2027–10/1/2028
Project Substation Installation	8 months	2/1/2028–10/1/2028
Gen-Tie Foundations and Structure Erection	4 months	2/1/2028–5/31/2028
Gen-Tie Line Stringing and Pulling	1 month	6/1/2028–7/1/2028
SCE Interconnection Facility Upgrades within Vincent Substation	6 months	4/1/2028–10/1/2028
Testing and Commissioning	6 months	10/2/2028–4/1/2029

Note: PCS = power conversion system.

3.2.2 Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The daily number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately 50 to 250 workers, depending on the phase of construction. It is estimated that construction will require the vehicle trips and equipment listed in Table 7.

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
Demolition	10	4	6	Rubber tired dozer	1	10
				Concrete/Industrial Saws	1	10
				Tractors/Loaders/ Backhoes	2	10
Site Preparation	242	12	24	Tractors/Loaders/ Backhoes	2	10
				Excavator	2	10
				Rubber tired dozer	2	10
Substation Site Preparation	242	12	100	Tractors/Loaders/ Backhoes	1	10
				Excavator	1	10
				Rubber tired dozer	1	10
Grading	242	12	524	Graders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Rollers	2	10
Substation Grading	242	12	486	Graders	1	10
				Tractors/Loaders/ Backhoes	1	10
				Rollers	1	10
Paving	16	0	0	Pavers	2	10
				Paving Equipment	2	10
				Rollers	2	10
Battery Enclosure/ PCS Installation	121	12	20	Air Compressors	1	10
				Cranes	1	10
				Forklift	1	10
				Tractors/Loaders/ Backhoes	1	10
Substation Installation	121	12	4	Aerial Lifts	1	10
				Air Compressors	1	10

Table 7. BESS Project – Construction Equipment and Usage Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips[1]	Equipment Type	Quantity	Usage Hours
				Bore/Drill Rigs	1	10
				Forklift	1	10
				Trenchers	1	10
Gen-Tie Foundation and Tower Erection	121	12	0	Air Compressors	1	10
				Cranes	1	10
				Forklifts	1	10
				Pumps	1	10
				Welders	1	10
Gen-Tie Stringing and Pulling	121	12	0	Aerial Lift	1	10
				Tractors/Loaders/ Backhoes	1	10
SCE Interconnection Facility Upgrades	121	12	0	Air Compressors	4	10
				Cranes	2	10
				Excavators	2	10
				Rough Terrain Forklifts	2	10
				Skid Steer Loaders	2	10
				Tractors/Loaders/ Backhoes	2	10
				Trencher	1	10
Testing and Commissioning	242	12	0	NA	NA	NA
Decommissioning	242	12	20	Concrete/Industrial Saws	2	10
				Cranes	2	10
				Rubber Tired Dozers	2	10
				Tractors/Loaders/ Backhoes	2	10

Notes: PCS = power conversion system; gen-tie = generation interconnection; SCE = Southern California Edison.

1 The average daily haul truck trips for each phase consider phase durations from Table 6.

* The Project layout depicted in Figure 2, Project Site Plan, shows the "End of Life" configuration of the BESS, meaning it shows the equipment layout after all augmentation units are implemented. The numbers in this table conservatively assume that foundations and BESS equipment installation related to augmentation occurs during initial construction of the facility. Construction of foundations and BESS equipment installation for augmentation may occur during O&M periodically within the BESS facility footprint.

3.2.3 Site Preparation

Environmental clearance surveys will be performed at the Project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include

installation of erosion and sediment control measures prior to start of major earthwork activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention chambers and stormwater facilities as needed will be created for hydrologic control. The construction contractor will be required to incorporate applicable best management practices (BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2024), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed Project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation will be consistent with applicable BMPs and the Antelope Valley Air Quality Management District's Fugitive Dust Rules. Site preparation will involve the removal and proper disposal of existing debris that will unduly interfere with Project construction or the health and safety of on-site personnel. Dust-minimizing techniques will be employed, such as placement of wind control fencing, application of water, and application of dust suppressants. All applicable governmental requirements and BMPs will be incorporated into the construction activities for the Project site.

Vegetation on the site will be removed where necessary to ensure the BESS facility is free from combustible vegetation to allow for fire protection and defensible space. Where feasible, in compliance with fire protection requirements, vegetation root mass within appropriate portions of the BESS facility lease area on the outside of the perimeter and substation access roads will be left in place for soil stabilization. However, the environmental analyses in subsequent sections conservatively assume that all areas within the maximum anticipated grading limits of the BESS facility will be permanently disturbed.

3.2.4 Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the Project site. Preliminary designs conservatively assume that grading will include up to approximately 175,410 cubic yards (cy) of cut and up to approximately 625,095 cy of fill, resulting in a net of 449,685 cy of fill. Blasting is not expected but may be required if large boulders are encountered during excavation and grading. Fill material requirements will be satisfied by offsite borrow pits or quarries.

Conventional grading will be performed throughout the Project site but minimized to the maximum extent feasible to reduce unnecessary soil movement. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or paving. Once the roadways have been constructed, the Project perimeter fence and access gates will be constructed.

3.2.5 Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the Project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT

foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to 7 feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M buildings, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be slab on grade, or pile foundations embedded up to 24 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these Project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work will include trenching for the placement of underground electrical and communications lines, including the MV collection system, AC and DC cables, and fire alarm cable. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application

3.2.6 BESS and Project Substation Equipment Installation

Where possible, major equipment will be delivered directly to its permanent location and offloaded directly into place with a crane or heavy equipment. Where staging or sequencing does not allow, equipment will be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment will be the MPTs and other Project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and material for the O&M buildings.

Electrical work will include installing cables, terminations, and splices. Electrical wiring will be installed underground, at-grade, and above ground, depending on the application and location. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

3.2.7 Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 150-foot-wide transmission corridor. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

Cast-in-place concrete foundations will be installed for the Applicant-owned transmission structures by placing reinforcing steel and a structure stub or anchor bolt cage into the foundation hole, positioning the stub, and encasing it in concrete. Each transmission structure foundation will be set on anchor bolts on top of the foundation with cranes. Holes will be excavated using a truck-mounted drill rig or standalone auger rig. Poles will be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes will be backfilled with concrete or soil. Excavated spoil material not used for backfilling will be spread around the structure work areas.

Each SCE-owned lattice steel tower will be supported by four cast-in-place concrete footings. Shaft holes will be drilled using truck- or track-mounted augers sized in accordance with final engineering requirements. Forms, reinforcing steel cages, and stub angles will be installed within the shaft holes, and concrete will be placed after the stub-angle locations are verified. Excavated material will be distributed at the tower site, reused as backfill, used to rehabilitate existing access roads, or transported to an authorized off-site disposal facility in accordance with applicable requirements. Once the concrete has cured sufficiently, crews will remove the forms and clean the work area. Steel bundles will be delivered to each tower site and assembled within an approximately 250' x 250' temporary assembly area. Assembly will include leg extensions, body panels, box sections, and bridge sections. The assembled sections will generally be lifted into place by crane and secured by an erection and torquing crew. If terrain or tower height limits crane use, a helicopter may be used for tower erection. Helicopter operations would occur within designated landing zones near construction areas, which may require vegetation clearing.

3.2.8 Gen-Tie Stringing and Pulling

For a conductor pulling location, the distance needed behind the dead-end structures should be equal to or greater than a 3:1 ratio (300 feet needed for a 100-foot-tall structure), or as recommended by the conductor manufacturer, to mitigate potential damage to the conductor during installation. The width of the pulling area is consistent with the 150-foot-wide gen-tie corridor. The pulling area will need to be relatively flat since trucks, trailers and various other small vehicles will need room to maneuver for placement of materials and equipment. The area will be cleared of any brush or obstacles, to facilitate unobstructed travel. For the wire end of a pull, there will be a minimum of two (2) 53-foot-long semi-trailers side by side, loaded with three (3) conductor reels each. One (1) trailer will be feeding the conductor to a tensioner, as the other trailer will be utilized for replacement of empty reels, and then facilitate a continuation of pulling efforts. The tensioner will be approximately the size of a semi-trailer and is responsible for tensioning the conductor during installation. A heavy-duty forklift or a large size all-terrain crane will be needed to support placement/removal of reels to the wire trailers, due to size and weight. After conductor installation, a bulldozer will be used to secure the installed conductors during application of additional tensions for the sagging process. The pulling equipment utilized is comparable in size/quantity to equipment utilized to support the new conductor reels. Pulling equipment utilizes multiple reels of high-tension pulling cables, mounted to semi-trailers, to support the new conductor placement into position on the structures.

A helicopter may be used as needed to complete gen-tie stringing and pulling where the gen-tie crosses the railroad. For this portion of the stringing and pulling work it is assumed that a MD600 helicopter would be used for up to three (3) 10-hour days consisting of 1 day for mobilization, 1 day for stringing and pulling, and 1 day for demobilization. For the purposes of project analysis, it is anticipated that the helicopter would facilitate pulling of conductors and shield wires from proposed transmission structures No. 1 to No. 9 if the Northern Gen-Tie Route is selected, and transmission structures No. 3 to No. 5 if the Southern Gen-Tie Route is selected. Helicopter use would be supported by one (1) primary landing zone located within an approximately 2.4-acre construction laydown area. An alternate landing zone would be located within the gen-tie work area between the POCO and second SCE pole. Landing zones would primarily be used for staging materials, picking up and transporting electrical personnel and equipment, and refueling helicopters.

3.2.9 SCE-Owned Gen-Tie Segment and Interconnection Facilities within Vincent Substation Footprint

SCE will construct the segment of the gen-tie between the POCO and the POI within the SCE Vincent Substation, and the fiber optic routes between the POCO and the SCE control building within the Vincent Substation footprint. The Applicant will bring the fiber optic cables to underground pull boxes at the POCO structure, and SCE will install the segment of the fiber optic cables between the POCO and control building in conduit placed in underground trenches. The trenches are anticipated to be up to 4 feet wide, and the trenches for the redundant routes will need to be at least 25 feet apart to meet SCE's diverse path requirements. It is anticipated that SCE will install the trenches within the access road to the angled dead-end structure outside the Vincent Substation fence line. However, SCE may install the cables within existing roadways or other pre-disturbed areas along the perimeter of the substation fence depending on final design and routing. SCE will also construct the interconnection upgrades within the Vincent Substation footprint at the POI.

Construction of the three SCE-owned lattice steel towers, including foundation installation, tower assembly, and erection, will occur as described in Section 2.4.7.

3.2.10 Construction Water Use

Construction water is anticipated to be purchased from a local water purveyor and trucked to the site. During construction, an estimated 18 million gallons (approximately 55 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the Project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom facilities will be stored in on-site tanks and serviced by trucks. Drinking water will be provided via portable water coolers.

3.2.11 Solid and Non-hazardous Waste

The Project will produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. This waste will be segregated, where practical, for recycling. Non-recyclable waste will be placed in covered dumpsters, located in project laydown areas, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III (non-hazardous waste) landfill.

3.2.12 Hazardous Materials

The hazardous materials used for construction will be typical of most construction Projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliatives, herbicides, and welding materials/supplies. A hazardous materials business plan will be prepared prior to commencement of construction activities. The hazardous materials business plan will include a complete list of all materials used on site and information regarding how the materials will be transported and in what form they will be used. This information will be recorded to maintain safety and prevent possible

environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the site will be made readily available to on-site personnel.

3.2.13 Hazardous Waste

Small quantities of hazardous waste will most likely be generated over the course of construction. This waste may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers will be trained to properly identify and handle all hazardous materials. Hazardous waste will be either recycled or disposed of at a permitted and licensed treatment, recycling, or disposal facility in accordance with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

3.2.14 Commissioning

As part of Project construction activities, and after installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel, and in accordance with various codes, standards and specifications including IEEE, Institute of Electrical and Electronic Engineers, NEC National Electrical Code (NFPA 70), NETA International Electrical Testing Association, specific provisions of NFPA National Fire Protection Association, and the relevant OEM / manufacturers installation and commissioning manuals. Documentation necessary for commissioning will include (but is not limited to) complete sets of electrical plans, itemized equipment descriptions, control narratives, and other procedural requirements such as persons or entities to notify when equipment has become available for acceptance tests.

Commissioning will include testing of mechanical, electrical, fire protection, and other systems at substantial completion. Systems to be commissioned and tested include (but are not limited to) BESS enclosures, PCS units, auxiliar service transformers, MV collection system, DC cables, SCADA systems, power backup systems, and fire protection system. Performance testing will also be completed to ensure charge and discharge performance of the systems as designed and in accordance with the utility requirements. Full details of the commissioning activities will be made available in a commissioning plan, prepared by the BESS supplier and construction contractor and reviewed by the Engineer of Record, as part of the construction documentation package.

3.3 Operations and Maintenance

Once constructed, the Project will be available to operate seven (7) days per week, 365 days per year. The facility will be remotely monitored and operated by an Owner contracted O&M provider, by means of a NERC-CIP compliant remote operations center. Project operations will be monitored remotely through the SCADA system and by the Project's anticipated full-time operations staff members. It is estimated that there will be four (4) full-time staff members for remote monitoring and 16 full-time operations staff members on site.

On-site maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, O&M staff will visit the substation periodically for switching and other operation activities. Light duty maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one (1) major maintenance inspection will take place annually. Even when considering routine maintenance and augmentation activities, the project expects to provide no less than a 96% annual availability factor to the grid.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the Project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the Project site will occur to maintain the capacity over an approximate 40-year life. As batteries slowly lose their capacity to store energy, extra batteries will be installed at the beginning of the Project and at several intervals through the Project life, which is referred to as augmentation. Augmentation is expected to occur in order to maintain an annual lifetime capacity of approximately 9,200MWh. If the project were to discharge for eight (8) hours daily and have an annual availability of 96% then the Project would have an annual capacity factor of approximately 32%. The Project's final augmentation strategy will be determined by market-based contracting requirements, actual degradation, and the power density of then-available battery systems. Augmentation may include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work all within the existing Project footprint. The preliminary site layout depicted on Figure 2, Project Site Plan, shows an "end of life" configuration, meaning it shows the equipment layout after all augmentation units are implemented. The construction sequencing and equipment usage assumptions in Tables 6 and 7 above, and environmental analyses in subsequent chapters, conservatively assume that all initial BESS equipment and augmentation BESS equipment are constructed at the same time.

3.3.1 Solid and Non-hazardous Waste

The Project will produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning electrical materials, empty containers, and other miscellaneous solid waste, including typical refuse generated by workers. Most of these materials will be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste will be placed in covered dumpsters, located near the O&M buildings, and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

3.3.2 Hazardous Materials

Limited amounts of hazardous materials will be stored or used on the site during operations, including diesel fuel, gasoline, and motor oil for vehicles; refrigerant within the BESS enclosures; mineral oil to be sealed within the transformers; and lead-acid-based batteries for emergency backup. Appropriate spill containment and cleanup kits will be maintained during operation of the Project. A spill prevention control and countermeasures plan will be developed for site operations.

3.3.3 Hazardous Waste

Fuels and lubricants used in operations will be subject to the spill prevention control and countermeasures plan to be prepared for the proposed Project. Solid waste, if generated during operations, will be subject to the material disposal and solid waste management plan to be prepared for the proposed Project.

3.4 Decommissioning

In general, the BESS will be recycled at the expiration of the Project's life (estimated to be 40 years). Most parts of the proposed system are recyclable. Batteries include lithium, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and

parts that do not have free-flowing oil may be sent for salvage. Materials 3 feet or more below the ground surface will be left in place.

Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller container lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be kept in a locked utility structure with integral secondary containment that meets Certified Unified Program Agencies and Resource Conservation and Recovery Act requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Additional procedures will be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies. Transportation of the removed hazardous materials will comply with regulations for transporting hazardous materials, including those set by the Department of Transportation, the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

4 Project Location/Environmental Setting

The Prairie Song Reliability Project is in unincorporated Los Angeles County (County), California, south of State Route 14 (SR 14) approximately three miles northeast of the unincorporated community of Acton. The Project is within the USGS 7.5-minute Acton and Pacifico Mountain Quadrangles, Township 5N, Range 12W, Sections 27, 28, 33 and 34 (Figure 1, Project Location). The BESS site is comprised of Assessor Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. Development of the BESS facility will occur on an area of land situated between two existing transportation corridors, the Antelope Valley Freeway (SR 14) to the north and Southern Pacific Railroad lines and Carson Mesa Road to the south, which are approximately 1,200 feet apart.

The Study Area is in the western San Gabriel Mountains, in the Transverse Ranges Geomorphic Province (CGS 2002). The Transverse Ranges are an east-west trending series of steep mountains and valleys (CGS 2002). The Study Area is located at the conjunction of Soledad Canyon and Kentucky Springs Canyon (USGS 2025a), and at the boundary of the Western Transverse Ranges ecological subregion and Mojave Desert ecological region (Jepson Flora Project 2025). Elevations in the Study Area range from approximately 2,700 feet above mean sea level along the southwestern side to 3,500 feet above mean sea level along the northern hillsides (Google Earth 2025).

The Study Area has an arid climate with the site being located on the northern side of the San Gabriel Mountains and bordering the Antelope Valley. August is the average warmest month with an average high of 93 degrees Fahrenheit (˚F) and December is the coolest month on average with a low of 36 ˚F. Rainfall occurs primarily between November and April, with the maximum average precipitation occurring in February. The mean annual rainfall for the area is approximately nine (9) inches of rain per year (LACPW 2025).

According to the U.S. Department of Agriculture's (USDA) Websoil Survey (USDA 2025), there are seven soil map units that occur within the Study Area, as shown in Figure 3, Soils: Greenfield sandy loam, 2 to 9 percent slopes (GsC); Hanford coarse sandy loam, 0 to 2 percent slopes (HbA); Hanford coarse sandy loam, 2 to 9 percent slopes (HbC); Hanford coarse sandy loam, 9 to 15 percent slopes (HbD); Hanford sandy loam, 2 to 9 percent slopes (HcC);

Terrace escarpments (TsF); and Vista coarse sandy loam, 30 to 50 percent slopes (VsF). Of the seven soil map units, only one is ranked as partially hydric: Hanford coarse sandy loam, 0 to 2 percent slopes.

The National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) were reviewed to identify wetland or hydrologic features in the Study Area (USFWS 2025a, USGS 2025b). Figure 4, Hydrologic Features, depicts the mapped wetland and hydrologic features in the Study Area. Approximately 3.8 acres of potential jurisdictional waters were delineated within the Study Area. Features included non-wetland waters, swales, and erosional features (Figure 5, Aquatic Resources)

Thirteen vegetation communities and two land cover types were mapped within the Study Area. The vegetation communities and land cover locations are illustrated in Figure 6, Vegetation Communities and Land Cover.

5 Analysis of the Potential for Take

The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). Under Section 2081 of the California Fish and Game Code, CDFW may authorize acts that are otherwise prohibited if the take is incidental to otherwise lawful activities. The Project could potentially result in take of one species listed under the California Endangered Species Act and potentially occurring in the Project vicinity: Crotch's bumble bee. Incidental take could occur if work occurs in areas of the Project site where Crotch's bumble bee occupy habitat during construction. The nature of potential take is discussed below. The Project would also result in permanent, temporary, and indirect impacts to habitat for this species (Table 8; Figure 7). For the purposes of this ITP application package, permanent impacts are defined as those that involve permanent land conversion resulting in the loss of existing biological resources (e.g., vegetation community, species habitat, jurisdictional aquatic resource). Temporary impacts are those that involve disturbance of areas that currently support biological resources but which would be actively restored to a natural vegetation community after construction is completed.

Short-term indirect impacts can include dust, human activity, erosion, release of pollutants, and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations-related or that persist after construction is complete. Compensatory mitigation is being proposed for permanent, temporary, and indirect impacts, as described in Section 8.2, in addition to revegetation/restoration of all temporarily impacted areas when Project construction is complete.

Proposed measures to avoid and reduce the potential for take of Crotch's bumble bee, are listed under Section 8, Proposed Minimization and Mitigation Measures.

5.1 Crotch's Bumble Bee

Protocol surveys for Crotch's bumble bee conducted in 2024 and 2025 were negative for the species and there are no documented occurrences of Crotch's bumble bee within the Study Area or within five miles of the Project (CDFW 2025). During the initial survey each year, it was noted that there were very limited foraging opportunities within the Study Area. However, bumble bees are opportunistic and highly mobile. The species typically nests underground, so nesting individuals could be highly vulnerable to injury and mortality during construction, which could crush nests and individuals, if present on site. Suitable foraging (nectar source) habitat for Crotch's bumble bee was identified

as the native and naturalized vegetation communities and the potential nesting habitat was identified as those communities plus disturbed habitat.

As illustrated in Figure 7 and summarized in Table 8, the proposed Project will result in approximately 107.33 acres (approximately 34.32 acres temporary and approximately 73.01 acres permanent if the Northern Gen-Tie Route is selected) of direct impacts to vegetation communities and land covers through the removal of vegetation and grading of land to construct the proposed Project. The proposed Project will result in approximately 114.39 acres (approximately 40.05 acres temporary and approximately 74.34 acres permanent if the Southern Gen-Tie Route is selected) of direct impacts to vegetation communities and land covers through the removal of vegetation and grading of land to construct the proposed Project. Permanent impacts will occur due to the construction and operation of the BESS portion of the Project and access roads and transmission pole pads associated with the gen-tie line. Temporary impacts will occur due to the construction of the two underground fiber optic lines within the Southern Gen-Tie Route corridor, within areas proposed for construction laydown areas for the gen-tie work, within pull areas from stringing the gen-tie, and within other gen-tie work areas that are outside of the transmission pole pads and access roads.

The Project could result in incidental take of individual Crotch's bumble bee from activities related to Project construction. Project construction could result in the destruction of potential nesting sites, soil compaction that reduces access to pollinator nesting habitat, and the possible increase in invasive plant species that displace native flowering food resources. Crotch's bumble bee occurrences near ground-disturbing activities could be adversely affected by temporary construction-related effects such as dust, noise, and vibration that could result in disturbance to habitat or additional harm to Crotch's bumble bee. Much of the potential for take of Crotch's bumble bee will be reduced through measures including pre-construction surveys for Crotch's bumble bee (See Section 8.1, Take Minimization Measures).

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
Native Communities								
Cheesebush – sweetbush scrub	*Ambrosia salsola – Larrea tridentata*	No	G4/S4	–	–	–	–	0.05
	Ambrosia salsola Association	No	G4/S4	–	–	–	0.54	1.57
Fiddleneck – phacelia fields	*Amsinckia menziesii – Erodium* spp.	No	G5/S5	2.08	–	–	–	–
California sagebrush – (purple sage) scrub	*Artemisia californica – Eriogonum fasciculatum*	No	G4/S4	–	0.08	0.08	1.85	1.85
Big sagebrush	*Artemisia tridentata – Ericameria nauseosa*	No	G5/S5	0.42	–	0.46	1.15	2.21
	Artemisia tridentata – Eriogonum fasciculatum	No	G5/S5	2.60	–	–	–	–
	Artemisia tridentata ssp. *parishii*	Yes	G2/S2	–	–		0.06	0.20
Fourwing saltbush scrub	*Atriplex canescens*	No	G5/S4	0.67	1.58	1.58	18.98	21.01
Mormon tea scrub	*Ephedra viridis*	No	G4/S4	17.84	–	–	–	–
Rubber rabbitbrush scrub	*Ericameria nauseosa – Juniperus californica*/herb	No	G5/S5	10.98	–	–	0.43	1.23
	Ericameria nauseosa	No	G5/S5	–	–	–	0.87	0.87
California buckwheat scrub	*Eriogonum fasciculatum*	No	G5/S5	4.75	–	–	0.16	–

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
	Eriogonum fasciculatum var. *foliolosum* – *Juniperus californica*	Yes	G3/S3	4.32	–	–	–	–
California buckwheat – Parish's goldeneye scrub	*Eriogonum fasciculatum* rock outcrop	Yes	Unranked	–	–	–	–	–
California walnut groves	*Juglans californica / annual herbaceous*	Yes	G3/S3	–	–	–	–	–
California juniper woodland	*Juniperus californica / Adenostoma fasciculatum – Eriogonum fasciculatum*	Yes	Unranked	10.68	–	0.53	0.26	0.35
	Juniperus californica / herbaceous	Yes	Unranked	7.16	0.59	0.20	1.71	2.03
	Juniperus californica / Eriogonum fasciculatum – Artemisia californica	No	G5/S5	–	–	–	–	–
			Subtotal:	*61.49*	*2.25*	*2.85*	*26.00*	*31.38*
Naturalized (Non-Native)								
Avena spp. – *Bromus* spp.	*Avena barbata – Bromus hordeaceus*	No	GNA/SNA	–	–	–	–	–

Table 8. Potential Impacts to Vegetation Communities and Land Covers in the Study Area

Alliance	Association	CDFW Sensitive	Ranking	Potential Permanent Impacts - BESS (Gross Acreages)	Potential Permanent Impacts – Northern Gen-Tie (Gross Acreage)	Potential Permanent Impacts – Southern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Northern Gen-Tie (Gross Acreage)	Potential Temporary Impacts – Southern Gen-Tie (Gross Acreage)
Bromus rubens – *Schismus* (*arabicus*, *barbatus*)	*Bromus rubens* – mixed herbs	No	GNA/SNA	–	–	–	1.39	1.39
			Subtotal:	–	–		*1.39*	*1.39*
Land Cover Types								
Disturbed habitat	Not applicable	No	NA/NA	6.00	–	0.36	3.61	3.35
Urban/Developed	Not applicable	No	NA/NA	3.25	0.02	0.39	3.32	3.94
			Subtotal:	*9.26*	*0.02*	*0.75*	*6.93*	*7.29*
			Total:	**70.74**	**2.27**	**3.60[5]**	**34.32[5]**	**40.05[5]**

Notes:
There are no temporary impacts associated with the BESS.
Permanent impacts for the gen-tie are for access roads and tower pads.
Temporary impacts will occur due to the construction of the two (2) underground fiber optic lines within the Southern Gen-Tie Route corridor, within areas proposed for construction laydown areas for the gen-tie work, within pull areas from stringing the gen-tie, and within other gen-tie work areas that are outside of the transmission pole pads and access roads.

6 Analysis of the Impacts of the Proposed Taking

This section discusses the impacts of the proposed take on Crotch's bumble bee resulting from the Project activities. Measures to avoid and minimize take are listed under Section 8.

6.1 Crotch's Bumble Bee

The Project would result in the permanent and temporary loss of suitable Crotch's bumble bee habitat as quantified in Section 5.1. and would potentially result in the take of an unknown number of Crotch's bumble bee individuals, including potential direct take from injury and mortality due to Project activities. The Project will avoid directly impacting approximately 58.97 acres (Southern Gen-Tie Route option) or 66.04 acres (Northern Gen-Tie Route option) of suitable habitat for Crotch's bumble bee in the Project Study Area (PSA), as shown on Figure 7.

Compensatory mitigation for impacts to Crotch's bumble bee habitat will involve on-site habitat preservation. If necessary, compensatory mitigation may also be provided through off-site habitat acquisition and preservation. Compensatory habitat mitigation is proposed at a 1:1 ratio (acres of lands preserved: acres of habitat impacted). Additional details regarding proposed compensatory mitigation for Project impacts on Crotch's bumble bee are provided in Section 8.2, Habitat Mitigation Measures.

Upon Project completion, construction areas, staging areas, and any temporary access subject to temporary disturbance will be restored. Measures that will result in avoidance and minimization of take of individual Crotch's bumble bee would include authorization of approved biologists and Crotch's bumble bee pre-activity surveys of habitat. See Section 8.1, Take Minimization Measures, for more detail.

7 Analysis of Whether Issuance of the Incidental Take Authorization Would Jeopardize the Species

In determining whether or not the issuance of ITP authorization would jeopardize the continued existence of Crotch's bumble bee pursuant to Title 14, Section 783.2(a)(7) of the California Code of Regulations, this section includes consideration of each species' (a) capability to survive and reproduce, and (b) any adverse impacts of the incidental taking on those abilities in light of (1) known population trends, (2) known threats to the species, and (3) reasonably foreseeable impacts on the species from other related projects and activities. This analysis describes how the proposed minimization and mitigation measures (Section 8) will ensure that those impacts will not jeopardize the continued existence of the covered species.

7.1 Crotch's Bumble Bee

The Project would result in the permanent removal of a small amount of suitable foraging and nesting habitat for Crotch's bumble bee, as well as potential take of individual Crotch's bumble bee. The Project is anticipated to permanently impact up to approximately 64.33 acres (Southern Gen-Tie Route option) or up to approximately 63.73 acres (Northern Gen-Tie Route option) of habitat for Crotch's bumble bee in the PSA. The temporary loss of habitat could result in disruption of foraging and nesting behaviors, potentially resulting in stress of Crotch's bumble bee and temporary displacement. Additionally, Project indirect effects include potential spread of invasive plants and human presence during construction. Implementation of minimization and avoidance measures described in

Section 8 would limit these effects. The loss of 64.33 acres or 63.73 acres of nesting/foraging habitat constitutes a relatively small loss of habitat compared to the amount of suitable habitat within the PSA and available habitat for the species within its range. Habitat mitigation, as described in Section 8, would offset the loss of suitable habitat.

Population Trends

Crotch's bumble bee occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California (Hatfield et al. 2015). This species was historically common in the Central Valley of California but now appears to be absent from most of it, especially in the center of its historic range, which is likely due to extensive agricultural intensification (Hatfield et al. 2015, The Xerces Society for Invertebrate Conservation et al. 2018). The current range size (based upon records of the species from 2002-2012) of Crotch's bumble bee has been assessed as being 74.67% of its historic range size (based upon records of the species from 1805-2001) (Hatfield et al. 2015). The species has seen an average decline of abundance of 67.51% in its range (Hatfield et al. 2015).

CDFW's California Natural Diversity Database records of the species include 146 records within Los Angeles County (CDFW 2026). Forty-five of these are from 1911 to 2018, which corresponds to when the petition to list the species was submitted to the California Fish and Game Commission (CDFW 2026). The remaining 101 records were made after the petition was submitted and the candidacy was granted, when it is assumed that biologists had a focus on the species (CDFW 2026). CDFW has included all of Los Angeles County within the range of the species including the approximately 700,00 acres of mostly undeveloped lands of the Angeles National Forest (CDFW 2023a). As such, the loss of 64.33 acres or 63.73 acres of potentially suitable nesting and foraging habitat is not expected to have a substantial effect on the available suitable habitat in Los Angeles County and the loss is not expected to decrease the Crotch's bumble bee population in the county or within its total range.

Survival and Reproduction

In southern California Crotch's bumble bee faces threats from habitat alterations that can interfere with primary habitat requirements, including access to: sufficient food (nectar and pollen from flowers), nesting sites (such as underground abandoned rodent cavities or above ground in clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil and leaf litter) (The Xerces Society for Invertebrate Conservation et al. 2018). The Central Valley's conversion to agriculture has also led to high uses of glyphosate, the most commonly used herbicide in California, which reduces the availability of wildflowers in field margins, lowered the diversity of flowering weeds, and led to an increase in herbicide application (The Xerces Society for Invertebrate Conservation et al. 2018).

Project activities will remove up to 64.33 acres or 63.73 acres of potential habitat that support seasonally staggered floral resources used by Crotch's bumble bee for nectar and pollen. If clearing occurs during March or April, it would overlap the queen nest-founding period. Direct effects could include potential mortality of undetected subterranean nests during grading, if present, and the immediate loss of early-season floral resources needed for ovarian activation and brood initiation. Indirect effects include increased foraging travel distances and reduced worker survival due to diminished floral density in mid-season, leading to lower colony growth and reduced production of gynes (new queens) and males. However, in the context of the regional availability of nesting opportunities and floral resources in the surrounding natural open space areas, including Angeles National Forest lands, the loss of

the nests and foraging opportunity is not expected to jeopardize the existence of Crotch's bumble bee populations or decrease the fecundity of nests in offsite areas.

Known Threats

Each of the following factors pose a substantial threat to the survival of Crotch's bumble bee: present or threatened modification or destruction of its habitat; herbicide; competition; disease; and other natural events and human-related activities, including pesticide use, genetic factors, and climate change (The Xerces Society for Invertebrate Conservation et al. 2018). Habitat loss caused by development, agriculture, livestock grazing, and fire or fire suppression reduces the availability of nesting sites and floral resources used by the species. Herbicide use can remove or degrade floral resources. Competition with managed honey bees can result in the removal of foraging opportunities and managed honey bees can pass on pathogens to bumble bees that result in mortalities in bumble bees (The Xerces Society for Invertebrate Conservation et al. 2018). Any application of pesticides can threaten bumble bees, but pesticide drift from aerial spraying can be particularly harmful (The Xerces Society for Invertebrate Conservation et al. 2018).

The Project may use herbicides and pesticides but the judicious use would be guided by an Integrated Pest Management approach (Cal-IPC et al. 2012). The Project would not include the use honey bees and aerial pesticide applications. The Project would remove up to 64.33 acres or 63.73 acres of potential nesting and foraging habitat. However, in the context of the regional availability of nesting opportunities and floral resources in the surrounding natural open space areas, including Angeles National Forest lands, the loss of the nests and foraging opportunity is not expected to jeopardize the existence of Crotch's bumble bee populations or decrease the fecundity of nests in offsite areas.

Cumulative Impacts

On a regional level, renewable energy development in the Antelope Valley constitutes the potential effect on habitat for Crotch's bumble bee. Residential development in the region, including the potential buildout of the Ritter Ranch Specific Plan and the Quail Valley Planned Development, could remove additional potential habitat. The Palmdale to Burbank segment of the High Speed Rail would also be in the vicinity of the Project. Each of these projects would be required to avoid or minimize their potential effects. The Project through mitigation measures and avoidance strategies would similarly mitigate for its potential contribution to regional cumulative impacts. While the Project will remove potential suitable unoccupied habitat for the species, it will not have long-term direct and indirect impacts that would have the potential to be cumulatively considerable.

Potential cumulative impacts to Crotch's bumble bee from construction and/or operation of the proposed Project are not expected. The Project will have a less than significant effect on Crotch's bumble bee in the immediate vicinity of the project site. Projects that could result in a cumulative impact would also be required to comply with applicable federal, state, and local LORS. The proposed Project is unlikely, therefore, to result in cumulative impacts to Crotch's bumble bee in combination with other closely related past, present, and reasonably foreseeable future projects.

Conclusions

The Project would impact 64.33 acres or 63.73 acres of potential nesting habitat for Crotch's bumble bee in areas where burrows occur. While most of the 64.33 acres or 63.73 acres have some potential for foraging opportunities

for the species, the vegetations communities impacted are primarily Mormon tea scrub, California juniper woodland, and rubber rabbitbrush scrub. These communities are dominated by shrubs that are not included in the plant families that Crotch's bumble bee is expected to forage on, so foraging potential in those areas are expected to be relegated to the herbaceous understory. The mean annual rainfall for the area is approximately nine (9) inches of rain per year (LACPW 2025), so it is expected that the blooming season is limited to the spring. As such the Project site is expected to provide limited foraging opportunities and extensive natural open space areas are found in the Project vicinity that could provide higher quality foraging habitat.

If present during construction, foraging Crotch's bumble bee would be at increased risk of injury or mortality from construction traffic. These impacts (i.e., increased risk of injury or mortality, disruption of normal behavior) would reduce survival and reproduction of any Crotch's bumble bee breeding during that time but is not expected to jeopardize their continued existence. Direct effects to Crotch's bumble bee due to construction activities would be avoided/minimized through measures described in Section 8. However, as previously mentioned, a small but indeterminable number of Crotch's bumble bee may be directly impacted due to ground disturbance.

In summary, the Project would not jeopardize the ability of Crotch's bumble bee to survive and reproduce within its range for three primary reasons: (1) take minimization measures would be implemented during construction to avoid or minimize injury and mortality of individual Crotch's bumble bee; (2) the permanent loss of the 64.33 acres or 63.73 acres of potential nesting/foraging habitat constitutes a relatively small loss of habitat compared to the approximately 390.11 acres of nesting/foraging habitat within the PSA; and (3) habitat mitigation, including permanent preservation of habitat, as described in Section 8.2, would compensate for the loss of habitat.

8 Proposed Minimization and Mitigation Measures

8.1 Take Minimization Measures

Prairie Song Reliability Project proposes implementing the following measures to minimize incidental take of state-listed species:

1. **Approved Biologists.** At least 30 days prior to start of ground disturbance, the names and credentials of personnel seeking to act as approved biologists shall be submitted to CFDW for review. Biologists shall have appropriate training and experience with the species for which they are seeking approval. All biologists shall be approved in writing by CDFW prior to conducting proposed Project activities.
2. **Education Program.** An approved biologist shall conduct environmental awareness training for all individuals working on the Project before work begins. An approved biologist is defined as someone with training, knowledge, and experience with the species discussed in this document. The education program shall cover life history, habitat requirements, and conservation measures for the Covered Species. The training shall also include information on federal and state regulatory protections, restrictions, and guidelines that must be followed by crews to avoid and minimize impacts to threatened and endangered species and their habitat. The training shall include the definition of "take," potential penalties for violating environmental regulations, the benefits of compliance, and required reporting for sightings of potential listed species. Upon completion of training, crews shall sign a form stating that they attended the training and understand all conservation measures. If new personnel are added to the Project, the new personnel shall receive the training prior to starting work.

3. **Approved Biologist Authority.** An approved biologist shall be available to inspect all Project activities to ensure compliance with avoidance and minimization measures of the proposed Project.
   a. Prior to mobilizing, the biologist shall inspect the site for the presence of Covered Species.
   b. A biologist shall be available on-call whenever work is being done and shall have the authority to stop work if a state-listed species is encountered within the active work area.
   c. The approved biologist shall have the authority to stop work if activities might result in take of state-listed species.
4. **Establish Environmentally Sensitive Areas and Non-Disturbance Zones.** Prior to any ground-disturbing activity in a work area, the Project biologist shall use flagging to mark environmentally sensitive areas that support special-status species or aquatic resources and are subject to seasonal restrictions or other avoidance and minimization measures. The Project biologist shall also direct the installation of wildlife exclusion fencing to prevent special-status wildlife species from entering work areas.
5. **Work Stoppage.** If a potential state-listed species is encountered, all activities that have the potential to result in take shall immediately cease. The approved biologist shall be notified and shall inspect the site to positively identify the species. Work shall resume once the biologist has determined the species is not a listed species or once the species has left the area on its own.
6. **Prevent Invasive Species Spread.** The Project site (including roads) shall be maintained in a manner that avoids the spread of invasive species, incorporating a weed control plan. To prevent the transport of non-native invasive species onto the Project site, before bringing any equipment onto the site, equipment must be cleaned of mud, dirt, and plant material.
7. **Biological Surveys.**
   a. Crotch's Bumble Bee
      - A pre-construction survey shall be conducted for Crotch's bumble bee including (1) a habitat assessment, and (2) focused surveys. The habitat assessment shall include historical and current species occurrences; document potential habitat on site including foraging, nesting, and/or overwintering resources; quantify which plant species are in bloom and their percent cover; and other items described in Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023b).
      - The pre-construction survey shall be performed by a qualified biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. The timing of these surveys shall coincide with the colony active period (April through August for Crotch's bumble bee). Surveys shall occur at least 1 hour after sunrise and 2 hours before sunset. Surveys shall not be conducted during wet conditions (e.g., foggy, raining, or drizzling), and surveyors shall wait at least 1 hour following rain. Optimal surveys are conducted when there are sunny to partly sunny skies and the temperature is greater than 60° F. Surveys may be conducted earlier than 1 hour after sunrise if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the qualified biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the qualified biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive at and exit an active nest site with frequency, such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Qualified biologists shall be able to view several burrows at one time to sufficiently determine if bees are entering/exiting them

depending on their proximity to one another. It is up to the discretion of the qualified biologist to determine the actual survey viewshed limits from the chosen vantage point that would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

- A written survey report shall be submitted to CDFW within 30 days of the pre-construction survey. The report shall include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any Crotch's bumble bee nest sites or individuals observed. If Crotch's bumble bee nests are observed, the survey report shall also include the qualifications/resumes of the surveyor and qualified biologists for identification of photo vouchers, detailed habitat assessment, and recommendations for avoidance; the location information shall be submitted to the CNDDB at the time of, or prior to, submittal of the survey report.

8. **Fire Prevention.** A fire prevention and suppression plan shall be prepared prior to the start of Project activities.
9. **Speed Limits.** Project-related vehicles shall observe a daytime speed limit of 20 mph and a nighttime speed limit of 10 mph, except on Los Angeles County roads and state and federal highways. Emergency vehicles are exempt from these restrictions. Any road mortality/injury observed by workers of any animal that may be a state-listed species shall be reported to an approved biologist, who shall inspect the remains and notify CDFW within 24 hours if the animal is determined to be a state-listed species.
10. **Off-Road Traffic Prohibition.** Off-road traffic outside of designated Project areas shall be prohibited.
11. **Pesticide Use.** Pesticide use on or near suitable Crotch's bumble bee habitat shall also be restricted, particularly while treated plants are in flower.
12. **Rodenticide:** No rodenticide shall be used on site, to prevent impacts to Crotch's bumble bee.
13. **No Pets in Construction Areas.** To avoid harm and harassment of native species, workers and visitors shall not bring pets onto the Project site.
14. **Trash Abatement.** All food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in a closed container and removed daily from the Project site, and construction personnel shall not feed or otherwise attract wildlife to the area where construction activities are taking place.
15. **Spill Prevention.** A spill prevention control and countermeasure plan shall be prepared prior to Project implementation. All machinery shall be properly maintained and cleaned to prevent spills and leaks. Any spills or leaks from equipment shall be reported and cleaned up in accordance with applicable local, state, and/or federal regulations.
16. **Exclusion Fencing.** Orange construction fencing or the equivalent shall be installed to ensure that ground disturbance does not extend beyond the allowed construction footprint (i.e., the limit of Project construction plus equipment staging areas and access roads). The Project shall mark the outer boundary of any habitat setback adjacent to or within the Project site with orange construction fencing prior to ground disturbance. The exclusion fencing shall be maintained until all construction activities are completed.
17. **Lighting.** To minimize disturbance to wildlife, temporary and permanent exterior lighting shall be installed such that:
    a. lamps and reflectors have limited visibility beyond the Project site.
    b. reflective glare shall be minimized to the extent feasible.
    c. illumination of the Project and its immediate vicinity is minimized.

d. lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated.
e. all lighting shall be of minimum necessary brightness consistent with operational safety and security.

8.2 Habitat Mitigation Measures

To fully mitigate Project-related impacts on state-listed species and their habitat, Prairie Song Reliability Project LLC proposes to provide for the permanent protection and perpetual management of compensatory habitat and to revegetate/restore temporarily disturbed on-site habitat due to project activities and any historically disturbed areas in the preserved areas through the following measures.

A Conservation Management Plan (CMP) will be prepared to meet the mitigation requirement for the proposed Project. The CMP will include a description of management tasks for the up to 135 acres of land that will be designated as the on-site Open Space Preserve and protected under a conservation easement. Specific management actions within the on-site Open Space Preserve that will be prescribed in the CMP are expected to include the following.

- Non-Native Plant Assessments and Control. The resource manager will identify, assess, and control non-native plant species infestations if they should occur in accordance with an Integrated Pest Management approach (Cal-IPC et al. 2012).

  The resource manager will coordinate assessments of non-native plant species during planned site visits. If invasive plant species considered a high priority for management (Cal-IPC 2026; Cal-IPC et al. 2012) are observed, the resource manager will coordinate appropriate control measures as necessary.

  Due to many non-native plant species having become naturalized (e.g., annual grasses) or widely established in the landscape (e.g., mustards and clover), complete control of these species is not always feasible (Cal-IPC et al. 2012). However, new infestations of naturalized annual grasses or widely established mustards categorized as moderate or high priority in the Cal-IPIC Inventory, will also be managed.

  Interim and final performance standards will be described in detail in the CMP, but general guidance on proposed final performance standards are included herein. As referenced above, if non-native plant species have become naturalized within the landscape, they will not be included as part of the vegetation coverage estimations when compared to the performance standards. In temporarily impacted areas, exotic species control should result in a less than or equal to 10% relative cover of non-native plant species and less than 1% invasive species (CAL-IPC rating of moderate or high) cover at the end of year seven. For disturbed preservation lands habitat, areas designated to receive treatment should result in less than or equal to 15% relative cover of non-native plant species and less than 1% invasive species (CAL-IPC rating of moderate or high) cover prior to supplemental seeding of native species.

  Weed control measures will be implemented, as necessary, to control existing non-native invasive plant species and prevent spread of new invasive plant species in the on-site Open Space Preserve. The selection of the appropriate removal methodology should be determined with consideration of many variables, including the time of year, severity of infestation, the presence of sensitive plants and wildlife,

phenology, the degree of intermixing of invasive plant species with sensitive native habitats, access, and proximity to surface water. General recommendations for weed control are provided in the following subsections:

- Manual vegetation removal (e.g., hand-pulling, grubbing, and hoeing) is a low-impact method of controlling invasive non-native plant species within a focused area. Due to the perennial nature of many of the target invasive plant species, their large size, and/or the difficulty of control, manual vegetation control is primarily applicable to the smaller annual species. Appropriate applications for manual removal are small occurrences of annual weeds and seedlings of perennial species when complete removal of the root system is possible. More mature perennial plants will have limited application of manual removal based on their size and root mass. Manual removal should be incorporated where herbicide application alone is inadequate, or where proximity of sensitive plant species prevents safe application (e.g., overspray or drifting of herbicides could affect nearby sensitive plants). All invasive non-native plant material that is feasibly removable (portions of trees may be too large to remove without significant effort or impact) should be removed and disposed of in a manner that does not promote spread or infestation of the species into new areas.

- Mechanical removal may be necessary for control of some larger target invasive non-native plant species, and is recommended to be combined with herbicide application. Cutting and removal of the aboveground plant material can be conducted with chainsaws and/or hand saws. The resulting material should be chipped and hauled off site. Subsequent application of herbicides should follow product guidelines for safe transport, storage, and application. Stumps remaining on site after cutting and herbicide application are not recommended for removal or grinding, but should be left to decompose in place.

- The application of herbicides to control target invasive non-native plant species may be used on its own or as a secondary treatment following manual or mechanical removal for controlling sprout growth and regeneration. Herbicide application is recommended following removal of all target invasive tree species and other perennial species with the ability to regenerate from root fragments when removal of all plant material is not feasible. To eliminate the possibility of drift and impacts to neighboring desirable plant species, herbicide use should be limited to localized applications rather than foliar applications. A wide range of herbicides are available for such types of treatment. Herbicides should be applied in accordance with herbicide labels and all state and federal laws.

- Cut and daub treatment is recommended for larger invasive plants to control regrowth and kill the portion of the plant remaining belowground. Cut and daub involves the cutting of invasive plant stalks or trunks and then the direct application of an appropriate herbicide directly to the freshly cut stump. Other related methods include drill and fill, where holes are drilled into the trunk of a tree and herbicide is injected. It is critical that the herbicide treatment occur immediately after the plants are severed so that the herbicide is carried into the plant tissue. If enough time elapses to allow the cut surface of the severed plant to dry out, a fresh cut should be made prior to herbicide application.

    - Regular assessments of exotic plant species and implementation of appropriate treatment actions will benefit the species by reducing the potential of degradation or loss of suitable habitat. Additionally, these actions will enhance degraded patches of native vegetation communities over time and open new areas for native species recruitment, that will ultimately provide additional suitable habitat for Crotch's bumble bee.

- **Supplemental Native Seeding**: Bare areas within the Open Space Preserve will be assessed and potentially receive supplemental native seed. These bare areas may already exist within the Open Space Preserve or may result from effective implementation of exotic species control. Due to the difficulty of predicting the locations and extent of these areas, this activity is included as an adaptive management action. While the specific species included in the supplemental seed mix will be based on the habitat and growing conditions present, inclusion of species suitable for use by Crotch's bumble bee will be prioritized. The species considered for inclusion that are suitable for Crotch's bumble bee include those from the Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae, and Solanaceae families.

- **Off-Highway Vehicle (OHV) Control.** Signs will be posted along the perimeter of the Open Space Preserve; and at existing dirt roads within the Open Space Preserve to prevent OHV use. The signs must be corrosion resistant, at least 12 inches by 18 inches in size, placed on posts not less than 3 feet in height from the ground surface and state "Sensitive Environmental Resources Protected by Easement". Signage placement will be consistent with California Penal Code Part 1, Title 14, Section 602.8 regarding the placement of "No Trespassing" signs to be posted "at intervals not less than three to the mile along all exterior boundaries and at all roads and trails entering the lands."

  Barriers may be constructed at select areas along the preserve boundary and within the Open Space Preserve to prevent access to the Open Space Preserve. These barriers may consist of large boulders, K-Rail, fencing, or similar material that will prevent OHV use, but will allow natural water flow to occur where installed at drainages. Where barriers occur at drainages, their placement shall be such that no additional permitting is required from resource agencies. The resource manager will report unauthorized OHV use to the local sheriff and will identify additional measures that may be necessary should OHV use become a problem. Potential measures to keep OHVs out of the Open Space Preserve include additional signs, dispersal of educational materials to nearby residents, and additional strategic installation of barriers at OHV access points.

    - This action will benefit the species by reducing the potential for unauthorized access to the Open Space Preserve that could result in degradation and impacts to suitable habitat and associated vegetation communities in the form of unauthorized trials, encampments, and illegal dumping.

- **Other Tasks.** Other tasks include annual reporting that will summarize the overall condition of vegetation communities and sensitive species in the Open Space Preserve, outline proposed management tasks for the following year, and provide results of management activities proposed in the previous report. Submitted annually by the end of January, this letter report will compare the most

recent data with those collected in previous years, evaluate sensitive species status and local wildlife corridor use, and outline appropriate remedial measures.

The resource manager will also conduct general trash removal within the Open Space Preserve during regular management site visits. Upon initiation of the Open Space Preserve, existing trash will be removed to provide for a clean baseline. Following the initial trash removal effort, trash removal will be a regularly scheduled occurrence during quarterly site inspections (small items) and annually (larger items). Additionally, damage caused by vandalism will be repaired.

- These actions will benefit the species by providing a record of management actions conducted within the Open Space Preserve through perpetuity. This will provide both a summary for all parties involved as well as a reference for future Resource Managers. Previously conducted maintenance or adaptive management activities within the Open Space Preserve that are captured in annual reports will allow for on-site data to be used when considering implementation of certain activities in the future.

  Additionally, the removal of trash and anthropogenic debris will benefit the species by removing potential hazards and making more areas available for native vegetation to establish, that will in turn support Crotch's bumble bee populations.

A **Temporary Impact Restoration Plan** will be prepared for those areas that will be temporarily impacted by construction. It is assumed that a perimeter temporary fence (post/rope) will be installed around the temporary impact areas to protect the area during restoration activities and during the 7-year maintenance and monitoring period. After the 7-year maintenance and monitoring period is complete, the temporary restoration areas will be turned over to the resource manager for long-term management in perpetuity. Restoration of temporary impact areas is expected to include site preparation and minor recontouring, installation of signage and BMPs, hydroseeding, installation of California juniper container plants, and transplanting of short-jointed beavertail. Upon completion of the restoration activities, a 7-year maintenance and monitoring period will commence. Activities to be performed during the 7-year maintenance and monitoring period include weeding, watering, supplemental hand seeding and replacement of container planting as needed, and qualitative and quantitative biological monitoring and reporting over the 7-year period.

Lands are expected to be managed in perpetuity by the following parties:

- **Resource Manager.** The Resource Manager shall be one of the following: Conservancy group; Natural resources land manager; or Natural resources Consultant.
- **Landowner**. Fee title of separate open space lots may be held by the land/resource manager or another appropriate landowner (e.g., land trust, conservancy, or public agency), depending on the particular circumstance. A third-party non-profit organization will hold the endowment funds and be responsible for allocating those funds to the resource manager.
- **Easement Holder**. If the land is transferred in fee title to a non-governmental entity, a Conservation Easement must be recorded. This easement will be dedicated to the County, but it may also include other appropriate agencies as a grantee or third-party beneficiary. As described above, the current plan is for land title to be held by the Applicant with a conservation easement dedicated to an approved land manager (to be selected upon finalization).

- **Restoration Entity**. Management responsibility for the revegetation/restoration of the temporary impact areas shall remain with the restoration entity until restoration/revegetation has been completed. The work of the restoration entity shall be accomplished by a qualified restoration specialist. Upon agency acceptance of the revegetated/restored temporary impact area, management responsibility for the revegetation/restoration area will be transferred to the resource manager.

Acceptable financial mechanisms include the following:

- **Endowment**. A one-time, non-wasting endowment, which is tied to the property and intended to be used by the resource manager to implement the CMP.
- **Transfer.** Transfer of ownership for management.

The Applicant will be responsible for all CMP funding requirements, including direct funds to support the CMP start-up tasks as well as establishment of an ongoing funding source for annual tasks through perpetuity, which is tied to the property to fund long-term CMP implementation. As described above, the funding mechanism will include a one-time non-wasting endowment (perpetual management) and transfer of ownership.

The final endowment level will be determined through preparation of a Property Analysis Record (PAR) that involves the thorough evaluation and inclusion of all management, maintenance, and monitoring activities required to sustain the Open Space Preserve and the Crotch's bumble bee found within it in perpetuity. The CMP and Temporary Impact Restoration Plan, described above, will be used as a basis for estimating the long-term management activities required for the site as well as the associated level of effort and funding for each task. An evaluation of potential future conditions that may require adaptive management actions to be implemented will be conducted. Through this evaluation, contingency funds will be determined during the preparation of the PAR. Additional tasks and associated fees will also be accounted for as other entities (endowment holder, landowners, resource managers), permits, and project documents are approved.

The PAR will include prices and rates based on real costs at the time of preparation. Costs included in the PAR will generally be valid for one year and should be updated to capture current costs and rates as close to the time of funding as feasible. The endowment holder will determine inflation adjustments for dispersals during the long-term management period (into perpetuity) based on market conditions.

While the process of determining the endowment will be iterative, a preliminary high-level estimate of the endowment funding required is outlined below. The amounts outlined in the table are based on assumptions and known factors at this point in the project, Further refinement of these costs will be required as additional project documents are prepared and more details are known.

Estimate of Funding Required for Ongoing Long-Term Management Activities[1]

Task	Estimated Annual Cost[1]
Biological Monitoring	$7,200.00
Habitat Maintenance	$37,450.00
Perimeter Signage	$495.00
Fencing Repair/Replacement	$500.00
Reporting	$2,500.00
Adaptive Management	$400.00

Estimate of Funding Required for Ongoing Long-Term Management Activities[1]

Task	Estimated Annual Cost[1]
Administration, Coordination, Budgeting, Database Management	$5,025.00
Total	$53,570.00[2]

Notes:
1 Costs presented are organized to fit the suggested categories provided by CDFW staff. More detailed categories should be expected once a formal PAR is prepared.
2 The total endowment amount required will be determined once a formal PAR is prepared.

Regarding how CESA funding changes during construction to operation of the facility:

- The Applicant will also be responsible for all temporary impact restoration funding requirements, including the 7-year maintenance and monitoring period. The Applicant intends to contract directly with a Restoration Entity for all temporary impact restoration activities and 7-year maintenance and monitoring.

- Further, during construction, the Applicant will be responsible for funding and implementing avoidance and minimization measures during construction (preconstruction surveys, biological monitoring, etc.). The Applicant intends to contract directly with a qualified biological resources consultant to implement avoidance and minimization measures during construction.

9 Plan to Monitor Compliance

Compliance with the minimization measures described under Section 8 will be monitored by CDFW-approved biologists present on site during construction as described therein. Biologists approved by CDFW to conduct on-site monitoring will have demonstrated their experience with Covered Species biology and identification and will therefore be able to effectively monitor construction activities for potential take of individuals. A preserve management plan will be prepared for any preserves established as compensatory mitigation and will describe both management and monitoring activities and reporting requirements. The Project will prepare monthly and annual reports documenting compliance with all mitigation measures and requirements set forth in the preserve management plan and would be subject to reporting in compliance with the preserve management plan.

10 A Description of the Funding Source and the Level of Funding Available for Implementation of the Minimization and Mitigation Measures

Prairie Song Reliability Project LLC, as the Project applicant, is required to ensure that all mitigation, minimization, and avoidance measures identified in this Section 2081 Permit Application package (Section 8) are fully funded. Funding for on-site preservation lands, or lands acquired and preserved off site, will be estimated through preparation of a Property Analysis Record (PAR), or PAR-Equivalent Analysis, which is an itemized cost estimate of the initial and capital period costs and annual ongoing costs.

11 References

California Geological Survey. 2002. California Geomorphic Provinces: Note 36. 4 pp. Accessed September 2025. https://koordinates.com/layer/97118-california-geomorphic-provinces/.

CDFW (California Department of Fish and Wildlife). 2023a. Crotch's Bumble Bee Range - CDFW [ds3095], geospatial data. Accessed February 2026. https://filelib.wildlife.ca.gov/Public/BDB/GIS/BIOS /Public_Datasets/3000_3099/ds3095.zip.

CDFW. 2023b. *Surveys Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*. June 6, 2023. Accessed December 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID =213150&inline.

CDFW. 2026. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed April 2025. https://nrmsecure. dfg.ca.gov/cnddb/Default.aspx.

Google. 2025. Google Earth, desktop application; centered on the property. Accessed December 2025. https://www.google.com/earth/.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. Bombus crotchii. The IUCN Red List of Threatened Species 2015: e.T44937582A46440211. Accessed February 2026. https://www.iucnredlist.org/species/44937582/46440211.

Hatfield, R., and S.J. Jepsen. 2021. "A Conservation Conundrum: Protecting Bumble Bees under the California Endangered Species Act." *California Fish and Wildlife Journal* (Special CESA Issue): 98–106.

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed September 2025. http://ucjeps.berkeley.edu/interchange/.

Keyer, D., A. Oed, K. Walther-Hellwig, R. Frankl. 2004. Are forests potential landscape barriers for foraging bumblebees? Landscape scale experiments with Bombus terrestris agg. and Bombus pascuorum (Hymenopte, Apidae). Biological Conservation, 2004 – Elsevier Biological Conservation 116:111-118.

LACPW (Los Angeles County Public Works). 2025. Precipitation – Acton Camp Station. Accessed September 2025. http://ladpw.org/wrd/precip/.

Motta, E.V., Raymann, K. and Moran, N.A. 2018. Glyphosate perturbs the gut microbiota of honey bees. *Proceedings of the National Academy of Sciences*, *115*(41), pp.10305-10310. Accessed September 2025. https://people.tamu.edu/~erick.motta/papers/motta2018pnas.pdf.

Muth, F., A. S. Leonard. 2019. A neonicotinoid pesticide impairs foraging, but not learning, in free-flying bumblebees. Sci. Rep. (9) 4764. Accessed September 2025. https://www.nature.com/articles/s41598-019-39701-5.

Osborne, Juliet & Martin, Andrew & Carreck, Norman & Swain, Jennifer & Knight, Mairi & Goulson, Dave & Hale, Roddy & Sanderson, Roy. (2008). *Bumblebee Flight Distances in Relation to The Forage Landscape*. The Journal of animal ecology. 77. 406-15. 10.1111/j.1365-2656.2007.01333. x.

The Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch's bumble bee *(Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. Accessed September 2025. https://fgc.ca.gov/CESA/index.

USDA. 2025. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed December 2025. http://websoilsurvey.nrcs.usda.gov/.

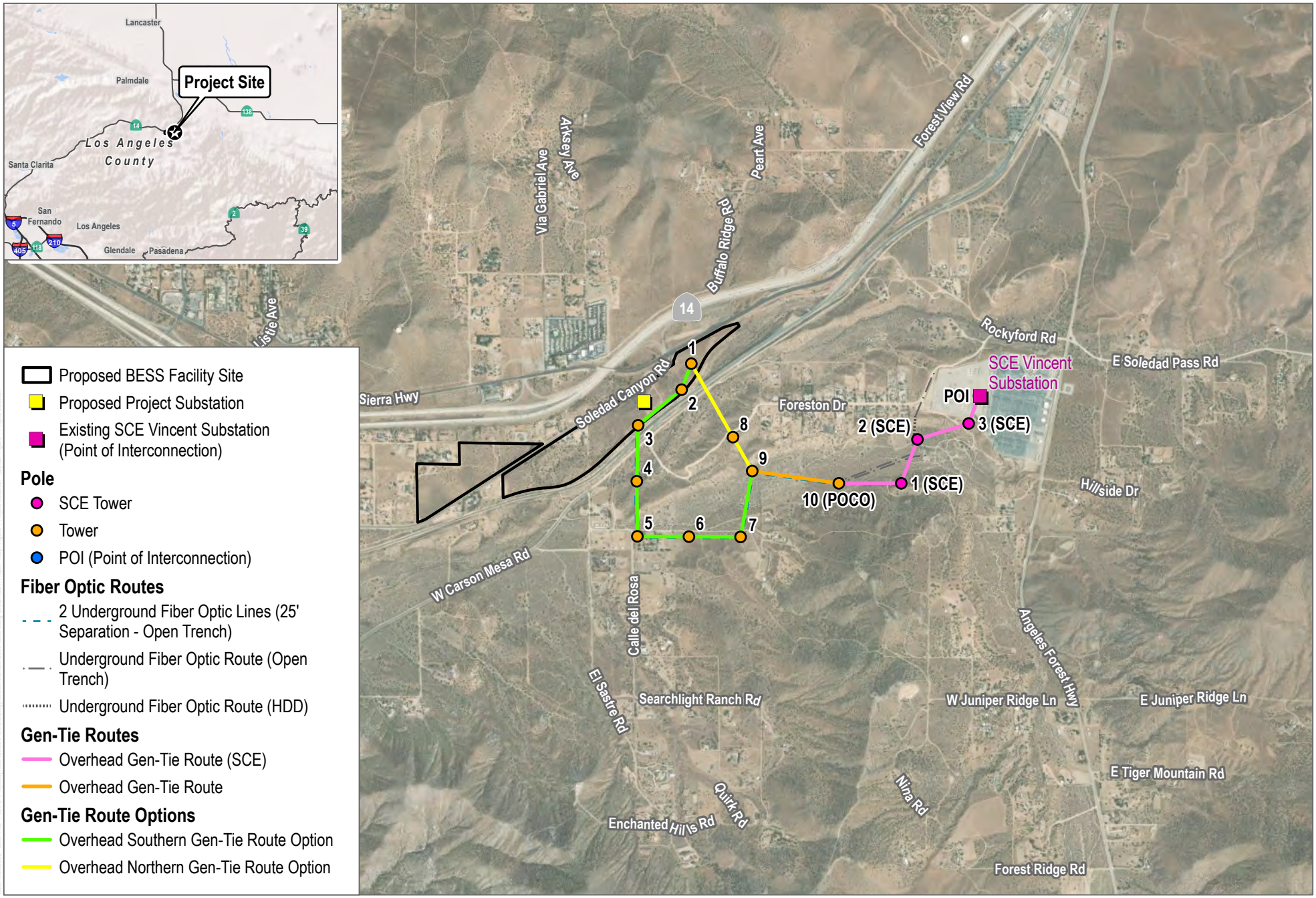
USFWS (U.S. Fish and Wildlife Service). 2025a. National Wetlands Inventory [interactive map application]. Accessed April 2025. https://www.fws.gov/program/national-wetlands-inventory.

USGS (U.S. Geologic Survey). 2025a. Acton, California and Pacifico Mountain, California 7.5-minute topographic quadrangles. Accessed September 2025. https://www.usgs.gov/tools/75-15-minute-topographic-maps-usgs-store.

USGS. 2025b. National Hydrography and Watershed Boundary Dataset. USGS National Hydrography Products. Accessed April 2025. https://www.usgs.gov/national-hydrography.

Whitehorn PR, O'Connor S, Wackers FL, Goulson D. Neonicotinoid pesticide reduces bumble bee colony growth and queen production. Science. 2012 Apr 20;336(6079):351-2. doi: 10.1126/science.1215025. Epub 2012 Mar 29. PMID: 22461500. Accessed September 2025. https://pubmed.ncbi.nlm.nih.gov/22461500.

Attachment 2
Figures



SOURCE: World Imagery

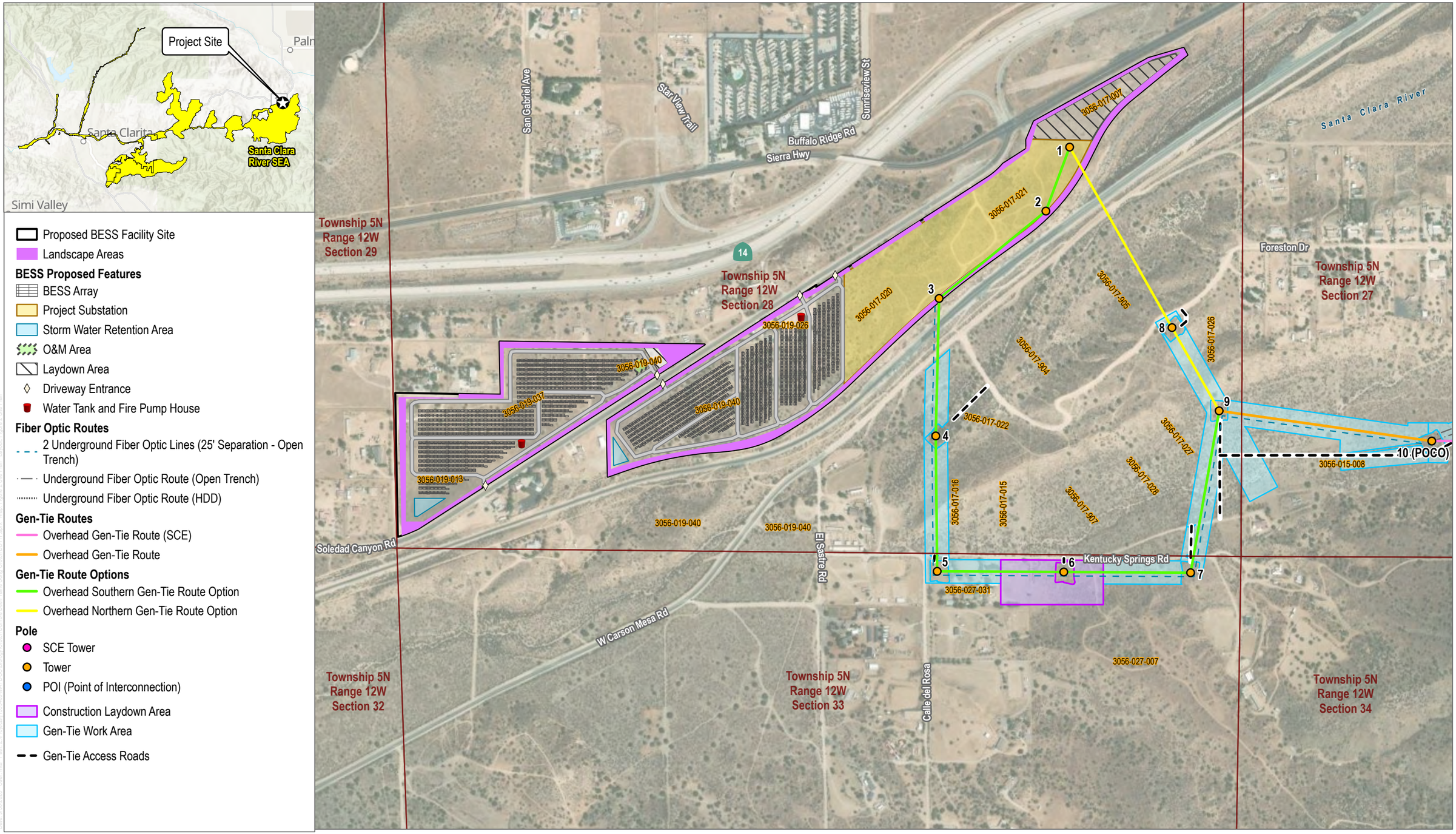
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0 1,000 2,000 Feet

FIGURE 1

Project Location

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

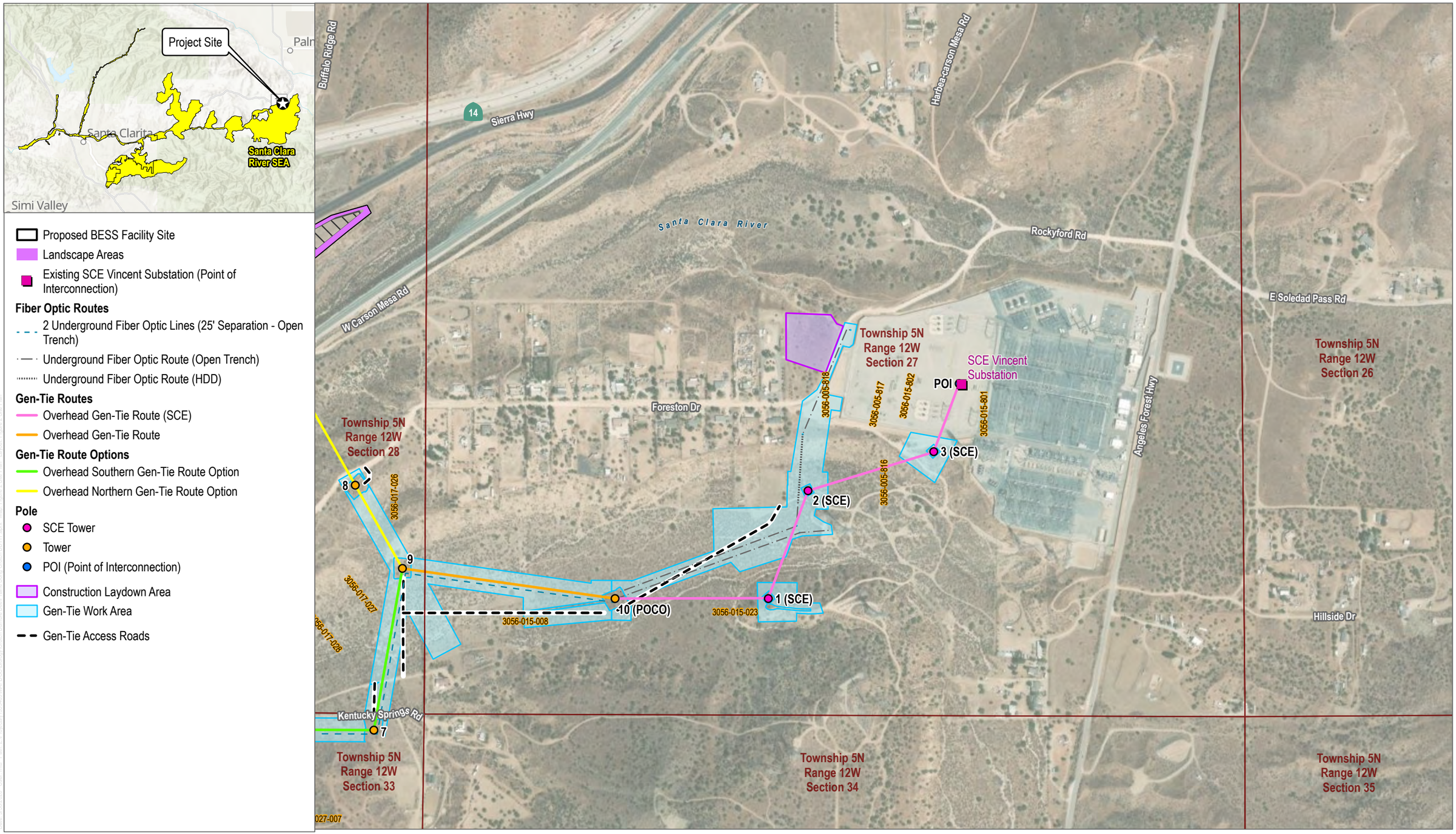
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FIGURE 2A

Site Plan

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

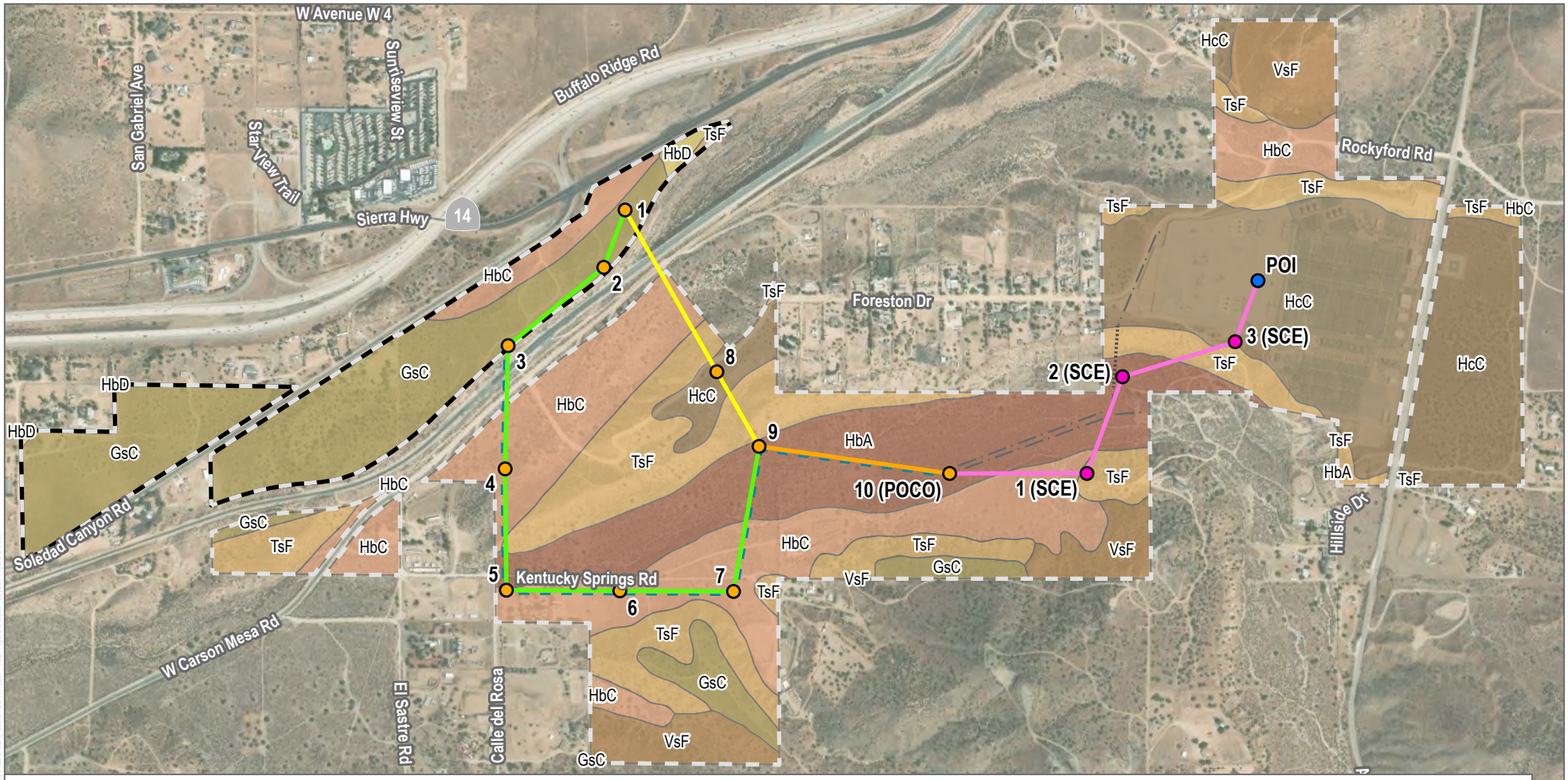
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FIGURE 2B

Site Plan

Prairie Song Reliability Project



Study Area

Proposed BESS Facility Site

Pole

- SCE Tower
- Tower
- POI (Point of Interconnection)

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

Soil Type

- Greenfield sandy loam, 2 to 9 percent slopes (GsC)
- Hanford coarse sandy loam, 0 to 2 percent slopes (HbA)
- Hanford coarse sandy loam, 2 to 9 percent slopes (HbC)
- Hanford coarse sandy loam, 9 to 15 percent slopes (HbD)
- Hanford sandy loam, 2 to 9 percent slopes (HcC)
- Terrace escarpments (TsF)
- Vista coarse sandy loam, 30 to 50 percent slopes (VsF)

SOURCE: World Imagery; USDA

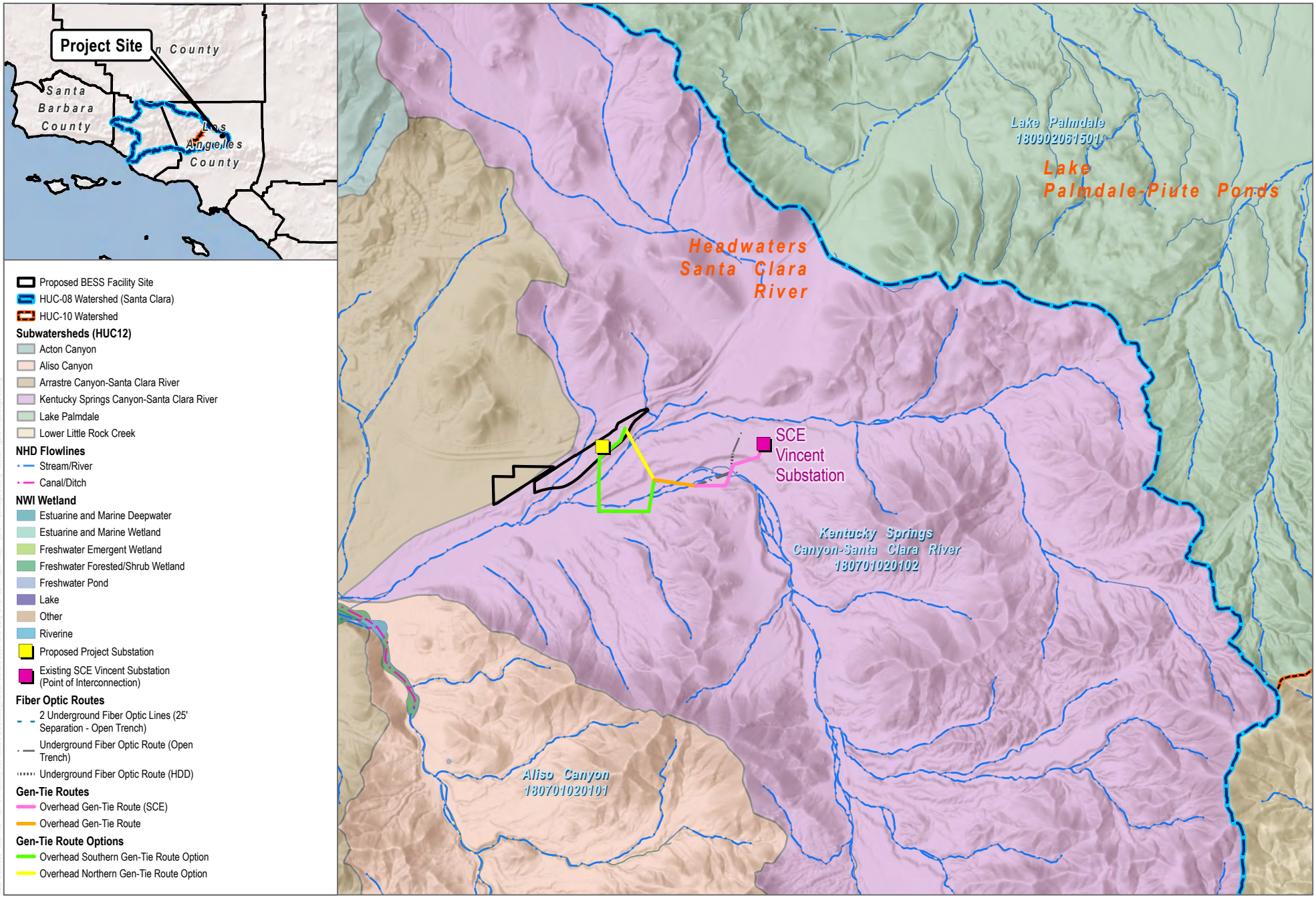
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FIGURE 3

Soils

Prairie Song Reliability Project



SOURCE: World HIllshade; SWRQCB

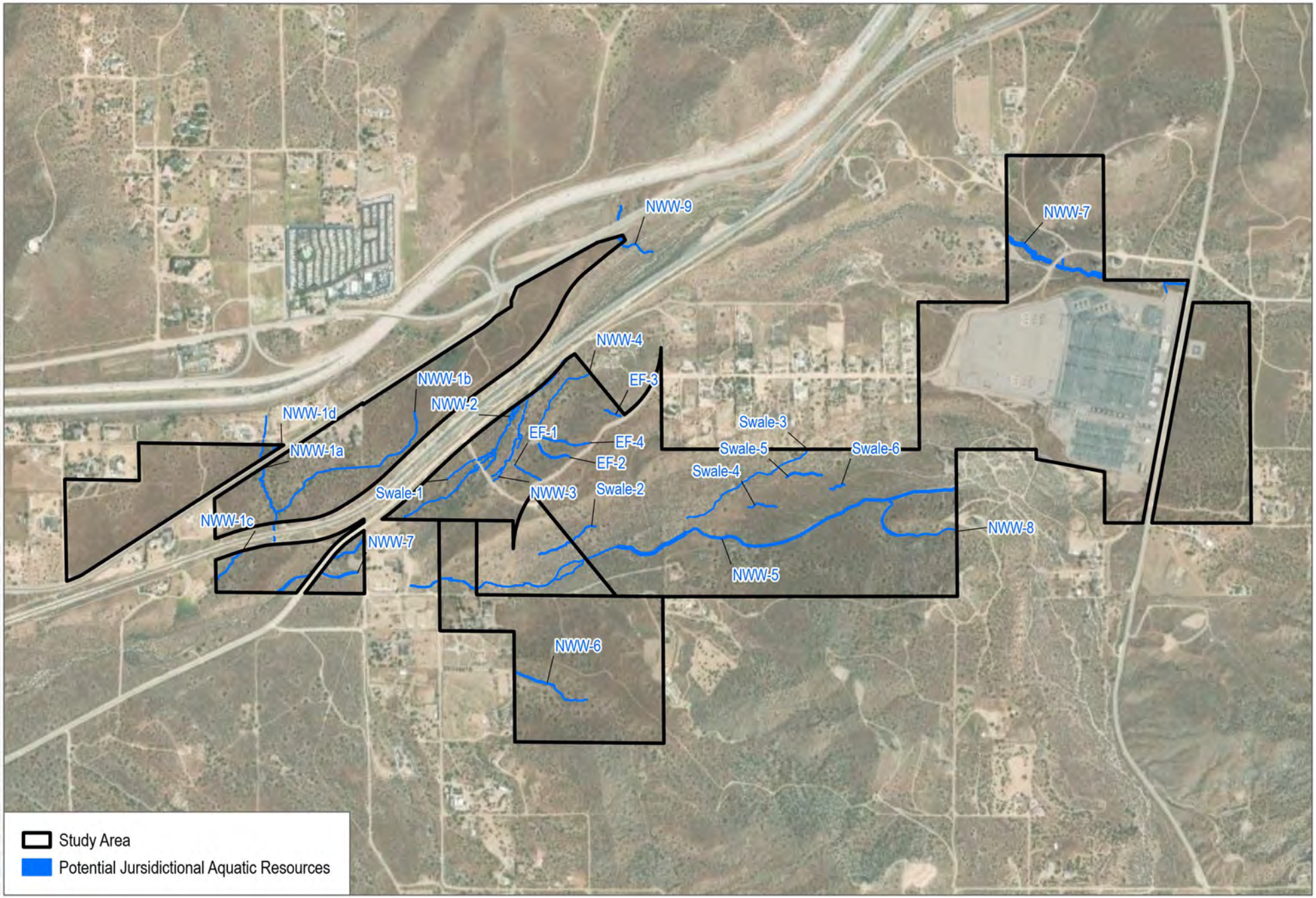
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FIGURE 4

Hydrologic Setting

Prairie Song Reliability Project



SOURCE: World Imagery

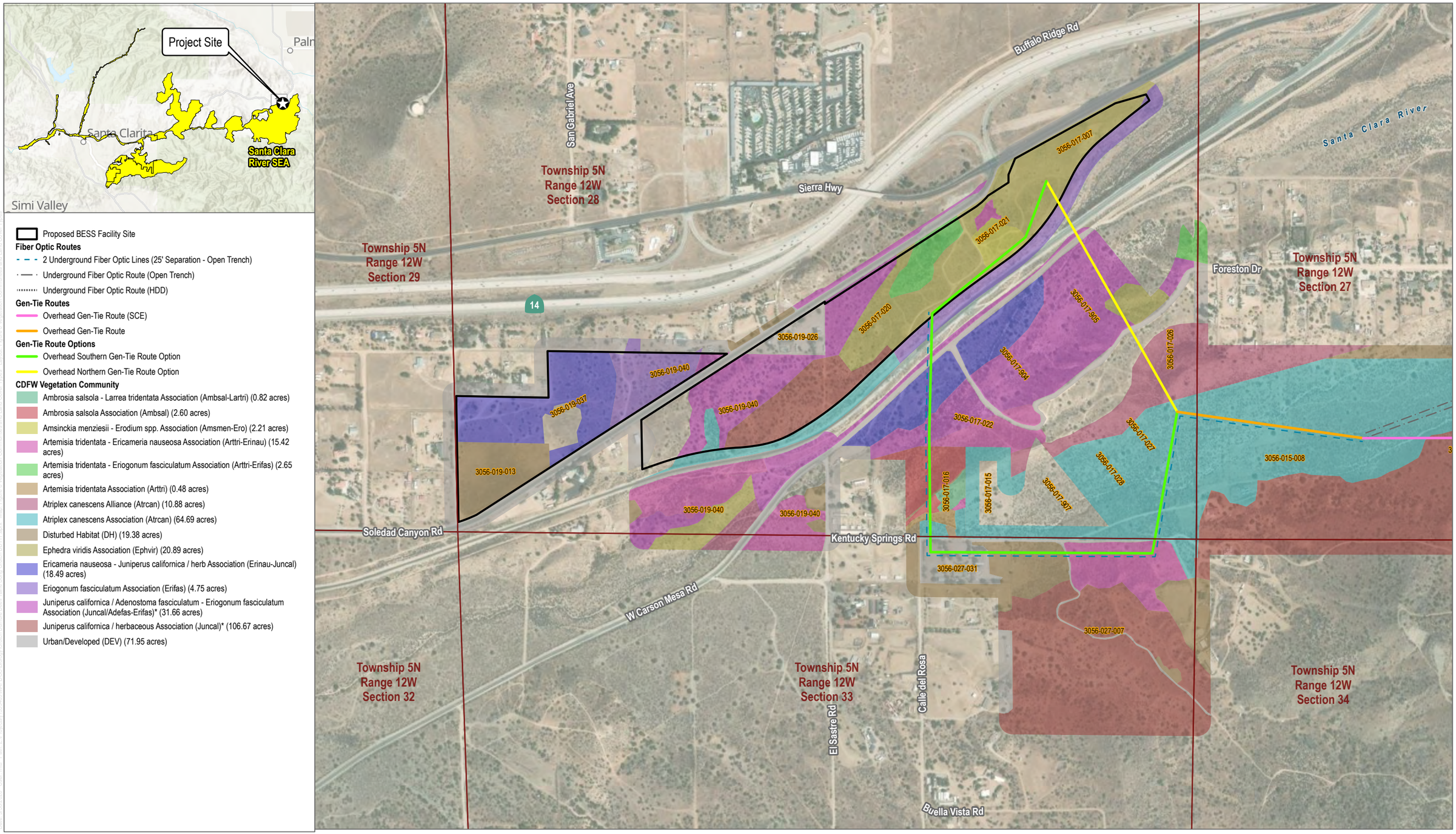
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FIGURE 5

Aquatic Resources Delineation

Prairie Song Reliability Project



Proposed BESS Facility Site

Fiber Optic Routes

- 2 Underground Fiber Optic Lines (25' Separation - Open Trench)
- Underground Fiber Optic Route (Open Trench)
- Underground Fiber Optic Route (HDD)

Gen-Tie Routes

- Overhead Gen-Tie Route (SCE)
- Overhead Gen-Tie Route

Gen-Tie Route Options

- Overhead Southern Gen-Tie Route Option
- Overhead Northern Gen-Tie Route Option

CDFW Vegetation Community

- Ambrosia salsola - Larrea tridentata Association (Ambsal-Lartri) (0.82 acres)
- Ambrosia salsola Association (Ambsal) (2.60 acres)
- Amsinckia menziesii - Erodium spp. Association (Amsmen-Ero) (2.21 acres)
- Artemisia tridentata - Ericameria nauseosa Association (Arttri-Erinau) (15.42 acres)
- Artemisia tridentata - Eriogonum fasciculatum Association (Arttri-Erifas) (2.65 acres)
- Artemisia tridentata Association (Arttri) (0.48 acres)
- Atriplex canescens Alliance (Atrcan) (10.88 acres)
- Atriplex canescens Association (Atrcan) (64.69 acres)
- Disturbed Habitat (DH) (19.38 acres)
- Ephedra viridis Association (Ephvir) (20.89 acres)
- Ericameria nauseosa - Juniperus californica / herb Association (Erinau-Juncal) (18.49 acres)
- Eriogonum fasciculatum Association (Erifas) (4.75 acres)
- Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum Association (Juncal/Adefas-Erifas)* (31.66 acres)
- Juniperus californica / herbaceous Association (Juncal)* (106.67 acres)
- Urban/Developed (DEV) (71.95 acres)

SOURCE: Maxar 2024; Los Angeles County 2025

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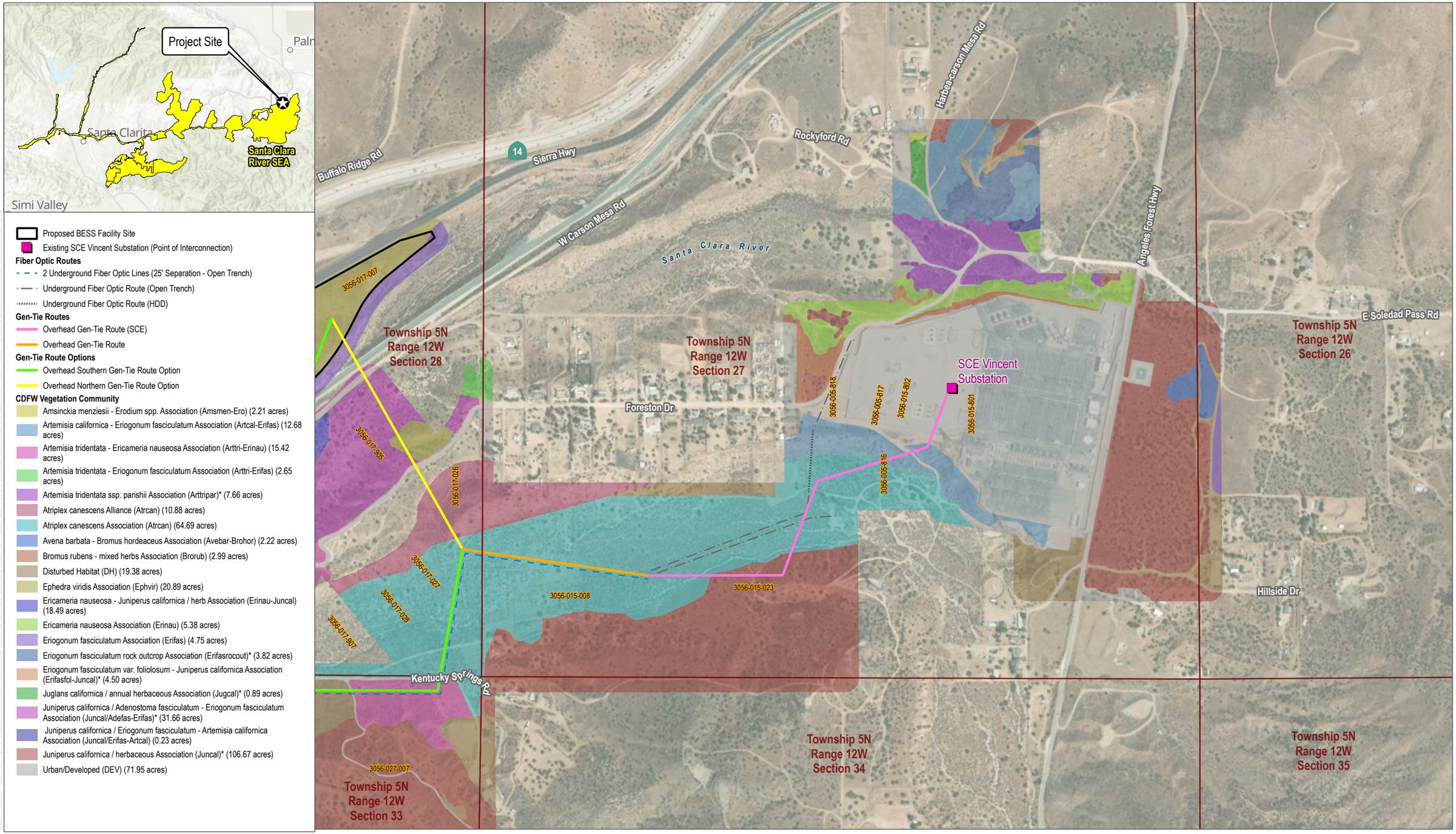
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FIGURE 6A

Vegetation Communities and Land Cover Types

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

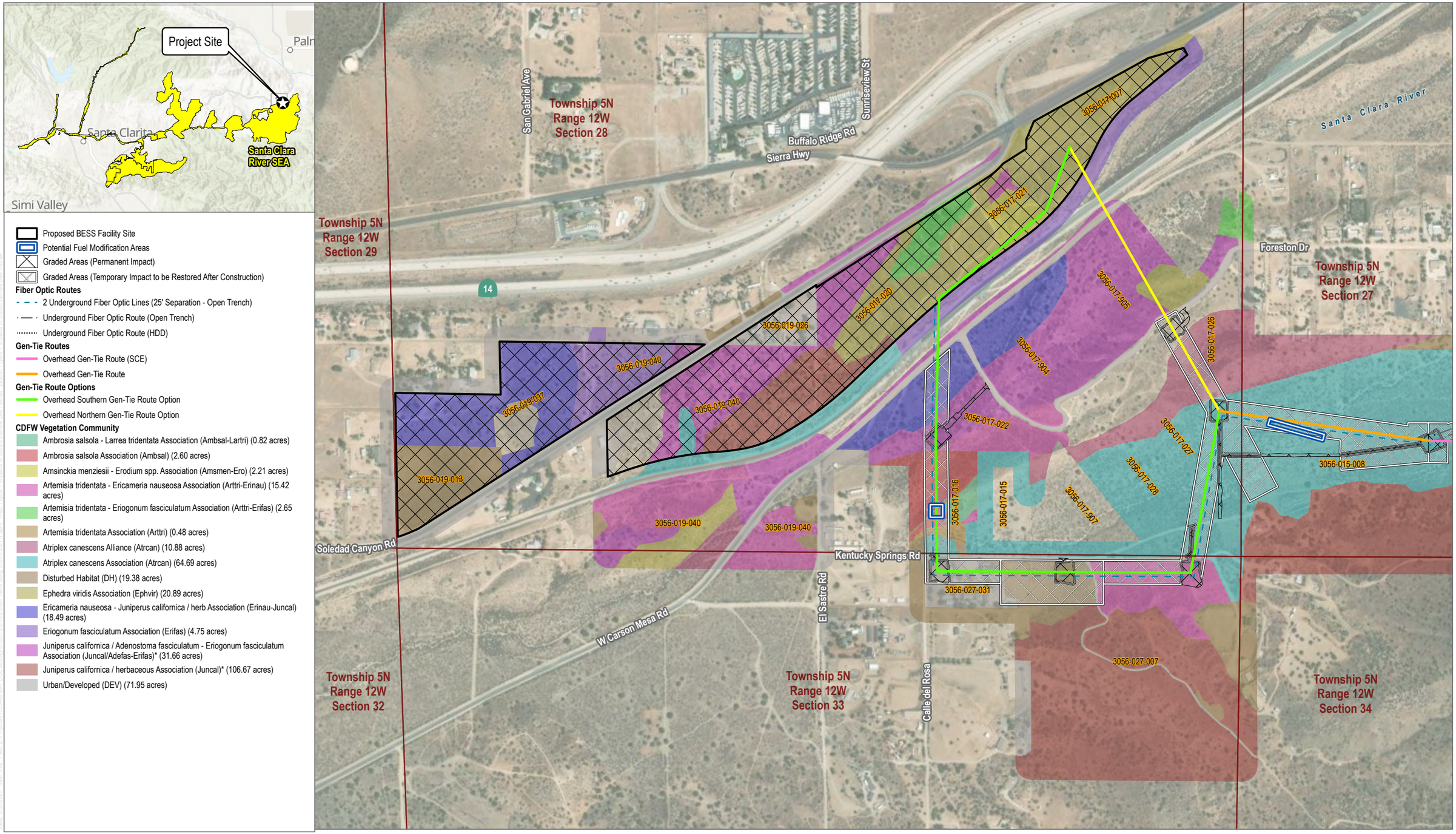
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FIGURE 6B

Vegetation Communities and Land Cover Types

Prairie Song Reliability Project



SOURCE: Maxar 2024; Los Angeles County 2025

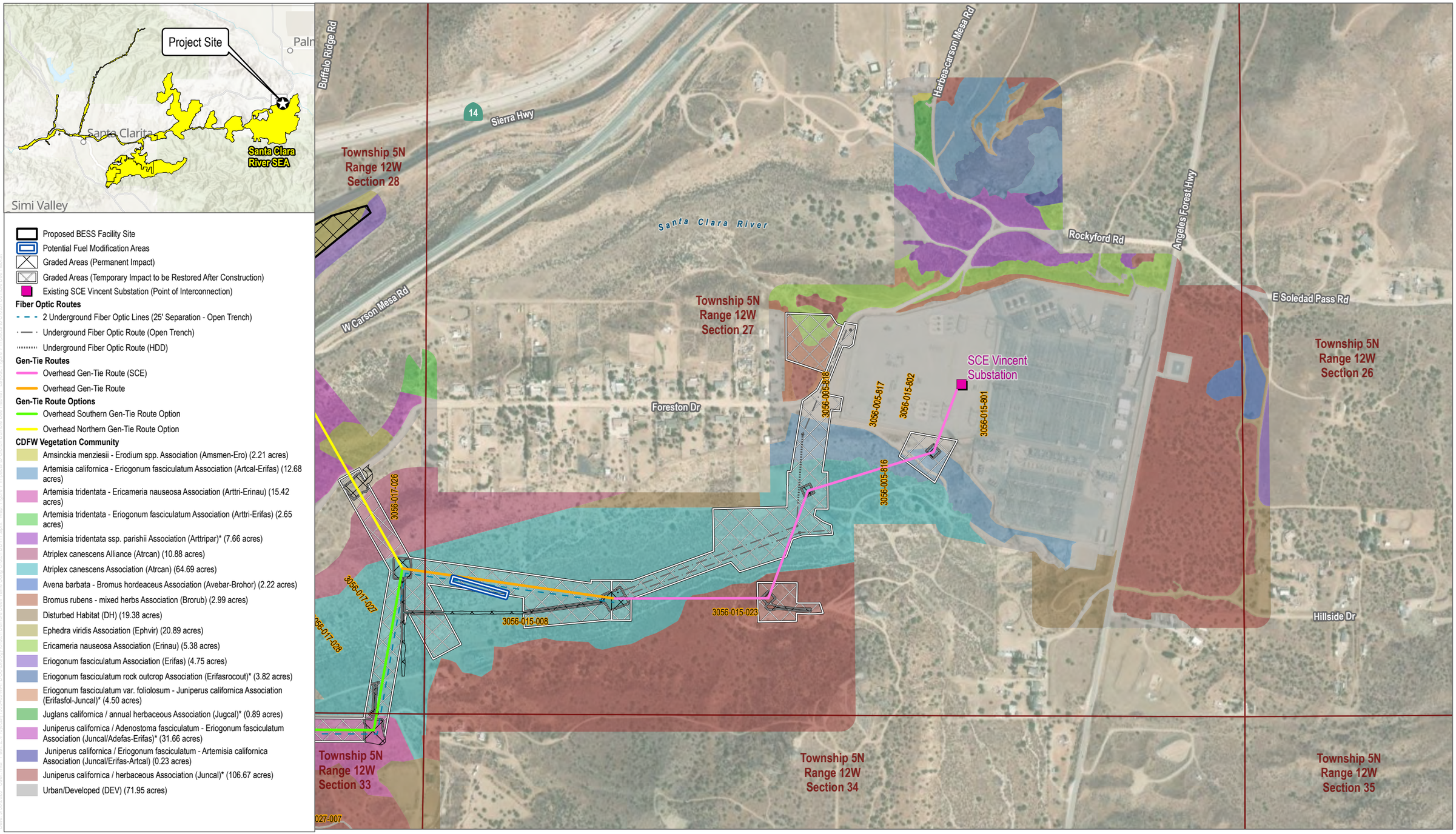
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FIGURE 7A

Impacts to Crotch Bumble Bee Habitat

Prairie Song Reliability Project



Proposed BESS Facility Site
Potential Fuel Modification Areas
Graded Areas (Permanent Impact)
Graded Areas (Temporary Impact to be Restored After Construction)
Existing SCE Vincent Substation (Point of Interconnection)

Fiber Optic Routes

2 Underground Fiber Optic Lines (25' Separation - Open Trench)
Underground Fiber Optic Route (Open Trench)
Underground Fiber Optic Route (HDD)

Gen-Tie Routes

Overhead Gen-Tie Route (SCE)
Overhead Gen-Tie Route

Gen-Tie Route Options

Overhead Southern Gen-Tie Route Option
Overhead Northern Gen-Tie Route Option

CDFW Vegetation Community

Amsinckia menziesii - Erodium spp. Association (Amsmen-Ero) (2.21 acres)
Artemisia californica - Eriogonum fasciculatum Association (Artcal-Erifas) (12.68 acres)
Artemisia tridentata - Ericameria nauseosa Association (Arttri-Erinau) (15.42 acres)
Artemisia tridentata - Eriogonum fasciculatum Association (Arttri-Erifas) (2.65 acres)
Artemisia tridentata ssp. parishii Association (Arttripar)* (7.66 acres)
Atriplex canescens Alliance (Atrcan) (10.88 acres)
Atriplex canescens Association (Atrcan) (64.69 acres)
Avena barbata - Bromus hordeaceus Association (Avebar-Brohor) (2.22 acres)
Bromus rubens - mixed herbs Association (Brorub) (2.99 acres)
Disturbed Habitat (DH) (19.38 acres)
Ephedra viridis Association (Ephvir) (20.89 acres)
Ericameria nauseosa Association (Erinau) (5.38 acres)
Eriogonum fasciculatum Association (Erifas) (4.75 acres)
Eriogonum fasciculatum rock outcrop Association (Erifasrocout)* (3.82 acres)
Eriogonum fasciculatum var. foliolosum - Juniperus californica Association (Erifasfol-Juncal)* (4.50 acres)
Juglans californica / annual herbaceous Association (Jugcal)* (0.89 acres)
Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum Association (Juncal/Adefas-Erifas)* (31.66 acres)
Juniperus californica / Eriogonum fasciculatum - Artemisia californica Association (Juncal/Erifas-Artcal) (0.23 acres)
Juniperus californica / herbaceous Association (Juncal)* (106.67 acres)
Urban/Developed (DEV) (71.95 acres)

SOURCE: Maxar 2024; Los Angeles County 2025

DUDEK

0 300 600 Feet

FIGURE 7B

Impacts to Crotch Bumble Bee Habitat

Prairie Song Reliability Project

Attachment 5A

Streambed Alteration Agreement Application (Redline)

Attribute	Answer
General Information	
Applicant	Garrett Lehman, Director
Additional Contacts	n/a
Project Name	Prairie Song Reliability Project
Organization	Prairie Song Reliability Project LLC
Designated Representative	Michael Cady - Dudek
Project Location and Category	
Project Location	
Project Name	Prairie Song Reliability Project
Does the project site have a physical address? (select one)	☐ Yes | ☒ No
GPS Coordinates	34.485487°, -118.138757° - BESS portion of the Project
County	Los Angeles
Property APN	3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, 3056-019-040, 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-905, 3056-017-906, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802, 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802 See Attachment B for figures showing the Project location.
Project Category	
Project Category (select one)	☒ New Construction | ☐ Replace/Remove Existing Structure | ☐ Repair/Maintain/Operate Existing Structure
Work Type (select one)	☐ Bank stabilization – bioengineering/recontouring | ☐ Bank stabilization – rip-rap/retaining wall/gabion | ☐ Boat dock/pier | ☐ Boat ramp | ☐ Bridge | ☐ Channel clearing/vegetation management | ☐ Culvert | ☐ Dam | ☐ Debris basin | ☐ Diversion structure: weir or pump intake (obsolete) | ☒ Filling of wetland, river, stream, or lake | ☐ Geotechnical survey | ☒ Grading | ☐ Habitat enhancement – revegetation/mitigation | ☐ Levee | ☐ Low water crossing | ☒ Road/trail | ☐ Sand & gravel operations | ☐ Sediment removal – pond, stream, or marina | ☐ Sediment removal: flood control | ☐ Storm drain outfall structure | ☒ Temporary stream crossing | ☐ Utility crossing: horizontal directional drilling | ☐ Utility crossing: jack/bore | ☐ Utility crossing: open trench | ☐ Water diversion with facility | ☐ Water diversion without facility | ☐ Other (Describe other work type)
Does this project address any of the following: hazardous fuels reduction, fuel breaks, wildfire	☐ Yes | ☒ No

Attribute	Answer
prevention, vegetation treatment or vegetation management for fire management? (select one)	
Affected Body of Water	
River, Stream, or Lake Affected	Unnamed tributaries and isolated streams
Waterbody tributary	Santa Clara River
Will water be present during the proposed work period in the river, stream, or lake: (select one)	☐ Yes | ☒ No
If "Yes", will the proposed project require work in the wetted portion of the channel?	☐ Yes | ☒ No If “Yes”, attach a plan to divert water around the project site and dewater the work site that specifies the method, volume rate, and timing of the diversion on the Documents and Maps form.
Wild and Scenic Rivers Act (WSRA)	
Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes | ☒ No | ☐ Unknown
Project Description, Term, and Impacts	
Project Description and Details	
Is the 'Property Owner' the same person as the 'Applicant Proposing Project?	☒ Yes | ☐ No
If “No”, outline the following contact information for the ‘Property Owner’: Name Business Agency Mailing Address Phone Number Email	N/A
Describe the Project in Detail	The project proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt Prairie Song Reliability Project (Project) located on up to approximately ~~107~~ 114 acres in unincorporated Los

Attribute	Answer
	Angeles County. The primary components of the Project include a containerized battery energy storage system facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, an on-site Project substation, a 500-kilovolt overhead generation interconnection transmission line, and interconnection facilities within the existing Southern California Edison-owned and operated Vincent Substation. See Attachment C, Project Description, for full project objectives. A project description specific to the portions of the overall project that intersect with streams or associated riparian areas is included as Attachment C.1.
Describe Equipment and Machinery	Tractors, loaders, backhoes, excavator, rubber-tired dozer, rollers, air compressors, cranes, forklift, bore/drill rigs, trenchers, pumps, welders, rough terrain forklifts, skid steer loaders, concrete/industrial saws
Will part or all of this project be funded with one of the following CDFW-managed grants? (select one)	☐ Fish Restoration Grant Program (FRGP) | ☐ Cannabis Restoration Grant Program | ☐ Prop 1 Grant | ☐ Prop 68 Grant | ☐ Greenhouse Gas Grant (GHG) | ☐ Wildlife Conservation Board (WCB) Grant | ☒ N/A
Water Rights(s), Water Diversion(s) & Reservoir(s)	
Does the project have an associated water right(s)? (select one) ▪ If "Yes", how many project water rights are included in the project?	☐ Yes | ☒ No
Does the project include any water diversion(s)? (select one) ▪ If "Yes", how many water diversions will be included in the project?	☐ Yes | ☒ No
Does the project include a reservoir(s)? (select one) ▪ If "Yes", how many reservoir(s) will be included in the project?	☐ Yes | ☒ No
Commercial Cannabis Cultivation	
Does any part of the project include remediation at a cannabis cultivation site? (select one)	☐ Yes | ☒ No

Attribute	Answer
Are you seeking documentation to submit to the Department of Cannabis Control (DCC) for the purpose of commercial cannabis cultivation licensing? (select one)	☐ Yes | ☒ No
Agreement Term	
Agreement Term Requested	☒ Regular Term (5 years or less) | ☐ Long Term (Greater than 5 years)
Project Term	
Specify both the year the project activities will begin and the year the project activities will end. Be advised CDFW may restrict work within a stream or lake to the dry season of the year. Consequently, you may want to include more than one season of possible operation in your project proposal.	Beginning Year: 2027 Ending Year: 2069
Seasonal Work Period	
Specify the time period you intend to work on the project (e.g., August 1 to October 15). If the work period will exceed one year, specify the work period for each year of the project (e.g., Work Period 1, February 10 to March 31; Work Period 2, August 1 to October 15; Work Period 3, February 10 to March 31; etc.). CDFW may restrict project work to certain periods depending on rainfall, fish migration, wildlife breeding or nesting season, or other resource concerns. Specify the estimated number of days of	Construction Start Date: 3/2027 Construction End Date: 4/2029

Attribute	Answer
actual work days for each seasonal work period.	
Impacts to River, Stream, or Lake	
Describe Impacts	BESS + Northern Gen-Tie Route: 0.33-acre of NWW-1a, NWW-1b, NWW-1c, NWW-1d, NWW-5, and NWW-9 would be permanently filled in during grading to create a level area for the construction of the battery energy storage system and substation portions of the Project and access roads for the gen-tie portion. 0.20~~4~~-acre of NWW-2, NWW-5, Swale-1, Swale-3 and Swale-~~4~~3 could be temporarily impacted during the construction of the gen-tie (due to potential pull areas) and the trenching of the underground optical ground wire use for telecommunication by the project. BESS + Southern Gen-Tie Route: 0.33-acre of NWW-1a, NWW-1b, NWW-1c, NWW-1d, NWW-5, and NWW-9 would be permanently filled in during grading to create a level area for the construction of the battery energy storage system and substation portions of the Project and access roads for the gen-tie portion. 0.3~~3~~0-acre of NWW-2, NWW-5, Swale-1, Swale-3 and Swale-~~4~~3 could be temporarily impacted during the construction of the gen-tie (due to potential pull areas) and the trenching of the underground optical ground wire use for telecommunication by the project. See Attachment B Figure 3 for Project impacts on jurisdictional waters. A detailed Figure 3 mapbook is also provided.
Impacts to Special-Status Species	
Will there be any foreseeable impacts to any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site? (select one)	☐ Yes ☒ No
If "Yes", list each species and describe the habitat	

Attribute	Answer
Source(s) Identify the source(s) of information (e.g., biological surveys, environmental documents, etc.) that support a "Yes" or "No" answer for the previous question.	The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.
Impacts to Trees and Vegetation	
Will the project affect any trees or vegetation?	☒ Yes | ☐ No
Describe Identify the type(s) of tree(s) or vegetation that will be affected by the project.	*Atriplex canescens* Association and *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Ephedra viridis* Association, *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Juniperus californica /* herbaceous Association, Artemisia *tridentata - Ericameria* nauseosa Association, *Artemisia tridentata* Association, *Atriplex canescens* Association
Environmental Review	
California Environmental Quality Act	
Has a CEQA lead agency been determined? (select one)	☒ Yes | ☐ No
CEQA Lead Agency	California Energy Commission (CEC)
Agency Contact Person	Lisa Worrall
Phone Number	916-661-8367
Email	Stepsiting@energy.ca.gov
Has a draft or final document been prepared for the project pursuant to CEQA? (select one)	☒ Yes | ☐ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If "Yes", outline the type of environmental document. Include a copy of the CEQA document and all notices in the Documents and Map section.	☐ Notice of Exemption (NOE) | ☐ Negative Declaration (ND) | ☐ Mitigated Negative Declaration (MND) | ☒ Environmental Impact Report (EIR) | ☐ Timber Harvest Plan (THP)/Non-Industrial Timber Management Plan (NTMP)
State Clearinghouse Number (if applicable)	The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA Notice of Determination (NOD) been	☐ Yes | ☒ No

Attribute	Answer
completed for the project? (select one) If “Yes”, attach the NOD in the Documents and Map section. If “No”, explain why the NOD has not been completed.	The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA Mitigation, Monitoring, Reporting Plan (MMRP) been completed for the project? (select one) If “Yes”, attach the MMRP in the Documents and Map section. If “No”, explain why the MMRP has not been completed.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4? (select one) If “Yes”, attach a copy of the CEQA filing fee receipt in the Documents and Map section. If “No”, explain why the CEQA filing fee hasn’t been paid.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If the project described in this notification is not the “whole project", or action pursuant to CEQA, briefly describe the entire project. If the project described in the notification is the entire project, insert the following statement in this box: “The project described in the notification is the entire project.”	The project described in the notification is the entire project.
National Environmental Policy Act (NEPA)	
Has a draft or final document been prepared for the project pursuant to the National	☐ Yes | ☒ No

Attribute	Answer
Environmental Policy Act (NEPA)? (select one)	
If "Yes", outline the type of environmental document. Include a copy of the document in the Documents and Map section.	☐ Categorical Exclusion | ☐ Environmental Assessment (EA) | ☐ Finding of No Significant Impact (FONSI) | ☐ Environmental Impact Statement (EIS)
Measures to Protect Fish, Wildlife, and Plant Resources	
Sediment/Erosion Control	The Project's grading plans will include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide Construction General Permit), and permanent BMPs to be installed and maintained (per the County BMP Design Manual). The exact location and type of temporary BMPs to be installed during construction depend on site-specific conditions, construction schedule, and proposed activities, all of which are outlined in the construction SWPPP that will be prepared for the Project. Typical temporary BMPs used for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the Project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing construction SWPPPs, that personnel developing and implementing construction SWPPPs are qualified, and that BMPs are adequately monitored and maintained.
Avoidance/Minimization Measures	During Construction: Potential temporary indirect impacts to the drainages in the project site and downstream waters could result from construction activities and will include potential impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration and transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures will be implemented as part of the storm water pollution prevention plan (SWPPP) for the Project. Because the entirety of the Project development footprint will be graded at one time but construction will occur over time in phases, the erosion measures will be maintained until all graded areas are constructed/landscaped. Prior to the start of construction activities, the Contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required SWPPP will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment, for all exposed soils.

Attribute	Answer
	During Operation: Once constructed, the proposed BESS facility will result in a substantial increase in impervious surfaces at the site, currently entirely pervious, which could potentially result in discharge of polluted stormwater runoff. Potential sources of polluted runoff include incidental spills of petroleum products and hazardous substances from maintenance vehicles and equipment. The proposed substation and BESS will be constructed on a raised pad and runoff from this area will drain southwest into catch basins located across the site. A storm sewer network will route water from the catch basins into underground infiltration chambers and infiltration trenches. Infiltration trenches along the southern end of each drainage area connected to the chamber system will aid in meeting the infiltration volume requirement. The infiltration facilities will be sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site. Project engineers have evaluated that the Project stormwater system can carry the 100-year storm flow and debris for the 100-year storm flow. Each gen-tie pad will manage stormwater runoff using shallow infiltration basins. Roads will be designed to be at or near grade. Based on the proposed design, no upstream ponding is expected from road construction or operations.
Mitigation/Compensation Measures	**Temporary Impact Restoration:** The temporary impacts to streams would be restored. Prior to ground disturbing activities, a qualified biologist shall be retained to prepare a Habitat Mitigation and Monitoring Plan (HMMP) detailing the specific approach for each type of habitat restoration and establishment area in the Conservation Area, and short-joint beavertail transplant location, and will outline detailed performance standards and monitoring requirements for each; following the monitoring and reporting methods and performance standards listed below. The HMMP shall be submitted to and approved by the CEC prior to the onset of Project-related ground-disturbing activities. The acreages allotted for on-site establishment apply to approximately ~~21~~ 28.17 acres (Southern Gen-Tie Route) or ~~26~~ 22.61 acres (Northern Gen-Tie Route) within the Conservation Area that includes 0.31~~24~~ acres of ephemeral streams (Southern Gen-Tie Route) or 0.~~33~~ 20 acres of ephemeral streams (Northern Gen-Tie Route). Up to ~~110~~ 176 California juniper will be planted under the Southern Gen-Tie Route option and up to ~~164~~ 228 California juniper will be planted under the Northern Gen-Tie Route option. The HMMP shall set out measures for habitat restoration/enhancement implementation, including but not limited to: ▪ Identification of proposed plant materials ▪ Signage in the habitat restoration area ▪ Schedule for habitat restoration/enhancement work ▪ Use of pesticides and elimination of non-native vegetation ▪ Habitat monitoring and reporting

Attribute	Answer
	▪ Performance standards **Preservation of Streams:** Mitigation for the Project requires the establishment of a conservation area that will preserve up to approximately 2.413 acres of unimpacted streams in the parcels associated with the gen-tie routes. **No Net Loss:** Mitigation for up to approximately 0.99 acres of jurisdictional waters (under the Southern or Northern Gen-Tie Route options) shall be implemented through off-site acquisition, such as mitigation bank credits, and/or turnkey projects with mitigation banks (as approved by the CEC) following the issuance of permits from the U.S. Army Corps of Engineers, and Los Angeles Regional Water Quality Control Board, as applicable, and those agencies approval of the mitigation bank, and prior to the issuance of the grading permit. A turnkey mitigation project (establishment of the riparian habitat) will be used should credits not be available at the time of the jurisdictional waters permitting.
Prior Notifications, Orders, and Permits	
Prior Notifications and/or Agreements	
Identify any notification previously submitted to, or Lake or Streambed Alteration Agreement previously issued by, CDFW for the project described in this notification. Include a copy of the previously submitted notification and/or agreement in the Documents and Maps form. If applicable, list the following: Name of Applicant: Notification Number: Date:	Not Applicable
Prior Orders, Notice, and/or Violations	
If this notification is being submitted in response to a court or administrative order or notice, or a notice of violation issued by CDFW, complete this section for each order, notice, or violation.	Not Applicable

Attribute	Answer
Include a copy of each order, notice, or violation in the Document and Maps form. If applicable, list the following: Person who Directed you to Submit: Agency that Directed you to Submit: Describe Circumstances:	
Local, State, and/or Federal Permits	
List any local, state, and/or federal permits required for the project and mark whether applied or issued. Include a copy of each permit that has been issued in the Documents and Maps form. You are responsible for obtaining all necessary permits and authorizations from CDFW and other agencies before beginning any project described in the notification. If applicable, list the following: Permit Name: Permit Type: If the permit was applied for or issued: Date issued/applied:	Regional Water Quality Control Board Water Quality Certification / Waste Discharge Requirements
Documents and Maps	
Maps/Photos	
Project Site Map	See Attachment B, Figure 1
Project Aerial View Map	See Attachment B, Figure 3
Project Site Photo(s)	See Attachment D, Appendix C

Attribute	Answer
Studies and Mapping	
Has a biological study been completed for the project site? (select one) If "Yes", include a copy of the document in the Documents and Map section.	☒ Yes | ☐ No The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.
Has one or more technical studies (e.g., engineering, hydrologic, geologic, or geomorphological) been completed for the project for project site? (select one) If "Yes", include a copy of the documents in the Documents and Map section.	☒ Yes | ☐ No The appendices of the Project's CEC "Opt-In" application contains the engineering, hydrologic, geologic, or geomorphological studies for the Project.
Have fish or wildlife resources or waters of the state been mapped or delineated on the project site? (select one) If "Yes", include a copy of the document in the Documents and Map section.	☒ Yes | ☐ No See Attachment D
Additional Documents and Maps	
Upload Attachments, Documents, Maps, etc.	See Attachments B through D
Fees Schedule	
Notification Fees	
Project Name	Prairie Song Reliability Project
Project Cost Range	Regular Term: ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☒ $350,000 or more
	Long Term: ☐ Base Fee | ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☐ $350,000 to less than $500,000 | ☐ $500,000 or more

Attribute	Answer
Actual Project Cost	TBD
Payment Information	
Payment Method	☐ Check/Money Order | ☐ Credit Card If check/money order, outline the following information: Name of the Bank/Institution: Check/Money Order #: If credit card, CDFW's online internet sales system will provide a document number after completing the transaction. Outline the document number:
Acknowledgment and Signature	
Site Inspection	
First Contact this Person to Schedule Site Visit Outline method of contact, contact name and information	Garrett Lehman, Director
Electronic Signature	
Application to be electronically signed by the Applicant or Designated Representative.	

DUDEK
225 SOUTH LAKE AVENUE
SUITE M210
PASADENA, CALIFORNIA 91101
T 626.204.9800

Prairie Song Reliability Project: Project Description for the Streambed Alteration Application Package

Prairie Song Reliability Project LLC, a Delaware limited liability company, a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW) Prairie Song Reliability Project (Project) located on up to approximately ~~107~~ 114 acres in unincorporated Los Angeles County. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

An Aquatic Resources Delineation was completed for the Project which identified nine (9) stream features, six (6) swales, and ~~three~~ four (4~~3~~) erosional features within the Review Area as shown in Figure 3, Jurisdictional Water Impact of Attachment B. The Review Area encompasses all areas of project site control as well as parcels owned by SCE that intersect the Vincent Substation. Additional details are available in the Project's Aquatic Resources Delineation Report (Attachment D to the Application for Streambed Alteration Agreement). As summarized in the table below, permanent and temporary impacts will occur to ~~eight~~ nine (~~8~~9) features as a result of Project construction. Permanent impacts will occur from the construction of the BESS facility and from an access road to one of the gen-tie towers. Temporary impacts will be from the work areas for the gen-tie construction and restored following the completion of construction. Figure 3 within Attachment B depicts jurisdictional waters impacts by project component.

The Project's proposed grading and hydraulic structures will be designed to route off-site runoff through and around the site, maintain overall existing drainage patterns, and route on-site runoff to the proposed infiltration facilities. Water quality treatment and hydromodification requirements will be met through the use of infiltration chambers and trenches. Upstream off-site runoff will be diverted both around and through the Project site using culverts. The culverts will be sized to capture, at a minimum, the 100-year, 24-hour rain event. Large outfall velocities for the culverts routed through and around the BESS and substation sites will be minimized using energy dissipators and riprap. Engineers have evaluated the Project and determined the stormwater system can carry the 100-year storm flow and debris for the 100-year flow.

As a result, the proposed Project will not:

- substantially alter the existing drainage pattern of the BESS site;
- increase impervious surfaces in a manner that will result in substantial erosion or siltation on or off site;
- substantially increase the rate or amount of runoff that will result in flooding on or off site; or
- contribute runoff that will exceed the capacity of existing or planned stormwater drainage systems.

Potential stormwater drainage impacts from construction and operations will be less than significant.

None of the proposed gen-tie towers or pads are within streams. Portions of the proposed gen-tie line structures and access roads will be located within a 100-year flood zone; however, these components have a relatively minimal aboveground profile and will have negligible effects related to impeding or redirecting flood flows. Stormwater runoff from the gen-tie pad areas will drain to infiltration ponds located at each pad. The new roads leading to the gen-tie pads will be gravel-surfaced and drain through perforated underdrains to the infiltration basin located at each of the gen-tie pads. Roads will be designed to be at or near grade. Based on the proposed design, no upstream ponding is expected from road construction or operations. The Project will not substantially impede or redirect 100-year flood flows.

Regulated Streams and Impact Summary for the Project

Feature Name	Total in Review Area (acres)	Permanent Impacts – Northern Gen-Tie Route (acres)	Temporary Impacts – Northern Gen-Tie Route (acres)	Permanent Impacts – Southern Gen-Tie Route (acres)	Temporary Impacts – Southern Gen-Tie Route (acres)	Reason for Impact
Non-Wetland Waters (NWW)						
NWW-1a	0.09	0.09	–	0.09	–	BESS
NWW-1b	0.18	0.18	–	0.18	–	BESS
NWW-1c	0.06	–	–	–	–	–
NWW-1d	0.02	0.02	–	0.02	–	BESS
NWW-2	0.35	–	0.002~~1~~	–	0.01	Gen-Tie Work Area*
NWW-3	0.14	–	–	–	–	–
NWW-4	0.02	–	–	–	–	–
NWW-5	1.36	0.01	0.15~~23~~	0.01	0.24~~31~~	Permanent: Gen-Tie Access Road Temporary: Gen-Tie Work Area*
NWW-6	0.14	–	–	–	–	–
NWW-7	0.77	–	–	–	–	–
NWW-8	0.18	–	–	–	–	–
NWW-9	0.03	0.03	–	0.03	–	BESS
Non-Wetlands Subtotal:	*3.34*	*0.33*	*0.~~24~~16*	*0.33*	*0.24~~32~~*	
Swales						
Swale-1	0.01	–	0.001~~=~~	–	0.01	Gen-Tie Work Area*
Swale-2	0.04	–	–	–	–	–
Swale-3	0.06	–	0.01	–	0.01	Gen-Tie Work Area*
Swale-4	0.04	–	0.04~~=~~	–	0.04~~=~~	Gen-Tie Work Area*~~=~~
Swale-5	0.08	–	–	–	–	–
Swale-6	0.04	–	–	–	–	–
Swales Subtotal:	*0.27*	–	*0.05~~01~~*	–	*0.05~~1~~*	

Regulated Streams and Impact Summary for the Project

Feature Name	Total in Review Area (acres)	Permanent Impacts – Northern Gen-Tie Route (acres)	Temporary Impacts – Northern Gen-Tie Route (acres)	Permanent Impacts – Southern Gen-Tie Route (acres)	Temporary Impacts – Southern Gen-Tie Route (acres)	Reason for Impact
Erosional Feature (EF)						
EF-1	0.03	–	–	–	–	–
EF-2	0.09	–	–	–	–	–
EF-3	0.03	–	–	–	–	–
EF-4	0.05	–	–	–	–	–
Erosional Feature Subtotal:	*0.20*	–	–	–	–	–
Totals	**3.80**	**0.33**	**0.204**	**0.33**	**0.303**	

Table Notes: totals may not sum due to rounding; BESS = Battery Energy Storage System.
* Temporary impact areas will be restored once construction is complete.

Attachment 5B

Streambed Alteration Agreement Application (Clean)

Attribute	Answer
General Information	
Applicant	Garrett Lehman, Director
Additional Contacts	n/a
Project Name	Prairie Song Reliability Project
Organization	Prairie Song Reliability Project LLC
Designated Representative	Michael Cady - Dudek
Project Location and Category	
Project Location	
Project Name	Prairie Song Reliability Project
Does the project site have a physical address? (select one)	☐ Yes | ☒ No
GPS Coordinates	34.485487°, -118.138757° - BESS portion of the Project
County	Los Angeles
Property APN	3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, 3056-019-040, 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-905, 3056-017-906, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802, 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, 3056-015-802 See Attachment B for figures showing the Project location.
Project Category	
Project Category (select one)	☒ New Construction | ☐ Replace/Remove Existing Structure | ☐ Repair/Maintain/Operate Existing Structure
Work Type (select one)	☐ Bank stabilization – bioengineering/recontouring | ☐ Bank stabilization – rip-rap/retaining wall/gabion | ☐ Boat dock/pier | ☐ Boat ramp | ☐ Bridge | ☐ Channel clearing/vegetation management | ☐ Culvert | ☐ Dam | ☐ Debris basin | ☐ Diversion structure: weir or pump intake (obsolete) | ☒ Filling of wetland, river, stream, or lake | ☐ Geotechnical survey | ☒ Grading | ☐ Habitat enhancement – revegetation/mitigation | ☐ Levee | ☐ Low water crossing | ☒ Road/trail | ☐ Sand & gravel operations | ☐ Sediment removal – pond, stream, or marina | ☐ Sediment removal: flood control | ☐ Storm drain outfall structure | ☒ Temporary stream crossing | ☐ Utility crossing: horizontal directional drilling | ☐ Utility crossing: jack/bore | ☐ Utility crossing: open trench | ☐ Water diversion with facility | ☐ Water diversion without facility | ☐ Other (Describe other work type)
Does this project address any of the following: hazardous fuels reduction, fuel breaks, wildfire	☐ Yes | ☒ No

Attribute	Answer
prevention, vegetation treatment or vegetation management for fire management? (select one)	
Affected Body of Water	
River, Stream, or Lake Affected	Unnamed tributaries and isolated streams
Waterbody tributary	Santa Clara River
Will water be present during the proposed work period in the river, stream, or lake: (select one)	☐ Yes | ☒ No
If "Yes", will the proposed project require work in the wetted portion of the channel?	☐ Yes | ☒ No If “Yes”, attach a plan to divert water around the project site and dewater the work site that specifies the method, volume rate, and timing of the diversion on the Documents and Maps form.
Wild and Scenic Rivers Act (WSRA)	
Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes | ☒ No | ☐ Unknown
Project Description, Term, and Impacts	
Project Description and Details	
Is the 'Property Owner' the same person as the 'Applicant Proposing Project?	☒ Yes | ☐ No
If “No”, outline the following contact information for the ‘Property Owner’: Name Business Agency Mailing Address Phone Number Email	N/A
Describe the Project in Detail	The project proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt Prairie Song Reliability Project (Project) located on up to approximately 114 acres in unincorporated Los Angeles

Attribute	Answer
	County. The primary components of the Project include a containerized battery energy storage system facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, an on-site Project substation, a 500-kilovolt overhead generation interconnection transmission line, and interconnection facilities within the existing Southern California Edison-owned and operated Vincent Substation. See Attachment C, Project Description, for full project objectives. A project description specific to the portions of the overall project that intersect with streams or associated riparian areas is included as Attachment C.1.
Describe Equipment and Machinery	Tractors, loaders, backhoes, excavator, rubber-tired dozer, rollers, air compressors, cranes, forklift, bore/drill rigs, trenchers, pumps, welders, rough terrain forklifts, skid steer loaders, concrete/industrial saws
Will part or all of this project be funded with one of the following CDFW-managed grants? (select one)	☐ Fish Restoration Grant Program (FRGP) | ☐ Cannabis Restoration Grant Program | ☐ Prop 1 Grant | ☐ Prop 68 Grant | ☐ Greenhouse Gas Grant (GHG) | ☐ Wildlife Conservation Board (WCB) Grant | ☒ N/A
Water Rights(s), Water Diversion(s) & Reservoir(s)	
Does the project have an associated water right(s)? (select one) ▪ If "Yes", how many project water rights are included in the project?	☐ Yes | ☒ No
Does the project include any water diversion(s)? (select one) ▪ If "Yes", how many water diversions will be included in the project?	☐ Yes | ☒ No
Does the project include a reservoir(s)? (select one) ▪ If "Yes", how many reservoir(s) will be included in the project?	☐ Yes | ☒ No
Commercial Cannabis Cultivation	
Does any part of the project include remediation at a cannabis cultivation site? (select one)	☐ Yes | ☒ No

Attribute	Answer
Are you seeking documentation to submit to the Department of Cannabis Control (DCC) for the purpose of commercial cannabis cultivation licensing? (select one)	☐ Yes | ☒ No
Agreement Term	
Agreement Term Requested	☒ Regular Term (5 years or less) | ☐ Long Term (Greater than 5 years)
Project Term	
Specify both the year the project activities will begin and the year the project activities will end. Be advised CDFW may restrict work within a stream or lake to the dry season of the year. Consequently, you may want to include more than one season of possible operation in your project proposal.	Beginning Year: 2027 Ending Year: 2069
Seasonal Work Period	
Specify the time period you intend to work on the project (e.g., August 1 to October 15). If the work period will exceed one year, specify the work period for each year of the project (e.g., Work Period 1, February 10 to March 31; Work Period 2, August 1 to October 15; Work Period 3, February 10 to March 31; etc.). CDFW may restrict project work to certain periods depending on rainfall, fish migration, wildlife breeding or nesting season, or other resource concerns. Specify the estimated number of days of	Construction Start Date: 3/2027 Construction End Date: 4/2029

Attribute	Answer
actual work days for each seasonal work period.	
Impacts to River, Stream, or Lake	
Describe Impacts	BESS + Northern Gen-Tie Route: 0.33-acre of NWW-1a, NWW-1b, NWW-1c, NWW-1d, NWW-5, and NWW-9 would be permanently filled in during grading to create a level area for the construction of the battery energy storage system and substation portions of the Project and access roads for the gen-tie portion. 0.20-acre of NWW-2, NWW-5, Swale-1, Swale-3 and Swale-4 could be temporarily impacted during the construction of the gen-tie (due to potential pull areas) and the trenching of the underground optical ground wire use for telecommunication by the project. BESS + Southern Gen-Tie Route: 0.33-acre of NWW-1a, NWW-1b, NWW-1c, NWW-1d, NWW-5, and NWW-9 would be permanently filled in during grading to create a level area for the construction of the battery energy storage system and substation portions of the Project and access roads for the gen-tie portion. 0.30-acre of NWW-2, NWW-5, Swale-1, Swale-3 and Swale-4 could be temporarily impacted during the construction of the gen-tie (due to potential pull areas) and the trenching of the underground optical ground wire use for telecommunication by the project. See Attachment B Figure 3 for Project impacts on jurisdictional waters. A detailed Figure 3 mapbook is also provided.
Impacts to Special-Status Species	
Will there be any foreseeable impacts to any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site? (select one)	☐ Yes | ☒ No
If “Yes”, list each species and describe the habitat	

Attribute	Answer
Source(s) Identify the source(s) of information (e.g., biological surveys, environmental documents, etc.) that support a "Yes" or "No" answer for the previous question.	The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.
Impacts to Trees and Vegetation	
Will the project affect any trees or vegetation?	☒ Yes | ☐ No
Describe Identify the type(s) of tree(s) or vegetation that will be affected by the project.	*Atriplex canescens* Association and *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Ephedra viridis* Association, *Juniperus californica / Adenostoma fasciculatum - Eriogonum fasciculatum* Association, *Juniperus californica /* herbaceous Association, Artemisia *tridentata - Ericameria* nauseosa Association, *Artemisia tridentata* Association, *Atriplex canescens* Association
Environmental Review	
California Environmental Quality Act	
Has a CEQA lead agency been determined? (select one)	☒ Yes | ☐ No
CEQA Lead Agency	California Energy Commission (CEC)
Agency Contact Person	Lisa Worrall
Phone Number	916-661-8367
Email	Stepsiting@energy.ca.gov
Has a draft or final document been prepared for the project pursuant to CEQA? (select one)	☒ Yes | ☐ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If "Yes", outline the type of environmental document. Include a copy of the CEQA document and all notices in the Documents and Map section.	☐ Notice of Exemption (NOE) | ☐ Negative Declaration (ND) | ☐ Mitigated Negative Declaration (MND) | ☒ Environmental Impact Report (EIR) | ☐ Timber Harvest Plan (THP)/Non-Industrial Timber Management Plan (NTMP)
State Clearinghouse Number (if applicable)	The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA Notice of Determination (NOD) been	☐ Yes | ☒ No

Attribute	Answer
completed for the project? (select one) If “Yes”, attach the NOD in the Documents and Map section. If “No”, explain why the NOD has not been completed.	The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA Mitigation, Monitoring, Reporting Plan (MMRP) been completed for the project? (select one) If “Yes”, attach the MMRP in the Documents and Map section. If “No”, explain why the MMRP has not been completed.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4? (select one) If “Yes”, attach a copy of the CEQA filing fee receipt in the Documents and Map section. If “No”, explain why the CEQA filing fee hasn’t been paid.	☐ Yes | ☒ No The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).
If the project described in this notification is not the “whole project", or action pursuant to CEQA, briefly describe the entire project. If the project described in the notification is the entire project, insert the following statement in this box: “The project described in the notification is the entire project.”	The project described in the notification is the entire project.
National Environmental Policy Act (NEPA)	
Has a draft or final document been prepared for the project pursuant to the National	☐ Yes | ☒ No

Attribute	Answer
Environmental Policy Act (NEPA)? (select one)	
If "Yes", outline the type of environmental document. Include a copy of the document in the Documents and Map section.	☐ Categorical Exclusion | ☐ Environmental Assessment (EA) | ☐ Finding of No Significant Impact (FONSI) | ☐ Environmental Impact Statement (EIS)
Measures to Protect Fish, Wildlife, and Plant Resources	
Sediment/Erosion Control	The Project's grading plans will include details on the location and type of BMPs necessary to reduce the potential for Project-induced erosion and scour, including temporary BMPs to be implemented during construction (per the statewide Construction General Permit), and permanent BMPs to be installed and maintained (per the County BMP Design Manual). The exact location and type of temporary BMPs to be installed during construction depend on site-specific conditions, construction schedule, and proposed activities, all of which are outlined in the construction SWPPP that will be prepared for the Project. Typical temporary BMPs used for similar projects include energy dissipaters, silt fences, fiber rolls, gravel/sand bags, construction road stabilization, and stabilized construction entrances. As the Project-specific SWPPP is prepared, the location, type, and number of specific BMPs may be refined based on the final designs to most effectively achieve the objective of reducing turbidity and other pollutant loads in stormwater runoff. The provisions of the CGP ensure that site-specific conditions are taken into consideration when developing construction SWPPPs, that personnel developing and implementing construction SWPPPs are qualified, and that BMPs are adequately monitored and maintained.
Avoidance/Minimization Measures	During Construction: Potential temporary indirect impacts to the drainages in the project site and downstream waters could result from construction activities and will include potential impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration and transpiration, increased penetration of phytotoxic gaseous pollutants, and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/ jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures will be implemented as part of the storm water pollution prevention plan (SWPPP) for the Project. Because the entirety of the Project development footprint will be graded at one time but construction will occur over time in phases, the erosion measures will be maintained until all graded areas are constructed/landscaped. Prior to the start of construction activities, the Contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required SWPPP will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment, for all exposed soils.

Attribute	Answer
	During Operation: Once constructed, the proposed BESS facility will result in a substantial increase in impervious surfaces at the site, currently entirely pervious, which could potentially result in discharge of polluted stormwater runoff. Potential sources of polluted runoff include incidental spills of petroleum products and hazardous substances from maintenance vehicles and equipment. The proposed substation and BESS will be constructed on a raised pad and runoff from this area will drain southwest into catch basins located across the site. A storm sewer network will route water from the catch basins into underground infiltration chambers and infiltration trenches. Infiltration trenches along the southern end of each drainage area connected to the chamber system will aid in meeting the infiltration volume requirement. The infiltration facilities will be sized to store and infiltrate the difference in runoff between existing and proposed conditions up to the 50-year 24-hour storm event for the two (2) drainage areas on site. Project engineers have evaluated that the Project stormwater system can carry the 100-year storm flow and debris for the 100-year storm flow. Each gen-tie pad will manage stormwater runoff using shallow infiltration basins. Roads will be designed to be at or near grade. Based on the proposed design, no upstream ponding is expected from road construction or operations.
Mitigation/Compensation Measures	**Temporary Impact Restoration:** The temporary impacts to streams would be restored. Prior to ground disturbing activities, a qualified biologist shall be retained to prepare a Habitat Mitigation and Monitoring Plan (HMMP) detailing the specific approach for each type of habitat restoration and establishment area in the Conservation Area, and short-joint beavertail transplant location, and will outline detailed performance standards and monitoring requirements for each; following the monitoring and reporting methods and performance standards listed below. The HMMP shall be submitted to and approved by the CEC prior to the onset of Project-related ground-disturbing activities. The acreages allotted for on-site establishment apply to approximately 28.17 acres (Southern Gen-Tie Route) or 22.61 acres (Northern Gen-Tie Route) within the Conservation Area that includes 0.31 acres of ephemeral streams (Southern Gen-Tie Route) or 0.20 acres of ephemeral streams (Northern Gen-Tie Route). Up to 176 California juniper will be planted under the Southern Gen-Tie Route option and up to 228 California juniper will be planted under the Northern Gen-Tie Route option. The HMMP shall set out measures for habitat restoration/enhancement implementation, including but not limited to: ▪ Identification of proposed plant materials ▪ Signage in the habitat restoration area ▪ Schedule for habitat restoration/enhancement work ▪ Use of pesticides and elimination of non-native vegetation ▪ Habitat monitoring and reporting

Attribute	Answer
	▪ Performance standards **Preservation of Streams:** Mitigation for the Project requires the establishment of a conservation area that will preserve up to approximately 2.41 acres of unimpacted streams in the parcels associated with the gen-tie routes. **No Net Loss:** Mitigation for up to approximately 0.99 acres of jurisdictional waters (under the Southern or Northern Gen-Tie Route options) shall be implemented through off-site acquisition, such as mitigation bank credits, and/or turnkey projects with mitigation banks (as approved by the CEC) following the issuance of permits from the U.S. Army Corps of Engineers, and Los Angeles Regional Water Quality Control Board, as applicable, and those agencies approval of the mitigation bank, and prior to the issuance of the grading permit. A turnkey mitigation project (establishment of the riparian habitat) will be used should credits not be available at the time of the jurisdictional waters permitting.
Prior Notifications, Orders, and Permits	
Prior Notifications and/or Agreements	
Identify any notification previously submitted to, or Lake or Streambed Alteration Agreement previously issued by, CDFW for the project described in this notification. Include a copy of the previously submitted notification and/or agreement in the Documents and Maps form. If applicable, list the following: Name of Applicant: Notification Number: Date:	Not Applicable
Prior Orders, Notice, and/or Violations	
If this notification is being submitted in response to a court or administrative order or notice, or a notice of violation issued by CDFW, complete this section for each order, notice, or violation.	Not Applicable

Attribute	Answer
Include a copy of each order, notice, or violation in the Document and Maps form. If applicable, list the following: Person who Directed you to Submit: Agency that Directed you to Submit: Describe Circumstances:	
Local, State, and/or Federal Permits	
List any local, state, and/or federal permits required for the project and mark whether applied or issued. Include a copy of each permit that has been issued in the Documents and Maps form. You are responsible for obtaining all necessary permits and authorizations from CDFW and other agencies before beginning any project described in the notification. If applicable, list the following: Permit Name: Permit Type: If the permit was applied for or issued: Date issued/applied:	Regional Water Quality Control Board Water Quality Certification / Waste Discharge Requirements
Documents and Maps	
Maps/Photos	
Project Site Map	See Attachment B, Figure 1
Project Aerial View Map	See Attachment B, Figure 3
Project Site Photo(s)	See Attachment D, Appendix C

Attribute	Answer
Studies and Mapping	
Has a biological study been completed for the project site? (select one) If "Yes", include a copy of the document in the Documents and Map section.	☒ Yes | ☐ No The Biological Resources section of the Project's CEC "Opt-In" application contains the results of the biological studies conducted for the Project.
Has one or more technical studies (e.g., engineering, hydrologic, geologic, or geomorphological) been completed for the project for project site? (select one) If "Yes", include a copy of the documents in the Documents and Map section.	☒ Yes | ☐ No The appendices of the Project's CEC "Opt-In" application contains the engineering, hydrologic, geologic, or geomorphological studies for the Project.
Have fish or wildlife resources or waters of the state been mapped or delineated on the project site? (select one) If "Yes", include a copy of the document in the Documents and Map section.	☒ Yes | ☐ No See Attachment D
Additional Documents and Maps	
Upload Attachments, Documents, Maps, etc.	See Attachments B through D
Fees Schedule	
Notification Fees	
Project Name	Prairie Song Reliability Project
Project Cost Range	Regular Term: ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☒ $350,000 or more
	Long Term: ☐ Base Fee | ☐ < $5,000 | ☐ $5,000 to less than $10,000 | ☐ $10,000 to less than $25,000 | ☐ $25,000 to less than $100,000 | ☐ $100,000 to less than $200,000 | ☐ $200,000 to less than $350,000 | ☐ $350,000 to less than $500,000 | ☐ $500,000 or more

Attribute	Answer
Actual Project Cost	TBD
Payment Information	
Payment Method	☐ Check/Money Order | ☐ Credit Card If check/money order, outline the following information: Name of the Bank/Institution: Check/Money Order #: If credit card, CDFW's online internet sales system will provide a document number after completing the transaction. Outline the document number:
Acknowledgment and Signature	
Site Inspection	
First Contact this Person to Schedule Site Visit Outline method of contact, contact name and information	Garrett Lehman, Director
Electronic Signature	
Application to be electronically signed by the Applicant or Designated Representative.	

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Prairie Song Reliability Project: Project Description for the Streambed Alteration Application Package

Prairie Song Reliability Project LLC, a Delaware limited liability company, a subsidiary of Coval Infrastructure DevCo LLC, a Delaware limited liability company, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW) Prairie Song Reliability Project (Project) located on up to approximately 114 acres in unincorporated Los Angeles County. The primary components of the Project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance (O&M) buildings, an on-site Project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE)-owned and operated Vincent Substation.

An Aquatic Resources Delineation was completed for the Project which identified nine (9) stream features, six (6) swales, and four (4) erosional features within the Review Area as shown in Figure 3, Jurisdictional Water Impact of Attachment B. The Review Area encompasses all areas of project site control as well as parcels owned by SCE that intersect the Vincent Substation. Additional details are available in the Project's Aquatic Resources Delineation Report (Attachment D to the Application for Streambed Alteration Agreement). As summarized in the table below, permanent and temporary impacts will occur to nine (9) features as a result of Project construction. Permanent impacts will occur from the construction of the BESS facility and from an access road to one of the gen-tie towers. Temporary impacts will be from the work areas for the gen-tie construction and restored following the completion of construction. Figure 3 within Attachment B depicts jurisdictional waters impacts by project component.

The Project's proposed grading and hydraulic structures will be designed to route off-site runoff through and around the site, maintain overall existing drainage patterns, and route on-site runoff to the proposed infiltration facilities. Water quality treatment and hydromodification requirements will be met through the use of infiltration chambers and trenches. Upstream off-site runoff will be diverted both around and through the Project site using culverts. The culverts will be sized to capture, at a minimum, the 100-year, 24-hour rain event. Large outfall velocities for the culverts routed through and around the BESS and substation sites will be minimized using energy dissipators and riprap. Engineers have evaluated the Project and determined the stormwater system can carry the 100-year storm flow and debris for the 100-year flow.

As a result, the proposed Project will not:

- substantially alter the existing drainage pattern of the BESS site;
- increase impervious surfaces in a manner that will result in substantial erosion or siltation on or off site;
- substantially increase the rate or amount of runoff that will result in flooding on or off site; or
- contribute runoff that will exceed the capacity of existing or planned stormwater drainage systems.

Potential stormwater drainage impacts from construction and operations will be less than significant.

None of the proposed gen-tie towers or pads are within streams. Portions of the proposed gen-tie line structures and access roads will be located within a 100-year flood zone; however, these components have a relatively minimal aboveground profile and will have negligible effects related to impeding or redirecting flood flows. Stormwater runoff from the gen-tie pad areas will drain to infiltration ponds located at each pad. The new roads leading to the gen-tie pads will be gravel-surfaced and drain through perforated underdrains to the infiltration basin located at each of the gen-tie pads. Roads will be designed to be at or near grade. Based on the proposed design, no upstream ponding is expected from road construction or operations. The Project will not substantially impede or redirect 100-year flood flows.

Regulated Streams and Impact Summary for the Project

Feature Name	Total in Review Area (acres)	Permanent Impacts – Northern Gen-Tie Route (acres)	Temporary Impacts – Northern Gen-Tie Route (acres)	Permanent Impacts – Southern Gen-Tie Route (acres)	Temporary Impacts – Southern Gen-Tie Route (acres)	Reason for Impact
Non-Wetland Waters (NWW)						
NWW-1a	0.09	0.09	–	0.09	–	BESS
NWW-1b	0.18	0.18	–	0.18	–	BESS
NWW-1c	0.06	–	–	–	–	–
NWW-1d	0.02	0.02	–	0.02	–	BESS
NWW-2	0.35	–	0.002	–	0.01	Gen-Tie Work Area*
NWW-3	0.14	–	–	–	–	–
NWW-4	0.02	–	–	–	–	–
NWW-5	1.36	0.01	0.15	0.01	0.24	Permanent: Gen-Tie Access Road Temporary: Gen-Tie Work Area*
NWW-6	0.14	–	–	–	–	–
NWW-7	0.77	–	–	–	–	–
NWW-8	0.18	–	–	–	–	–
NWW-9	0.03	0.03	–	0.03	–	BESS
Non-Wetlands Subtotal:	*3.34*	*0.33*	*0.16*	*0.33*	*0.24*	
Swales						
Swale-1	0.01	–	0.001	–	0.01	Gen-Tie Work Area*
Swale-2	0.04	–	–	–	–	–
Swale-3	0.06	–	0.01	–	0.01	Gen-Tie Work Area*
Swale-4	0.04	–	0.04	–	0.04	Gen-Tie Work Area*
Swale-5	0.08	–	–	–	–	–
Swale-6	0.04	–	–	–	–	–
Swales Subtotal:	*0.27*	–	*0.05*	–	*0.05*	

Regulated Streams and Impact Summary for the Project

Feature Name	Total in Review Area (acres)	Permanent Impacts – Northern Gen-Tie Route (acres)	Temporary Impacts – Northern Gen-Tie Route (acres)	Permanent Impacts – Southern Gen-Tie Route (acres)	Temporary Impacts – Southern Gen-Tie Route (acres)	Reason for Impact
Erosional Feature (EF)						
EF-1	0.03	–	–	–	–	–
EF-2	0.09	–	–	–	–	–
EF-3	0.03	–	–	–	–	–
EF-4	0.05	–	–	–	–	–
Erosional Feature Subtotal:	*0.20*	–	–	–	–	–
Totals	**3.80**	**0.33**	**0.20**	**0.33**	**0.30**	

Table Notes: totals may not sum due to rounding; BESS = Battery Energy Storage System.
* Temporary impact areas will be restored once construction is complete.

Attachment 6A

Appendix 3.3A, Archaeological Resources Management Report (Redline)

Archaeological Resources Management Report

Prairie Song Reliability Project, Los Angeles County, California

~~JUNE~~ SEPTEMBER 2026~~2025~~

Prepared for:

PRAIRIE SONG RELIABILITY PROJECT LLC
Project Applicant

Prepared by:

DUDEK

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Printed on 30% post-consumer recycled material.

National Archaeological Database (NADB) Information

Authors:	Roshanne Bakhtiary, MA, RPA, Jessica Colston, BA, Brenda Rogers, BA, and Micah Hale, PhD, RPA
Firm:	Dudek
Project Proponent:	Prairie Song Reliability Project LLC
Report Date:	~~April~~ September 2026~~2025~~
Report Title:	Archaeological Resources Management Report for the Prairie Song Reliability Project, Los Angeles County, California
Type of Study:	Archaeological Resources Inventory and Evaluation
Resources:	P-19-101014; ABS-PK-S-01; ABS-PK-S-02; ABS-PK-S-03; ABS-JC-S-01; ABS-JC-S-02; ABS-JC-S-03; ABS-JC-S-04; ABS-JC-S-05; ABS-BR-S-01; ABS-RB-S-01
USGS Quads:	Acton, California and Pacifico, California 1:24,000; T 5N, R 12W, Sections 27, 28, 33, and 34
Acreage:	195~~38~~.2~~7~~ acres
Keywords:	Acton, California USGS 7.5-Minute Quadrangle; Pacifico, California USGS 7.5-Minute Quadrangle; Acton, California; Intensive-Level Pedestrian Survey; P-19-101014; ABS-PK-S-01; ABS-PK-S-02; ABS-PK-S-03; ABS-JC-S-01; ABS-JC-S-02; ABS-JC-S-03; ABS-JC-S-04; ABS-JC-S-05; ABS-BR-S-01; ABS-RB-S-01

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D NAHC and Tribal Correspondence
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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
Amsl	above mean sea level
APN	Assessor's Parcel Number
API	Area of Potential Impacts
BESS	battery energy storage system
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
County	County of Los Angeles
CRHR	California Register of Historical Resources
DPR site forms	California Department of Parks and Recreation 523 (Series 1/95) forms
E/W	east/west
gen-tie	generation interconnection
kV	kilovolt
MLD	Most Likely Descendant
N/S	north/south
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
PRC	Public Resources Code
project	Prairie Song Reliability Project
project API	area of potential impacts for Archaeological Resources
SCCIC	Southern Central Coastal Information Center
SCE	Southern California Edison
SLF	Sacred Lands File
TCR	tribal cultural resource
Yuhaaviatam	Yuhaaviatam of San Manuel Nation

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Management Summary

Dudek conducted an archaeological resources inventory and evaluation in support of the Prairie Song Reliability Project (project), located on up to ~~approximately~~ 114.39~~107~~ acres of unincorporated land in Los Angeles County, California (Figure 1, Project Location). Prairie Song Reliability Project LLC proposes to construct and operate an up to 1,150-megawatt battery energy storage system facility that will include operation and maintenance buildings, a project substation, a 500-kilovolt overhead generation interconnection transmission line, and interconnection facilities within the existing Southern California Edison owned and operated Vincent Substation (Figure 2, Project Site Design). The project is located south of State Route 14, approximately 3 miles northeast of the unincorporated community of Acton and is within the U.S. Geological Survey 7.5-minute *Acton, California* and *Pacifico Mountain, California* Quadrangles, Township 5 North, Range 12 West, Sections 27, 28, 33 and 34. The project site is comprised of Assessor's Parcel Numbers 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040~~3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040~~. This study included a records search, an archival information and literature review, correspondence with the Native American Heritage Commission, informal tribal outreach, an intensive-level archaeological resources pedestrian survey of the project area of potential impacts (API), and the evaluation of one previously recorded and 10 newly identified historic-era archaeological resources under all applicable historical significance criteria.

This archaeological resources investigation was conducted in compliance with the California Environmental Quality Act (CEQA) and local regulations. The California Energy Commission is the lead agency responsible for compliance with CEQA. The project's API for Archaeological Resources (project API or API) is ~~approximately~~ 195.2~~39~~ acres. This includes the proposed battery energy storage system facility footprint and both generation interconnection route corridor options with a 50-foot buffer, as well as any access roads, laydown yards, and work areas with a 200-foot buffer (Figure 3, API for Archaeological Resources). For the purposes of providing management recommendations, the vertical API, as represented by the average depth of ground disturbance, is assumed to be 10 feet below the existing ground surface. The maximum ground disturbance depth is assumed to be 25 to 55 feet below the existing ground disturbance for the gen-tie line structure foundations.

Dudek conducted a California Historical Resources Information System records search of the project API and surrounding 1-mile radius at the South Central Coastal Information Center. The records search identified three previously recorded cultural resources that intersect with the API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). P-19-002893 and P-19-101014 are addressed in this study, while P-19-192581 are addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek for the project in 2025 (Ahmanson et al. 2025).

A Native American Heritage Commission Sacred Lands File search was also conducted for the project in 2023 and 2025, and results were negative for Native American cultural resources within 1 mile of the project API. The Native American Heritage Commission additionally provided a list Native American individuals and/or tribal organizations that should be contacted for more information on potential tribal sensitivities regarding the currently proposed project. Dudek sent letters via USPS certified mailing on January 15 and 20, 2025 to all California Native American Tribal representatives included on the Native American Heritage Commission contact lists. Results of these efforts are provided in Section 6. A review of historic topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries. Additionally, review of historic

topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries.

Several Dudek archaeologists conducted intensive-level archaeological resources pedestrian surveys of the project API in 2023, 2024, and 2025. During these survey efforts, crews revisited one previously recorded archaeological resource (P-19-101014) and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. P-19-002893 was identified as being outside of the project API and thus was not subject to evaluation efforts as part of the current study. 10 of the identified archaeological resources are characterized as surficial historic-era refuse scatters, while ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The majority of these resources likely represent single dumping episodes as indicated by their localized concentration of mostly contemporaneous domestic refuse and food waste items.

P-19-101014, ABS-PK-S-01, ABS-PK-S-02, ABS-PK-S-03, ABS-JC-S-01, ABS-JC-S-02, ABS-JC-S-03, ABS-JC-S-04, ABS-JC-S-05, ABS-BR-S-01, and ABS-RB-S-01 were evaluated as part of the current study. Dudek recommends that all 11 archaeological resources are not eligible for listing on the California Register of Historic Resources and do not meet the criteria to be considered significant or unique archaeological resources under CEQA

Based on the quantity of archaeological resources identified within a 1-mile radius of the project API, the geoarchaeological suitability of the API for supporting the presence of buried archaeological resources, and in consideration of the lack of past disturbances within the majority of the project API, there is a moderate potential for the inadvertent discovery of unanticipated archaeological resources during initial project-related ground disturbance. Dudek recommends part-time archaeological monitoring during initial ground disturbing activities for the project. A Cultural Resources Management and Inadvertent Discovery Plan (CRMIDP) should be developed prior to initiation of construction. The requirement for Native American monitoring should be determined by the lead agency, as informed through the process of consultation. See the Summary and Management Considerations section of this report for details on recommended mitigation measures.

1 Report Structure and Key Personnel

This report is divided into nine sections. Following this section, Section 2 discloses the project location, description, and area of potential impacts delineation. Section 3 provides a summary of the regulatory setting, Section 4 reviews the natural environment and cultural context, and Section 5 provides the research design for the study's significance evaluations. Section 6 provides the methods used to complete the current inventory and evaluation. The records search, archival research, survey results, and all Native American Heritage Commission (NAHC) and tribal correspondence to date are discussed in Section 7. Section 8 provides the significance evaluation findings for all 11 archaeological resources identified as intersecting with the project area of potential impacts (API), and Section 9 summarizes the archaeological resources work completed for the project to date and provides recommendations for further treatment of archaeological resources in accordance with CEQA and local regulations. Finally, Section 10 includes a list of all materials referenced in this report. Several appendices are attached to this report. Appendix A provides resumes of key personnel; Appendix B includes confidential records search results; Appendix C contains a cultural resources overview map; Appendix D documents all NAHC and Tribal correspondence to date; and Appendix E includes all California Department of Parks and Recreation 523 (Series 1/95) forms (DPR site forms) prepared in support of this study.

Brenda Rogers, BA, and personnel at the South Central Coastal Information Center (SCCIC) conducted the California Historical Resources Information System records searches in support of this project. Jessica Colston, BA; Phillip Sharp-Garcia, BA; Shane McDonnell, BA; Brenda Rogers, BA; and Roshanne Bakhtiary, MA, conducted the intensive-level archaeological resources pedestrian surveys in support of this project. Roshanne Bakhtiary, MA; Jessica Colston, BA; and Brenda Rogers, BA, drafted the present report and Micah Hale, PhD, RPA provided contributions to ethnographic context sections. Adam Giacinto acted as principal investigator, reviewed management recommendations, and finalized the technical report. All archaeologists were overseen by the principal investigator, who exceeds the Secretary of the Interior's Professional Qualification Standards for archaeology and all have extensive experience working within local, state, and federal regulatory contexts.

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2 Introduction

2.1 Project Location and Description

Dudek's archaeological resources inventory and evaluation in support of the Prairie Song Reliability Project (project) was conducted in compliance with the California Environmental Quality Act (CEQA). Prairie Song Reliability Project LLC, a subsidiary of Coval Infrastructure DevCo LLC, is filing an Application for Opt-In Certification under the California Energy Commission's (CEC) licensing process. The CEC is the lead agency responsible for compliance with CEQA.

Prairie Song Reliability Project LLC is proposing to construct, operate, and eventually repower or decommission the up to 1,150-megawatt project located on up to 114.39 ~~approximately 107~~ acres of unincorporated land in Los Angeles County (County), California. The project is located south of State Route 14 and approximately 3 miles northeast of the unincorporated community of Acton. The project is within the U.S. Geological Survey 7.5-minute *Acton, California* and *Pacifico Mountain, California* Quadrangles, Township 5 North, Range 12 West, Sections 27, 28, 33 and 34. The project site is comprised of Assessor's Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040~~3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040~~, and will occur on an area of land sandwiched between two existing transportation corridors, State Route 14 to the north and Southern Pacific Railroad lines and Carson Mesa Road to the south, that are approximately 1,200 feet apart (Figure 1, Project Location).

The primary components of the project include a battery energy storage system (BESS) facility, operation and maintenance buildings, a project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE) owned and operated Vincent Substation (Figure 2, Project Site Design).

The project will utilize one of two potential gen-tie routes. Either route will extend south and east from the project substation, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, and then proceed northeast to the Point of Interconnection at the SCE Vincent Substation. The Northern Gen-Tie Route is approximately 1.2 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-906, 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Southern Gen-Tie Route is approximately 1.9 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. ~~The Northern Gen-Tie Route is approximately 1.1 miles long and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-904, and 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Southern Gen-Tie Route is approximately 1.8 miles long and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802.~~ Both gen-tie route options are defined by 150-foot-wide linear corridors, reflective of the anticipated impact area for project-related construction and operation. The project's interconnection facilities will be located within the SCE Vincent Substation.

2.2 Area of Potential Impacts for Archaeological Resources

The project's API for archaeological resources (project API), as represented by the area that may be subject to physical impacts, is approximately 195.2~~139~~ acres. This includes the proposed BESS facility footprint as well as any access roads, laydown yards, and work areas with a 200-foot buffer, and both gen-tie route corridor options with a 50-foot buffer (Figure 3, API for Archaeological Resources). To note, the API does not include a 200-foot buffer around the BESS facility footprint, as it is surrounded by private property and beyond the established limits that could be affected by proposed project-related construction or operation. For the same reason, the 200-foot buffer was applied to work areas only where appropriate and was excluded from areas that extend onto private property. For the purposes of providing management recommendations, the vertical API, as represented by the average depth of ground disturbance for the project, is assumed to be 10 feet below the existing ground surface, while the maximum depth of ground disturbance is assumed to be 25 to 55 feet below the existing ground disturbance for the gen-tie line structure foundations.

Figure 1 Project Location

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Figure 2 Project Site Design

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Figure 3 API for Archaeological Resources

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3 Regulatory Setting

The following section, outlined in Table 1, provides a summary of the applicable laws, ordinances, regulations, and standards relating to the proper management of cultural resources.

Table 1. Laws, Ordinances, Regulations, and Standards Applicable to Cultural Resources

Jurisdiction	LORS	Applicability	Report Reference	Project Conformity
Federal	Section 106, National Historic Preservation Act	Applies if the project would require federal funding or permitting.	Not applicable	The project will not include any federal funding or permitting.
State	California Register of Historical Resources	Program used by state and local agencies to identify, evaluate, register, and protect California's historical resources.	Not applicable	The current study did not identify any cultural resources that meet the eligibility criteria for listing on the California Register of Historical Resources.
State	California Environmental Quality Act	Requires state and local government agencies to inform decisionmakers and the public about the potential environmental effects of a project and to prevent significant, avoidable environmental impacts to extents feasible.	Throughout this Report	Certification of the project by the CEC will be required to comply with CEQA as required by the CEC's Opt-In Application process.
State	Assembly Bill 52	Requires lead agencies to consult with Tribal Governments to address Tribal Cultural Resources that may be impacted by a project.	Not applicable	CEC will be required to complete Government-to-Government consultation pursuant to AB 52 as part of the Opt-In Application process.
State	California Health and Safety Code Section 7050.5	Work shall be halted in the event of human remains discovery.	Section 9.1	Mitigation Measure CUL-3 requires compliance with the California Health and Safety Code Section 7050.5.
State	Public Resources Code Section 5097.98	Most Likely Descendant designation following the discovery of human remains determined by the County Coroner to be Native American in origin.	Section 9.1	Mitigation Measure CUL-3 requires compliance with Public Resources Code Section 5097.98.
Local	Los Angeles County General Plan	Protects historic, cultural, and paleontological resources in	Throughout this Report	The project would conform with the Los Angeles County General Plan goal and policies, as required by the

Table 1. Laws, Ordinances, Regulations, and Standards Applicable to Cultural Resources

Jurisdiction	LORS	Applicability	Report Reference	Project Conformity
		unincorporated areas of Los Angeles County.		CEC's Opt-In Application process.
Local	Los Angeles County Historic Preservation Ordinance	Establishes criteria and procedures for the nomination, designation, and review of work on historic landmarks and property located within historic districts in unincorporated areas of Los Angeles County.	Not applicable	The current study did not identify and cultural resources that meet the Los Angeles County Historic Preservation Ordinance criteria.

Note: LORS = laws, ordinances, regulations, and standards; CEC = California Energy Commission; CEQA = California Environmental Quality Act; AB = Assembly Bill.

3.1 Federal Level Regulations

No federal nexus has been identified that would require the proposed project to comply with federal laws, ordinances, regulations, and standards related to cultural resources.

3.2 State Level Regulations

California Register of Historical Resources

In California, the term "historical resource" includes, but is not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Public Resources Code [PRC] Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated as follows: According to California PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity" and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (14 California Code of Regulations [CCR] 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and Tribal Cultural Resources (TCRs):

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines "Tribal Cultural Resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14-CCR 15064.5[b]).

A "substantial adverse change in the significance of an historical resource," reflecting a significant effect under CEQA, means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14- CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following (14 CCR 15064.5[b][2]):

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register [CRHR]; or

2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any historical resources, then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance would be materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a]–[c]).

PRC Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21083.2[g]):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074[c] and 21083.2[h]), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

California State Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency.

Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, the procedures are detailed in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the California NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

Guidelines for Determining Significance

According to CEQA (Section 15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change:

> Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

- When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
- If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
- If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or Environmental Impact Report (EIR), if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

- When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:
  1. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and
  2. The requirement of CEQA and the Coastal Act.

Under CEQA, an EIR is required to evaluate any impacts on unique archaeological resources (PRC Section 21083.2). A "unique archaeological resource" is defined as (PRC Section 21083.2(g)):

> [A]n archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

An impact to a non-unique archaeological resource is not considered a significant environmental impact and such non-unique resources need not be further addressed in the EIR (Public Resources Code Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)).

As stated above, CEQA contains rules for mitigation of "unique archeological resources." For example (PRC Section 21083.2(b)(1)-(4)), "[i]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:"

1. "Planning construction to avoid archeological sites."
2. "Deeding archeological sites into permanent conservation easements."
3. "Capping or covering archeological sites with a layer of soil before building on the sites."
4. "Planning parks, greenspace, or other open space to incorporate archeological sites."

PRC Section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be

required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

The rules for mitigating impacts to archeological resources to qualify as "historic resources" are slightly different. According to CEQA Guidelines Section 15126.4(b), "[p]ublic agencies should, whenever feasible, seek to avoid damaging effects on any historic resource of an archeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archeological site:

A. Preservation in place is the preferred manner of mitigating impacts to archeological sites. Preservation in place maintains the relationship between artifacts and the archeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
B. Preservation in place may be accomplished by, but is not limited to, the following:
    1. Planning construction to avoid archeological sites;
    2. Incorporation of sites within parks, greenspace, or other open space;
    3. Covering the archeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site [; and]
    4. Deeding the site into a permanent conservation easement.

Thus, although Section 21083.2 of the Public Resources Code, in addressing "unique archeological sites," provides for specific mitigation options "in no order of preference," CEQA Guidelines Section 15126.4(b), in addressing "historical resources of an archeological nature," provides that "[p]reservation in place is the preferred manner of mitigating impacts to archeological sites."

Under CEQA, "[w]hen data recovery through excavation is the only feasible mitigation," the lead agency may cause to be prepared and adopt a "data recovery plan," prior to any excavation being undertaken. The data recovery plan must make "provision for adequately recovering the scientifically consequential information from and about the historic resource" (CEQA Guidelines Section 15126.4(b)(3)(C)). The data recovery plan also "must be deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(C)). Further, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation" (CEQA Guidelines Section 15126.4(b)(3)(C)).

However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(D)).

3.3 Local Level Regulations

Los Angeles County 2035 General Plan

Chapter 9, the Conservation and Natural Resources Element of the Los Angeles County 2035 General Plan, Section VIII. Historic, Cultural, and Paleontological Resources, provides the following goals and policies potentially relevant to the project (County of Los Angeles 2015a):

Goal C/NR 14. Protected historic, cultural, and paleontological resources.

Topic: Historic, Cultural, and Paleontological Resource Protection

Policy C/NR 14.1. Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.

Policy C/NR 14.2. Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.

Policy C/NR 14.3. Support the preservation and rehabilitation of historic buildings.

Policy C/NR 14.4. Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

Policy C/NR 14.5. Promote public awareness of historic, cultural, and paleontological resources.

Policy C/NR 14.6. Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Los Angeles County Preservation Ordinance

On September 1, 2015, the Board of Supervisors recognized the importance of preserving the County's distinctive architectural and cultural history by adopting the Historic Preservation Ordinance that (County of Los Angeles 2015b):

- Specifies criteria and procedures for the designation of landmarks and historic districts.
- Specifies criteria and procedures for reviewing proposed work on designated landmarks or on property within historic districts.
- Establishes penalties for unauthorized work, including demolition, on landmarks or historic district contributors.
- Requires maintenance of landmarks and historic district contributors to prevent deterioration.
- Prohibits work, including demolition, on property nominated but not yet designated as a landmark or historic district.
- Encourages adaptive reuse of landmarks and historic district contributors by providing relief from parking requirements.

- Provides for the enhancement of historic districts by the establishment of development guidelines and standards, and by allowing streetscape improvements that are compatible with the areas historic character.

4 Context and Setting

4.1 Environmental Setting

The project is located in northern Los Angeles County within the foothills of the Sierra Pelona Mountains and at the edge of the Antelope Valley of the western Mojave Desert. The nearest municipality to the project is the City of Palmdale, which is located approximately 4 miles to the northeast. Land uses in the immediate vicinity of the project include undeveloped and rural lands, multiple high-voltage transmission lines and an electrical substation, paved and rural roads, State Route 14, and railroad lines. The majority of the project API is currently either undeveloped or rural residential. The API ranges in elevation from approximately 3,000 feet to 3,200 feet above mean sea level (amsl) and is generally hilly in nature, with greater elevations along the eastern portion of the API. The region surrounding the project receives approximately 8.7 inches of precipitation annually. Average temperatures range from approximately 38°F to 97°F (WRCC 2025). Additionally, several seasonal drainages are located within and adjacent to project, with the Santa Clara River located directly to the north.

The project API sits within an ecotone characterized by a blend of desert scrub and mixed chaparral native plant communities. Common plant species within desert scrub environments include creosote (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), juniper (*Juniperus* spp.), and golden cholla (*Cylindropuntia echinocarpa*), while species typical of mixed chaparral include chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), coyote brush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), scrub oak (*Quercus berberidifolia*) and yucca (*Yucca* spp. or *Hesperoyucca* sp.). Additionally, a wide array of fauna is known to exist within the foothills of the western Mojave Desert. Medium-sized mammals such as coyote (*Canis latrans*) and fox (*Urocyon cinereoargenteus*) are common. Smaller animals include blacktailed jackrabbit (*Lepus californicus*), cottontail rabbit (*Sylvilagus audubonii*), ground squirrel (*Spermophilus* sp.), and kangaroo rat (*Dipodomys* sp.), as there are many birds and migratory waterfowl present at lower elevations across cross the Antelope Valley (Earle et al. 1997; Pritchard-Parker et al. 1999; Rhode and Lancaster 1996).

4.2 Prehistoric Setting

Earle et al. (1997) and Loechl et al. (2002) have divided the prehistoric cultural chronology for the Mojave Desert into seven cultural/temporal periods: Fluted Point Period, Lake Mojave Period, Pinto Period, Gypsum Period, Saratoga Springs Period, Post-Saratoga Springs/Late Period, and Contact/Ethnographic Period; the last includes the Euro-American historic record as well. Following Loechl et al. (2002) and Horne and McDougall (2005), Giambastiani et al. (2008) synthesized these periods with inferred paleoclimatic events over the past 12,000 years in the Mojave Desert. However, their scenario conflicts with the “standard” culture synthesis currently in use within the region, and there are minor aspects of that scheme that appear somewhat outdated in light of recent data from Edwards Airforce Base (Basgall and Overly 2004; Giambastiani and Basgall 2000; Rhode and Lancaster 1996), Fort Irwin (Basgall and Hall 1992; Byrd et al. 1994), and Twentynine Palms (Basgall and Giambastiani 2000; Basgall et al. 2002; Basgall and Jurich 2006; Hall 2000).

While it is likely that long-term trends in prehistoric subsistence/settlement adaptations, and the timing of major changes in them, were largely similar across the Mojave Desert region, the many attempts to summarize them during the last 30 years of archaeological research have often produced differing results. In particular, the character of Late Pleistocene/early Holocene adaptations is still unclear and strongly debated, due in part to the persistence

of long-standing notions of Paleoindian lifeways but due also to the continued scarcity of archaeological data from ancient sites in good, dateable contexts. The following summary of early prehistoric culture history, therefore, contains some assertions that are largely inferred and many that are highly debatable. Other important, more detailed syntheses can be found elsewhere (Basgall 1993, 2000; Giambastiani and Basgall 2000; Grayson 1993; Warren 1984; Warren and Crabtree 1986), and the interested reader is referred to those sources to become more familiar with the number of different and often better substantiated opinions about the nature of ancient human adaptations in the Mojave Desert.

4.2.1 Fluted Point Period (12,000–10,000 BP)

Typically, sites of this age have been identified based on the presence of fluted-base projectile points similar to the well-known Clovis forms typically associated with ancient cultures of the Great Plains. Termed "Western Clovis" (Tuohy 1974; Willig and Aikens 1988), "Black Rock Concave Base" (Clewlow 1968) or "Great Basin Concave-Base" (Pendleton 1979), many types of Clovis-like points have been found in various locations throughout the western Great Basin and in California. Lithic assemblages containing fluted points often contain crescents, gravers, scrapers, choppers, and "perforators" (Davis 1978). Fluted point sites occur in a variety of environments, indicating that inhabitants were likely generalized foragers rather than specialized big game hunters (Earle et al. 1997; Moratto 1984).

4.2.2 Lake Mojave Period (10,000–7000 BP)

In the western Great Basin, various stemmed projectile point forms have been fairly well dated to the early Holocene, roughly between 10,000 and 7500 BP. Generally subsumed under the broader appellation "Great Basin Stemmed," these artifacts are elongate, lanceolate forms often with subtle, sloping shoulders, although many different regional styles exist. In the western Mojave Desert, typical stemmed points are Lake Mojave (unshouldered) and Silver Lake (slightly shouldered) forms, both of which are parts of lithic assemblages similar to those of the Fluted Point period.

Because of their tendency to occur along the shorelines of extinct lakes, stemmed point assemblages were once considered to represent a unique, lacustrine-based subsistence adaptation. The term "Western Pluvial Lakes Tradition,", originally coined by Bedwell (1973), was applied to stemmed point sites found in ancient lakeshore contexts across the Great Basin. Lithic assemblages of the Western Pluvial Lakes Tradition were found to be fairly comparable to Clovis materials, and in many cases points of both kinds occur together in the same sites (cf., Basgall and Hall 1991; Davis and Panlaqui 1978; Willig 1988, 1990). Flaked stone "crescents" (Amsden 1937; Tadlock 1966; Wardle 1913) were found primarily in such lakeshore assemblages, leading many archaeologists to draw associations between crescents and lacustrine environments. Support for the Western Pluvial Lakes Tradition has faded in recent years, however, as more and more stemmed point sites have been discovered in locations away from extinct bodies of water, and the landform bias in early survey programs becomes increasingly clear. Bias in the differential preservation of ancient land surfaces along fossil washes and in the center of dry lake basins has also been recognized (Basgall and Hall 1991; Waters 1988, 1991).

4.2.3 Pinto Period (7000–4000 BP)

Archaeological assemblages dating to this period are typified by Pinto points, which are projectiles bearing weak shoulders and indented or split-stem bases. Associated flaked stone assemblages include leaf-shaped bifaces,

formal unifaces, flake tools, and consistent quantities of core-cobble implements (Basgall 1993, 2000; Campbell and Campbell 1935; Hunt 1960; Rogers 1939). Lithic selection evidently favored fine-grained igneous stones, such as basalt and rhyolite, for points and bifaces (Glennan 1970, 1971; Norwood 1987). Milling stones are a major part of Pinto period assemblages, reflecting the importance of seed processing. The timing of the Pinto period coincides with Antevs' (1953) "Altithermal," an extended interval when climate was supposedly very hot and dry. Archaeologists once believed a scarcity of Pinto sites in the Mojave Desert signaled a near-total abandonment of the region due to the oppressive climate, but recent studies suggest that the middle Holocene in the Antelope Valley was punctuated by wetter episodes (Grayson 1993; Mehringer 1986) and that the effects of the Altithermal were variable in different parts of the desert. The Pinto Period is synonymous with the "Archaic" period throughout North America. During this time, Pinto Period artifacts tend to occur in aggregates at fewer locations having the appearance of being sedentary encampments. However, the relatively limited diversity of artifacts at these sites indicates they were serially occupied, perhaps during a particular season by the same families, leading to stockpiles of ground and battered stones. This seems to fit with the occurrence of Pinto Period projectile points at small, task specific sites indicating a greater reliance on logistical forays around a more stable encampment.

4.2.4 Gypsum Period (4000–1500 BP)

Diagnostic artifacts at Gypsum period sites include Gypsum contracting-stem projectile points, Elko eared and corner-notched points, and Humboldt basal-notched points. Lithic assemblages are typified by bifaces, scrapers, and a variety of other flake-based tools, but also contain mortars and pestles as evidence of expanded plant processing (including mesquite, pine nuts, yucca, and agave). Large villages or village complexes appear during Gypsum times, reflecting a transition from seasonal transhumance to year-round sedentary occupation within the Antelope Valley (Sutton 1988, 1996). The presence of marine shell artifacts at Gypsum period sites indicates economic ties between the Antelope Valley and the California coast (Warren 1984). Gardner (2007) analyzed data from a slew of sites in the western Mojave to assess the socioeconomic impact of the Medieval Climatic Anomaly and in so doing, suggested a revision in the terminus of the Gypsum period to about 2000 BP. Gardner (2007:241) based this revision on the early appearance of the bow and arrow within the Rose Spring Complex in conjunction with an increase in effective moisture at 2000 BP.

4.2.5 Saratoga Springs Period (1500–800 BP)

By at least 1500 BP (or 2000 BP using Gardner's [2007] chronological scheme), the aboriginal people of the Mojave Desert had replaced the atl atl (or spear-thrower) with the bow and arrow (Yohe 1992, 1998). This change brought about a shift toward the use of smaller projectile points, including various corner-notched and side-notched Saratoga Springs types and the corner-notched Rose Spring and Eastgate types. Anasazi ceramics also appear in the southern Mojave around 1200–1100 BP, coinciding with the westward spread of the Virgin Anasazi into southern Nevada. Influence from the cultures of the Colorado River eventually grew stronger than those from the east, allowing for an influx of buffware ceramics and other goods that persisted until the historic present. The intensification of plant use initiated during the Gypsum period continued in the Saratoga Springs period, as diet breadth was expanded to include a wide range of plant foods that required high cost/high return procurement and processing strategies. This is indicated by a general increase in milling equipment from Gypsum times through the Saratoga Springs period (see Gardner 2007:225–228).

4.2.6 Post-Saratoga Springs or Late Period (800–300 BP)

In the Antelope Valley, social and economic adaptations during this final prehistoric interval were largely an extension of patterns that developed during the Saratoga Springs period. Trade along the Mojave River continued to provide the people of eastern Antelope Valley with a variety of exotic goods and materials, although it appears that relationships with groups in coastal California eventually grew stronger than those with groups inhabiting the arid interior. Projectile points also shifted in form, with unnotched Cottonwood triangular and Desert side-notched points being even smaller than their predecessors. Mortars and pestles also appear in significant quantities, probably an indication of increased emphasis on high-cost/high-yield processing.

4.3 Ethnohistoric Setting (300 BP–Present)

This last interval is defined as the period of contact between native desert people and Euro-American explorers and settlers. Kroeber (1925) argued that as many as six different native groups were living in the western Mojave at the time of Euro-American contact, including the Chemehuevi, Serrano, Kawaiisu, Kitanemuk, Alliklik (Tataviam), and Vanyume, although it is likely that only the latter four groups used lands within Antelope Valley on a regular basis. Blackburn and Bean (1978) later reinterpreted the political geography in the western Mojave Desert, dividing western Antelope Valley between the Tataviam (to the south) and the Kitanemuk (to the north). Sutton (1980:220) followed Blackburn and Bean, claiming that the late prehistoric population in the majority of Antelope Valley was "ancestral to the ethnographic Kitanemuk." He later hypothesized that the floor of the valley might have been abandoned a few decades prior to Spanish contact in 1772 (Sutton 1988; Warren 1984). Earle et al. (1997:8), however, feels this idea is probably "overdrawn," citing the diaries of Pedro Fages (1775 and Father Garcés (1776, as cited in Earle et al. 1997) that remarked on seeing and visiting native villages in what is now western Antelope Valley. The site of Apavuchiveat, probably located at Buckhorn Springs, is likely affiliated with the Desert (Vanyume) Serrano. Another site at Willow Springs, west of Rosamond Dry Lake, was identified by contemporary Kitanemuk Serrano as an additional village location (Earle et al. 1997). Although only two Native American ethnolinguistic groups—the Tataviam and the Serrano (Heizer 1966: Map 4)—are ethnographically documented within a 5-mile radius of the Project area, the following sections present ethnographic contexts for all six (6) Native American ethnolinguistic groups historically and culturally associated with the broader western Mojave Desert as outlined by Kroeber (1925).

4.3.1 Tataviam

The project is located within the ethnographically documented traditional cultural territory of the Tataviam Native American group. The Tataviam territories included the upper reaches of the Santa Clara River drainage east of Piru Creek but also encompassed the Sawmill Mountains to the north and the southwestern portion of the Antelope Valley. Relatively little is known about the Tataviam. Most of what is known today about the Tataviam comes from the work of Alfred L. Kroeber and John P. Harrington, and data obtained from one consultant named Juan José Fustero (Johnson and Earle 1990).

There are different hypotheses in regard to the affiliation of the Tataviam language. Some scholars hypothesize that the Tataviam may have spoken a language that was uncommonly used in southern California, or that they may have spoken a Takic language like their southern neighbors (King and Blackburn 1978). As with most languages, the Takic dialects may have been more noticeable at the geographic extremes even though the language was likely

a continuum of slight sound and synonym shifts from one community to the next. One scholar has suggested that the northern edge of Western Tongva lands were home to the Tataviam Takic speakers, a related but separate language from Northern Takic (Mithun 1999:539).

King and Blackburn (1978:536) have identified several significant Tataviam settlements based on information provided by Harrington, including the important village of *tsawayung* located near Castaic Junction at the site of Rancho San Francisquito (Newhall Ranch). Others include *tikatsing* located on upper Castaic Creek, and *pi'ing* located where Castaic Creek meets Elizabeth Lake Canyon. Another significant village, *Tochonaga*, was recorded on an 1843 land grant map. This site appears to be located to the southeast of Newhall. Other villages and seasonal camp sites identified by Harrington include *akure'eng*, which was located at the original Newhall townsite; *apatsitsing*, located on upper Castaic Creek; and *naqava'atang*, located east of Townsend Peak. Piru Creek also contained several village and rancheria sites, located on the northern edge of Tataviam territory (Johnson and Earle 1990).

It is suggested that Tataviam villages varied in size from large centers containing close to 200 people, intermediate villages containing 20-60 people, and small settlements containing 10-15 people. Permanent family dwellings were known as *Ki'j* and consisted of 12-to-20-foot diameter dome-shaped structures fashioned from willow branches. The outside was typically covered in bulrush or cattails, and a hole was left in the top of the roof to allow for a fire inside the *Ki'j* (King and Blackburn 1978).

Tataviam subsistence consisted largely of hunting and gathering. Vegetable foods include yucca, acorns, sage seeds, juniper berries, and berries of islay. Animal foods include small mammals, deer, and perhaps antelope. There is also evidence of marine shellfish and fish at various Tataviam sites. It is thought that the Tataviam probably relied more heavily on the buds of the yucca as a major staple than did neighboring groups (King and Blackburn 1978).

Pedro Fage's account of the 1769 Portola expedition indicates that the first Chumash settlement encountered upon leaving Tataviam territory was located west of the mouth of Piru Creek. The village of *kamulus* (Camulos), located east of Piru Canyon, bears a Chumash name, and it is thought that this village consisted of a mixed Chumash-Tataviam population (Johnson and Earle 1990).

4.3.2 Serrano

The Project is also located adjacent to the ethnographically documented traditional cultural territory of the Serrano Native American group. The Serrano language is part of the Serrano division of a branch of the Takic family of the Uto-Aztecan linguistic stock (Mithun 1999). The Serrano language was originally spoken by a relatively small group located within the San Bernardino and Sierra Madre Mountains, and the term *Serrano* has come to be ethnically defined as the name of the people in the San Bernardino Mountains (Kroeber 1925). The traditional territory for the Serrano centered in the San Bernardino Mountains and extended northeast into parts of the Mojave River area and southeast to the Tejon Creek area (Bean and Smith 1978). Their territory extended west along the northern slopes of the San Gabriel Mountains, east as far as Twentynine Palms, north along the Mojave River, and south to the Yucaipa Valley. The Vanyume, who lived along the Mojave River and associated Mojave Desert areas and are also referred to as the Desert Serrano, spoke either a dialect of Serrano or a closely related language (Mithun 1999).

The Serrano were mainly hunters and gatherers who occasionally fished. A variety of materials were used for hunting, gathering, and processing food, as well as for shelter, clothing, and luxury items. Shells, wood, bone, stone,

plant materials, and animal skins and feathers were used for making baskets, pottery, blankets, mats, nets, bags and pouches, cordage, awls, bows, arrows, drills, stone pipes, musical instruments, and clothing (Bean and Smith 1978). Game that was hunted included mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Vegetable staples consisted of acorns, piñon nuts, bulbs and tubers, shoots and roots, berries, mesquite, barrel cacti, and Joshua tree (Bean and Smith 1978).

Settlement locations were determined by water availability, and most Serranos lived in small villages near water sources. Houses and ramadas were round and constructed of poles covered with bark and tule mats (Kroeber 1925). Most Serrano villages also had a ceremonial house used as a religious center. Other structures within the village might include granaries and sweathouses (Bean and Smith 1978). The Serrano were loosely organized along patrilineal lines and associated themselves with either the Tukum (wildcat) or the Wahilyam (coyote) moiety. Individual bands of Serrano constituted political groups (Kroeber 1925). Partly due to their mountainous inland territory, contact between Serrano and European- Americans was minimal prior to the early 1800s. In 1819, an asistencia (mission outpost) was established near present-day Redlands and was used to help relocate many Serrano to Mission San Gabriel. However, small groups of Serrano remained in the area northeast of the San Gorgonio Pass and were able to preserve some of their native culture. Today, most Serrano live either on the Morongo or San Manuel reservations (Bean and Smith 1978).

4.3.3 Vanyume

The Vanyume were a northern division of the Serrano Indians that generally inhabited the Mojave River corridor and the broader Barstow region (Bean and Smith 1978). Perhaps the most significant difference between the Vanyume and Serrano is that the Vanyume enjoyed good trade relations with the Mojave and Chemehuevi—both enemies of the southerly Serrano (Bean and Smith 1978). These trade relations contributed to easier access to foods and other goods not available on the central Mojave Desert floor, such as acorns. Bean and Smith (1978) and Kroeber (1925) note that the Vanyume sometimes visited the southerly foothills in the San Gabriel Mountains to trade for acorns. Father Francisco Hermenegildo Garcés noted that he had been given acorn meal at a Vanyume village southwest of what is currently Barstow. This account seems to confirm the notion that the Vanyume were distinct from the Serrano based on trade relations and geography.

Most information on the Serrano relates to the more southern areas near 29 Palms and Victorville (see Bean and Smith 1978; Strong 1929), with less information available about the Vanyume. However, it is generally inferred that subsistence among the Vanyume was based on a typical Mojave Desert adaptation, similar to other groups such as the Chemehuevi. Staple foods included Mesquite, pinyon, acorns, yucca, cactus, small seeds, chia, and ricegrass, with other plants supplementing the diet when available. Small game, including reptiles, rodents, and birds were the primary game targeted, but larger-bodied antelope and mountain sheep were taken if encountered (Bean and Smith 1978). Subsistence technology was relatively standard and included bows and arrows, throwing sticks, traps and snares, deadfalls, millingstones and handstones, and mortars and pestles; although the daily economic significance of any one of these is not well understood. Communal hunting (deer and rabbit) and gathering (acorn and mesquite) events were sometimes organized on an annual basis; Bean and Smith (1978) reporting that community activities were organized during the annual mourning ceremony (see also Drucker 1937). The Vanyume/Serrano also had a relatively standard material culture consisting of cordage-based containers, mats, and baskets, undecorated brownware pottery (paddle and anvil method), with basketry providing supplemental containers of various kinds, winnowers, and as hoppers for portable stone mortars (Drucker 1937).

Vanyume settlement was centered on single families, with dwellings consisting of basic circular wood lattice structures covered with either brush or mats as available (Drucker 1937). Like the Chemehuevi, more substantial dwellings occurred at seasonal villages; including shade structures, sweat houses, and granaries (elevated acorn or seed/nut storage facilities).

4.3.4 Chemehuevi

The Chemehuevi are the southernmost group of the Southern Paiute having fissioned in the Las Vegas area at around the time of Spanish contact in the late 1700s (Fowler and Fowler 1971). Earle (2005) describes a dispute between Franciscan Missionary Francisco Garces and Spanish military Captain of Alta California, Fernando de Rivera y Moncada, over official policy regarding interaction (specifically trade and intercourse) with Mojave Desert Indians. Garces desired to facilitate trade as tool for missionization, and Rivera wanted to inhibit interaction, especially between Indian groups for fear of cross-group mobilization against the Spanish occupation. Garces understood well aboriginal sociopolitical interaction and was aware of where Indian habitations were on the landscape (Earle 2005). Key here is that Garces did not record Chemehuevi along the California side of the Colorado River, prompting Earle (2005) (and Kroeber (1925) before him) to speculate that the Chemehuevi began to settle in the region only after their political allies—the Kohuana—were driven eastward by the Mojave and Yuma Indians to the river (see also Fowler and Fowler 1971). Earle (2005) indicates that this settlement shift did not occur until after 1830. After this time, the Chemehuevi spread rapidly toward the western Mojave Desert. Kroeber (1925) supports this ascertation, noting that the area near Twentynine Palms was not traditional Chemehuevi territory, but was occupied by them only after feuding with the Mojave Indians in the 1860s (see Lechner and Hale 2009).

Chemehuevi subsistence varied across the Mojave Desert. Along the Colorado River, they practiced horticulture and crew corn, sunflower, melons, and legumes, also cultivating various other native plants (Kelly and Fowler 1986). The contribution of cultivated foods to Chemehuevi subsistence, and their investment in cultivation is questionable, however (Bean and Smith 1978), and it is more likely that such activities occurred as a buffer against shortfalls, or during times of conflict. It is also debatable as to the timespan that the Chemehuevi practiced horticulture—i.e., how far into prehistoric times such activities extended. By all accounts, non-riverine subsistence was similar to other Mojave Desert Indians, such as the Serrano, with typical upland and foothill areas providing pinyon nuts, Yucca, agave, berries, ricegrass, and cactus along with several small and medium-bodied animals (reptiles, rodents, and the occasional antelope and bighorn sheep) (Earle 2003). Desert floor foods commonly exploited when available include Mesquite, various seeded plants, reptiles, rodents, birds, and other small animals (Bean and Vane 2002). The Chemehuevi were known for their baskets and various other twined tools used for plant gathering and processing (i.e., seed winnowers, parching trays, water jugs and caps, cradles and the like) (Kelly and Fowler 1986; Kroeber 1925). Hunting among the Chemehuevi was typical of other desert groups, being focused on small game and reptiles, although larger antelope and mountain sheep would be pursued if encountered. Drucker (1937) reports that they used a variety of animal capture methods such as clubs, traps, nets, snares, sinew-backed bows, and stone tipped arrows. Little is reported about plant processing but it can be inferred from the intensive exploitation of mesquite, seeds, and other plant matter that millingstones, handstones, mortars and pestles were employed when necessary.

4.3.5 Kawaiisu

The Kawaiisu (also *Niwiwi*), who refer to themselves as *Nuooah*, occupied the Piute Mountains at the southern end of the Sierra Nevada Range and the northern part of the Tehachapi Mountains, as well as portions of the valley

floors (Garfinkel and Williams 2011; Zigmund 1986). As with other Native groups, there were desert and mountain populations of Kawaiisu (Garfinkel and Williams 2011; Earle 2004 and 2005; Underwood 2006; Zigmund 1986). Modern landscape place names record their presence and influence – the Tehachapi Mountains and Valley likely derive their name from the Kawaiisu term *tihicipi* (hard climb) (Garfinkel and Williams 2011). The Kawaiisu interacted peacefully with neighboring groups whose territory/resources overlapped their own. These included the Kitanemuk and the Panamint Shoshone with whom they intermarried, lived alongside, and also shared territory and spiritual beliefs, practices and practitioners with (Antelope Valley Indian Museum 2019; Garfinkel and Williams 2011; Stickel et al. 1980).

The Kawaiisu radiated outwards from small, permanent winter villages in search of resources. Freestanding granaries, bedrock milling locations and proximity to freshwater were consistent features of winter villages. Tomokahni (winter home) is a historic Kawaiisu village in the Tehachapi Mountains (California Department of Parks and Recreation 2019). Additional winter villages, such as Tehecita, have been identified in Cache Creek Canyon northeast of the modern town of Tehachapi.

During warmer months, the Kawaiisu formed small, mobile foraging groups of related individuals. These groups established temporary camps at high altitude mountain locations and low altitude desert locations in order to procure plant/animal resources. Likely temporary Kawaiisu occupations have been identified in the southern Panamint Valley and southern Death Valley, as well as southeast to Rogers Lake and the Mojave River near present-day Barstow (Earle 2004, 2005 and 2010; Underwood 2006; Zigmund 1986).

Like their neighbors, the Kawaiisu were hunters and gatherers reliant on an array of seasonal plant and animal resources. They exploited roughly 112 plant species, including Black Oak acorns (*Quercus kelloggii*), piñon nuts (both the *Pinus sabiniana* and *monophylla* varieties, depending on elevation), yucca (both Joshua tree *Yucca brevifolia* and Spanish Bayonet *Yucca whipplei* varieties), chia (*Salvia* spp.) and bunch grass (*Achnetherum* spp.) (Earle 2010; Zigmond 1986). Male hunting parties organized and sometimes teamed with neighboring Native groups to hunt pronghorn and bighorn sheep as well as deer. Fishing, snaring/hunting quail and chuckwalla and communal jack rabbit hunts also occurred.

4.3.6 Kitanemuk

Kitanemuk speakers occupied territory extending from the Tehachapi Mountains to the western Antelope Valley (California Language Archive 2019; Kroeber 1925). They interacted frequently and peacefully with the Kawaiisu as well as the Serrano and intermarriage was common (Earle 2010; Earle and Weiwall 2013). The Kitanemuk intermarried, but also fought, with the Yokuts (Earle 2010). They likely had good trade relations with most of their neighbors, including the Chumash and Tübatulabal, and may have been heavily involved with trade in the Antelope Valley.

The Kitanemuk were mountain people, with settlements clustered in the Tehachapi Mountains and San Joaquin Valley foothills (Blackburn and Bean 1978; Kroeber 1925; Sutton 1980). During cooler seasons or at least seasonally, the Kitanemuk likely migrated to the arid valley floors. During the Late Prehistoric Period, Kitanemuk settlements became permanent along the desert floor (Sutton 1980). The Kitanemuk village closest to the APE was *Pañūqavea/Šeševyəq*, located near modern-day Willow Springs. Kitanemuk place names for natural features surrounding the APE, such as Piute Ponds (*Tšəhtšavea*) and Soledad Mountain (*Paʔtqayvea*) persist to the present (Blumel et al. 2013).

Similar to nearby groups, the Kitanemuk were hunters and gatherers who searched outwards from small, permanent winter villages for resources. Their primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds; small game such as rabbits, squirrels, antelope and deer were also eaten. During the historic period and perhaps before, they likely innovated a paddle and anvil ceramics tradition utilizing dung as a temperature regulator and cow bones (during the historic period only) as temper that survived for at least two centuries until 1900 (Earle and Weiwall 2013).

4.4 Historic Setting (Post-AD 1542)

The following summary provides an overall background to the historic Euro-American occupancy of lands in Antelope Valley and in the vicinity of project API.

4.4.1 Early Explorers

Unlike the coastal areas of California, the Mojave Desert was not intensively explored by the Spanish in early historic times, remaining beyond the limit of Hispanic settlement during the period of Mexican rule. The first visit to the region by the Spanish was made in 1772 by Pedro Fages, who was searching for deserters from the Spanish army (Fages 1775). In 1776, Father Francisco Hermenegildo Garcés traveled the course of the Mojave River across the desert and the mountains westward through the Tejon Pass. This was the first documented use of what was eventually called the Old Spanish Trail, an important transportation route between Southern California and the eastern United States. Other explorers made more regular visits to the Mojave Desert beginning in the mid-1820s. Early explorers included trappers Jedediah Smith and Joseph Walker. Kit Carson, a trapper on Jedediah Smith's 1828 expedition, later served as guide for John C. Frémont's exploratory expedition in 1844 that reached the Antelope Valley by way of the Old Spanish Trail.

4.4.2 The Coming of the Railroad

A number of federally funded geographic surveys to explore and map proposed routes for a transcontinental railroad were implemented in the Antelope Valley in the 1850s. These included surveys by Captain L. Sitgreaves in 1851, Lieutenant Amiel Whipple in 1853–1854, and Edward Fitzgerald Beale in 1857. In advance of issuing railroad grants, most of the Mojave Desert was surveyed by the Government Land Office between 1855 and 1857.

The arrival of the railroad was the catalyst that opened up the Antelope Valley to agricultural settlement and mining. The Southern Pacific Railroad completed its line from San Francisco to Los Angeles via the Antelope Valley in 1876. Train stations located along this route later became the nuclei of local settlement. In 1884, the Atchison, Topeka and Santa Fe Railway completed its line between Chicago and Needles. This line linked up with the Southern Pacific line at the community of Mojave. In 1885, the California Southern Railroad linked San Diego to Barstow. The completion of the railroad lines and associated infrastructure opened up the Mojave Desert to settlers from the east and from coastal areas of Southern California.

Railroads were granted odd-numbered sections within 20 miles on either side of the railroad right-of-way, and sale of these grant lands in the 1880s had a major impact on settlement of the region, resulting in a corridor of settlement parallel to the railroad (Earle 2004:283). The establishment of railroads linking the Midwest to Los Angeles in 1884 led to a Southern California land boom that included a dramatic increase in settlement in the Antelope Valley (Dumke 1944:17–58). The towns of Lancaster and Palmenthal (Palmdale), both located on railroad

grant land, were founded in 1884 and 1886, respectively (Earle 2004:284). The communities of Mojave, Rosamond, Lancaster, Tehachapi, Alpine Springs, Acton, and Ravenna originated as railroad stations, as did Gamba, Bissell, Fluhr, Yucca, Solon, Rich, Amargo, and Kramer (Earle 2004).

Aggressive publicity campaigns by railroad real estate agents sought to attract settlers to railroad grant lands from states east of the Mississippi and from northern Europe during the 1880s and 1890s. Several communities based on a "colony" model were established in the Valley, which led to "a fascinating mix of early planned community development, emigrant town-of-origin marketing, social and religious communitarianism, and the reworking of traditional agricultural practices" (Earle 1998:64–65). Between 1883 and 1895, at least 10 colonies were founded in the Antelope Valley, many along the southern edge of the valley, and it has been estimated that between 12,000 acres and 15,000 acres were taken up by individual colonists.

4.4.3 Homesteading

Under the federal Homestead Act (1862), settlers could acquire up to 160 acres of public land for a nominal filing charge under certain conditions. Prospective settlers were required to establish residency on the claim for a period of 5 years, build a house, and either cultivate crops on at least 20 acres or graze cattle on the land. By 1912, the residency requirement was reduced to 3 years, and settlers were allowed up to 5 months per year of absence from the land. Homestead patents required proof that the patentee had constructed a house measuring at least 10 × 10 feet with at least one (1) door and one (1) window, and that residency was maintained for at least 7 months per year over 3 consecutive years (Robinson 1979:168). The Desert Land Act (1875) was subsequently passed to encourage settling of desert areas for which the Homestead Act was poorly suited. Desert lands were defined as lands exclusive of timberlands and mineral lands that would not produce a crop without irrigation. Under this act, entry could be made on up to 640 acres, on the condition that an irrigation system was established within 2 years of entry. If it could be demonstrated that sufficient water flow for irrigation had been established, the patentee could receive title on payment of the minimum government price. In 1891, the number of acres available under this act was reduced to 360, and the time allowed for reclamation was extended to 4 years. Under an 1891 amendment, 3 dollars per acre had to be expended on irrigation, and one-eighth of the land had to be reclaimed within the allotted time before a patent could be issued (Robinson 1979:170).

Public land, obtained either through homesteading or through a desert land entry, was considerably cheaper than the purchase of railroad land, and many settlers in the Antelope Valley opted to patent land from the public domain. Homesteaders in the Antelope Valley prior to 1900 were attracted to the artesian belt in the vicinity of Lancaster, where subsurface water collected. Many of the artesian wells drilled by homesteaders in the artesian belt did not produce sufficient water flow for irrigation, and the soil was not productive due to high alkalinity. Somewhat more successful was dryland farming of grains, principally barley and winter wheat, in the western part of the valley. Particularly wet winters during the years 1883 to 1892 that resulted in large crop yields persuaded many new settlers to the Antelope Valley that dry farming could be successful (Earle 2004:286).

Drought conditions between 1896 and 1903 brought the burgeoning agricultural development of the Antelope Valley to an end. The severe drought caused many of the homesteads and private land holdings to be abandoned. Many of the colonies also collapsed, and colonists moved away. The population of the valley fell from a total of 1,500–1,600 in the 1890s to 930 in 1900 at the height of the drought (Earle 2004:287).

Following a number of wet years, agricultural development resumed, led by the return of cattle grazing. In addition, abandoned homesteads were returned to the public domain and were again available for homesteading. Technological innovations, including improved drilling methods and the availability of petroleum-distillate pumps, increased the profitability of well-and-pump irrigation. Smaller farms, no larger than 40 acres and devoted to the cultivation of alfalfa, were touted as the future of agricultural development in the valley (Earle 2004:287). In addition, the construction of the Los Angeles Aqueduct was a boon to the region, providing much-needed employment.

During the 1910s, the Antelope Valley experienced a second boom in homesteading due to a series of Homestead Act reforms. Of the 2,113 homestead patents issued in the Los Angeles portion of the Antelope Valley, 75% were issued after 1910 (Earle 2004:289). As noted above, the length of the residency requirement was shortened from 5 years to 3 years, speeding up the patenting process, and homesteaders could now leave their homesteads for up to 5 months of the year, thus allowing them to find outside employment. The Enlarged Homestead Act (1909) allowed for larger homesteads of up to 320 acres for dryland farming. The homesteading boom continued in the Antelope Valley through the 1920s and into the Depression years. Desert land entries were common in the Antelope Valley, as they did not have a residency requirement and were often seen as a stepping-stone to establishing a homestead claim. Up to 320 acres could be obtained under the Desert Land Act, but the entryman was required to irrigate 80 acres, or 25%, of the entry claim. Fraud was widespread with desert land entries, and they were frequently used to claim land on which a Homestead Entry was later submitted (Spinney et al. 2004:81). Irrigation also required an infusion of capital to which many homesteaders did not have access. Many desert land entrymen spent large portions of the year working elsewhere to earn the cash necessary to prove up their claim. Productivity varied from homestead to homestead, depending on soil alkalinity and availability of subsurface water. In spite of the many difficulties inherent in homesteading in this desert environment, many homesteaders succeeded in obtaining title to their land, although a significant proportion failed to do so. In the 1910s, 58% of homestead entries in the Antelope Valley area failed (Earle et al. 1998:175).

The completion of a paved road between the Antelope Valley and Los Angeles in 1921 provided a ready market for produce from the Antelope Valley in the rapidly growing metropolis. The proximity of Antelope Valley to Los Angeles fueled agricultural production through the 1920s. Poultry farming, dairy operations, and fruit production were combined with the cultivation of alfalfa in a more diverse agricultural economy (Earle 2004:291). With an increase in the availability of motor transport, the desert became a recreational area for city dwellers. Motor transport also allowed homesteaders to find employment to supplement their farming income. The Depression years saw a decline in farm production as the price of fruit, alfalfa, and chickens fell by one-half to two-thirds of their original price. During this period, bootlegging became a significant source of income in the valley. Despite the economic decline, the Antelope Valley attracted refugees from urban areas who squatted on vacant land. Homestead entries increased rapidly in the Depression years. The era of homesteading came to a close in 1935, when federal land was withdrawn from further public entry as a result in a shift in the government's focus from settlement of public land to preservation and conservation. While new entries were not permitted, those who had made entry prior to 1935 were allowed to complete the process. Agricultural production began its recovery by 1936 and experienced rapid expansion in the 1940s.

4.4.4 Mining

Mining has long played an important role in the economy of Antelope Valley since the discovery of copper, rich deposits of silver, and gold south of Kramer in 1884. A second mining boom occurred in 1894 after the discovery

of gold at Tropico Hill near Rosamond. Shortly thereafter, gold was also discovered at Soledad Mountain, Standard Mountain, and Rand Mountain. The last big gold rush occurred in the area in 1926, when the Herkelrath brothers discovered gold near Kramer Hills. This led to a rush in mining claims in the region. Districts were established at Kramer, Kramer Hills, Rosamond, Randsburg, Oro Grande, and El Paso. Gold mining practically ceased during World War II by order of the War Production Board. In the early 1940s, there were 1,500 mining claims within the boundaries of Muroc Army Air Field, but most of these were revoked when the U.S. Geological Survey ruled that they contained an insufficient quantity of minerals for extraction.

The mining of mud and clay for the extraction of bentonite, used in the refinement of petroleum products, was carried out in the Buckhorn, Rogers, and Rosamond dry lakebeds. In 1913, borate was discovered in the Kramer area. The town of Amargo (later renamed Boron) developed around the Pacific Coast Borax Company mine. The accidental discovery of oil north of Muroc in 1921 led to increased oil drilling in the Antelope Valley; however, oil drilling was largely abandoned in the valley by 1925. In general, mining operations provided an important alternative employment to homesteaders in Antelope Valley by allowing people to supplement their farming income during lean years. Without this source of employment, the rate of homestead abandonment would have been considerably higher during the 1920s and 1930s.

5 Research Design

The objective of the evaluation portion of this project was to obtain information from archaeological sites that could be used to evaluate the resource's significance under CEQA. Current research is typically structured in a way that links anthropologically oriented research issues to the archaeological record. The following discussion embraces this strategy and identifies potential questions and appropriate archaeological evidence within a series of broad research themes. General issues pertinent to the assessment of the sites include determination of the extent and integrity of cultural deposits, age and probable affiliation, site function, and subsistence strategies.

5.1 Integrity

Delineation of the horizontal distribution and vertical depth of the site is necessary for an assessment of research potential. Of particular importance is the integrity of the deposits: whether or not features or surfaces are preserved and whether the potential exists for identifying, through analysis, horizontal and vertical spatial patterning in the evidence for past behavior.

Formation processes such as alluvial deposition, erosion, bioturbation, and modern disturbance can considerably affect the integrity and original character of archaeological sites. Here, attempts are made to identify and interpret the processes that formed the site, with particular attention given to the character of post- depositional processes and the extent to which they have affected the integrity of the archaeological deposits.

The recordation and analysis of surface artifacts at several sites were used to address the following issues:

- Does the horizontal and vertical extent of the archaeological record within the sites represent continuous or discrete occupations?
- Is it possible to discern depositional versus post-depositional processes that have contributed to the present condition of the archaeological record at any of the sites? In other words, what are the factors, both natural and anthropogenic, that have altered the position and condition of artifacts from the prehistoric and historic occupations of the sites?
- What kinds of features are potentially preserved at the sites (e.g., structures, hearths, earth ovens)? Are there features that are highly disrupted by postdepositional processes but that are still recognizable? Can these features be associated with particular functions?
- By examining spatial patterns in the horizontal distribution of artifacts, is it possible to discern areas that were associated with specific functions? Do patterns in the vertical distribution of artifacts tell us anything about changes in the function, materials exploited, or human activities at the sites through time?
- Is there evidence of overlapping dump episodes, such as multiple points of concentration or concentration of artifacts of a certain age?

5.2 Chronological Placement

Chronological issues are essential to any archaeological investigation, so several basic questions concerning the temporal data potential of evaluated sites pertain to the current study, including:

- Can the chronological placement of project sites be determined?
- What kinds of chronometric data can project sites provide? Of those obtained during survey, how well do they correlate in terms of the age estimates they provide (e.g., cans vs. bottles).
- Are there data indicating the presence of multiple occupation episodes at project sites?
- Do diagnostic artifacts appear to fit with temporal patterns recognized in the surrounding region? Are there any unique diagnostic items present?
- Can chronometric data from project sites help to refine dating schemes in the local region?

Potential chronometric evidence of the historic sites located within the project APE is primarily obtainable from artifacts with maker's marks, specific can or bottle manufacture styles, or coins. However, it is common for dates of manufacture for a particular artifact to be much broader than those for another artifact class, making a determination for age of consumption for any given class difficult, if not impossible. For this reason, the date of refuse disposal is more pertinent for refuse deposits that are not located at homesites; and this is usually determined by the early manufacture date on the youngest artifact for each dump event. Hale et al. (2010) document a widespread pattern of dumping items of mixed manufacture and consumption age as the result of homesite cleanup and off-site dumping. If refuse deposits are located at a homesite, assessing the age of consumption for historic artifacts is an approximation based on overlapping manufacture dates, taking into account the earliest and latest possible dates. Assemblages that cannot be securely placed chronologically would be less likely to possess a significant research potential. Of course, archival research can provide direct information on the date of construction and occupancy for historic homesites and lands used for agricultural, ranching, or mining.

5.3 Settlement and Site Function

Interpretation of the study sites depends upon an assessment of their places within the larger settlement-subsistence system of their occupants. Sites belonging to functional types that are relatively ubiquitous within the region would be less likely to be considered significant than unusual site types. Sites with evidence of multiple functions may possess richer information content than relatively simple sites; on the other hand, single-function sites may have a greater research potential than multiple-function sites if the residues from the various activities at the latter cannot be effectively differentiated.

Considering historic archaeological sites, the kinds of artifacts present, the activities they represent, and their overall proportions can give some indication of where refuse originated, and why it was abandoned at its place of discard. The main questions for historical archaeological sites are:

- What is the nature of refuse at historic sites? Are proportions of consumptive, household, industrial, and other artifacts substantial enough to derive context of origin(s)?
- Are any maker's marks on historic artifacts indicative of specific places of manufacture? Do they provide any information about where particular goods might have been purchased or otherwise obtained?

These kinds of questions are relevant for understanding the nature of historical occupation, including at homesites, agricultural facilities (i.e., field worker residential areas), and urban neighborhoods. Archival research helps bolster field data by documenting past historical landowners, lease holders, or residents, and by documenting historical changes in the local landscape. While it is virtually impossible to tie historic refuse deposits in some cases to specific homesites or businesses, it is possible to identify potential sources of refuse and make informed assumptions about its origin.

5.4 Subsistence

The issues related to subsistence orientation are interwoven with the previously discussed settlement organization, and this section complements the issues discussed previously.

The primary question to address at historic sites is:

- Are artifacts present that provide information on the kinds of foods consumed (i.e., food cans, glass bottles, etc.)?

The data necessary to address this issue is generally limited to the kinds of food containers and food processing items found at historical archaeological sites.

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6 Methods

This section describes the techniques employed to identify and evaluate archaeological resources within or directly adjacent to the project API. All methods exceed the Secretary of the Interior's Standards and Guidelines for archaeology, as do all project personnel for their respective roles.

6.1 Inventory

The inventory portion of this archaeological resources investigation consisted of a SCCIC records search of the project API and surrounding 1-mile radius; archival research; correspondence with the NAHC; informal tribal outreach; and an intensive-level pedestrian survey of the project API.

A California Historic Resources Information System records search encompassing the current project API and a 0.5-mile radius was performed by staff at the SCCIC, located on the campus of the California State University, Fullerton, in Fullerton, California on January 26 and 27, 2023. An update to this original records search to incorporate changes to the project footprint and to encompass a 1-mile radius was completed by Dudek archaeologist Brenda Rogers at the SCCIC on November 6, 2024. The purpose of the records search is to identify any previously recorded cultural resources that may be located in or adjacent to the project API and to identify previous studies in the project vicinity. In addition to a review of previously prepared DPR site forms and reports, the records search also included a review of historical maps of the project API, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility. Records search results are provided in Section 7.

Archival research consisted of reviewing historic topographic maps (Smith and Huang 2024), historic aerial photographs (Smith and Huang 2024), and U.S. Department of Agriculture soil survey maps (USDA 2025). No local archaeological societies or museums were identified or contacted during archival research efforts in support of the current study. Archival research results are provided in Section 7.

Dudek requested a NAHC search of the Sacred Lands File (SLF) for the project API and a 0.5-mile radius on January 13, 2023, and for the project API and a 1-mile radius on December 30, 2024. The SLF consists of a database of known Native American resources. These resources may not be included in the SCCIC database. The NAHC replied via email on January 27, 2023, and January 16, 2025, respectively, stating that the SLF search was completed with negative results. Along with the results of the SLF search, the NAHC provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. Informal tribal outreach letters were mailed on January 15 and 20, 2025 to all California Native American Tribal representatives included on the NAHC contact lists. Results of these efforts are provided in Section 7.

Dudek archaeologists Jessica Colston, Phillip Sharp-Garcia, and Shane McDonnell conducted an intensive-level archaeological resources pedestrian survey of a large portion of the project API on February 1 and 2, 2023. Dudek archaeologists Jessica Colston and Brenda Rogers re-surveyed many portions of the project API and conducted an intensive-level archaeological resources pedestrian survey of additional, newly incorporated portions of the project API from November 18 to 20, 2024. Jessica Colston and Roshanne Bakhtiary conducted an intensive-level archaeological resources pedestrian survey of the SCE-owned portions of the project API on February 25, 2025. In

total, the Archaeological Survey Area encompassed approximately 321 acres as delineated in Figure 3 (Archaeological Survey Area). Each pedestrian survey employed standard archaeological procedures and techniques consistent with the Secretary of the Interior's Standards and Guidelines for archaeology. When possible, 15-meter interval survey transects were conducted, oriented in north–south cardinal directions. Where visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials. Evidence for buried archaeological deposits was opportunistically sought through inspection of natural or artificial erosion/excavation exposures and the spoils from rodent burrows. Areas of the project that contained a greater than 30% slope were not surveyed due to safety concerns and their general lack of suitability for containing archaeological resources. Results of the pedestrian survey are provided in Section 7.

A Global Navigation Satellite System receiver with sub-meter accuracy along with an 11th Generation Apple iPad equipped with georeferenced PDF maps of the project API were used to verify the accuracy of the survey coverage and facilitate in-field recording.

A minimum density of three or more artifacts in a 25-meter (82-foot) squared area constituted an archaeological site, as with the presence of any feature (i.e., concrete foundation). Any separation of 50 meters (164 feet) squared or more between artifacts was considered justification for delineation of a site boundary. A temporary site number was assigned to all newly identified archaeological resources that met the definition of an archaeological site. Isolated finds consisting of fewer than three artifacts within a 25-meter squared area were recorded separately from sites, including the use of a different numbering scheme. Any previously recorded archaeological sites located within or directly adjacent to the project API were field checked and documented as appropriate. Additionally, a metal detector was used to perform cardinally oriented transects radiating out from the central portion of each site to determine the potential for buried deposits.

Location-specific photographs were taken using an 11th Generation Apple iPad equipped with 8 mega-pixel resolution. All field notes, photographs, and records related to the current study are on file at Dudek's Mission Viejo, California office. All resources were recorded in their entirety on DPR site forms, using the Instructions for Recording Historical Resources (OHP 1995).

6.2 Significance Evaluations

11 archaeological resources were identified within or directly adjacent to the project API during inventory efforts that required formal evaluation for listing on the CRHR and for significance under CEQA and local regulations. 10 of the archaeological resources are characterized as surficial historic-era refuse scatters, while ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The majority of these resources likely represent single dumping episodes as indicated by their localized concentration of mostly contemporaneous domestic refuse and food waste items. Through the use of remote sensing (metal detection), it has been determined that these resources are unlikely to contain associated subsurface archaeological deposits. Therefore, significance evaluations for all resources were conducted using data obtained from the recordation of artifacts identified on the ground surface. See Table 2 for a list of all archaeological resources subject to significance evaluations as part of the current study. Results of these efforts are provided in Section 8.

Table 2. Archaeological Resources Subject to Significance Evaluation

Resource ID	Resource Description	Buried Potential	Level of Effort for Evaluation
P-19-101014	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-02	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-03	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-02	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-03	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-04	Shallow depression containing historic refuse	Unlikely	Surface recordation
ABS-JC-S-05	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-BR-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-RB-S-01	Historic-era refuse scatter	Unlikely	Surface recordation

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7 Results

This section presents the results of the SCCIC records search, archival research, correspondence with the NAHC, informal tribal outreach, and intensive-level pedestrian survey of the project API in support of the currently proposed project.

7.1 Records Search

7.1.1 Previously Conducted Cultural Resources Studies

The SCCIC records search identified 50 previous cultural resources studies that have been conducted within a 1-mile radius of the project API. Of these studies, 22 intersect with the project API (Table 3). These include 12 cultural resources inventories, six (6) archaeological resources inventories, one (1) archaeological and paleontological resources inventory, one (1) records search report, one (1) archaeological resources monitoring report, and one (1) evaluation report. Relevant reports are discussed in further detail below Table 3. Approximately 30% of the project API has been subject to past cultural resources investigations. See Appendix B for the complete SCCIC records search results and associated documentation.

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
LA-00680	1979	Barker, James P.	An Archaeological Sampling of the Proposed Allen-warner Valley Energy System, Western Transmission Line Corridors, Mojave Desert, Los Angeles and San Bernardino Counties, California and Clark County, Nevada
LA-00962	1980	Robinson, R. W.	Cultural Resources Investigation Re: Parcel Map No. 12240
LA-01585	1986	Weil, Edward B.	City of Los Angeles Department of Water and Power Vincent Substation Loop-in Project Cultural Resource Records Check and Field Survey Results
LA-03017	1994	Gibson, Robert O.	Results of Archaeological Records Check for the Mojave Alternatives of the Pacific Pipeline Project Los Angeles County, California
LA-03705	1969	Coleman, R.G., J. Jones, and T.F. King	An Archaeological Reconnaissance of Southern California Edison Company's Vincent Transmission, From Bakersfield to Glendale, California
LA-04008	1996	Unknown	Cultural Resources Investigation Pacific Pipeline Emidio Route
LA-07940	2005	Schmidt, June A.	DWO 6036-4800, AI #5-4834: 2005 Deteriorated Pole Replacement Project Pick B-1 and C-2; Bootlegger A-3, B-3, C-2, and C-3; Leona A-1; Titan C-3; Calli Valli D-1; Acrobat A-2; Target B-1; and Dennis 12 kV Distribution Lines, Los Angeles County

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
LA-08179	2006	Ahmet, Koral, Roger Mason and Sara Bholat	Cultural Resources Survey Report for Antelope Transmission Project: Segments 2 & 3, Los Angeles and Kern Counties
LA-09705	2007	Anonymous	Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California. ARR #05-01-01046
LA-09755	2009	Gust, Sherri, Veronica Harper, and Amy Glover	Supplemental Archaeological and Paleontological Resources Assessment, Sagebrush 220 kV Transmission Line Modification (Segment 2, Tehachapi Renewable Transmission Project), Los Angeles County, California
LA-10175	2009	Unknown	Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project
LA-10470	2010	Schmidt, James	Archaeological Monitoring Report - Southern California Edison Station Fire Emergency Transmission Line Road Maintenance Project, Angeles National Forest, Los Angeles County, California ARR #05-01-1154
LA-11869	2010	Holm, Lisa	Cultural Resources Survey for the M76-T5 Access Roads, Segment 5 Tehachapi Renewable Transmission Project, Los Angeles County, California
LA-11873	2010	Holm, Lisa	TRTP Cultural Resources Survey Report with Negative Findings, Segment 5 Removal of Conductor between Existing Antelope-Mesa 220 kV towers M76-T4 and M76-T5, Los Angeles County, California
LA-11987	2010	Schneider, Tsim	TRTP Negative Archaeological Survey Report, Tehachapi Renewable Transmission Project, Cultural Resources Survey Report with Negative Findings, Segment 9 Vincent Substation Expansion and Foreston Drive Realignment, Los Angeles County, California
LA-12527	2010	Panich, Lee, Stephanie Cimino, and John Holson	Supplemental Archaeological Survey Report #1, Tehachapi Renewable Transmission Project Segment 5, Los Angeles County, California
LA-12528	2010	Schneider, Tsim and John Holson	Supplemental Archaeological Survey Report #2, Tehachapi Renewable Transmission Project Segment 5, Los Angeles County, California
LA-12548	2010	Greenberg, Marc, Tsim Schneider, and John Holson	Supplemental Archaeological Survey Report Tehachapi Renewable Transmission Project Segment 6, Los Angeles County, California
LA-12807	2014	Tennesen, Kristin	Cultural Resources Survey for the Vincent Station Siding Extension and Second Platform Project, Acton, California, Los Angeles County
LA-12833	2013	Jackson, Thomas	Evaluation of National Register of Historic Places and California Register of Historical Resources Eligibility of Archaeological Site CA-LAN-2546, Southern California

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
			Edison Company Tehachapi Renewable Transmission Project, Segment 6 Los Angeles County, California
LA-12838	2014	Greenberg, Marc	Segment 11C Supplemental Survey in Support of a Variance Request for Additional Pullouts and Spur Roads, Tehachapi Renewable Transmission Project, Los Angeles County, California
LA-12840	2014	Greenberg, Marc	Segment 11C Supplemental Survey for TEWS for Construct 03 Access Road, Tehachapi Renewable Transmission Project, Los Angeles County, California

Notes: TRTP = Tehachapi Renewable Transmission Project.

LA-12548

A supplemental archaeological survey report was prepared for the Tehachapi Renewable Transmission Project Segment 6 in 2011 by Pacific Legacy, Inc. This report was a supplement to an initial archaeological inventory for the Tehachapi Renewable Transmission Project and included a records search, literature review, pedestrian survey, and the documentation of previously identified archaeological resources and newly discovered archaeological resources that intersected with the Segment 6 project area. Overall, the pedestrian survey identified eight (8) previously recorded archaeological resources and another nine (9) newly discovered archaeological resources within the Segment 6 project area, one (1) of which was P-10-101014. Though P-19-101014 was originally recorded as part of this study, no further investigations were completed, including evaluating P-19-101014's eligibility for listing on the CRHR/NRHP. Overall, the Segment 6 study area overlaps with less than 5% of the currently proposed project API. Management recommendations for the project included the evaluation of all resources identified within the Segment 6 project area if avoidance was not feasible, as well as the implementation of inadvertent discovery protocols for archaeological resources and huma remains during project construction (Greenberg et al. 2011).

7.1.2 Previously Recorded Cultural Resources

The SCCIC records search identified three (3) previously recorded cultural resources within the project API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). An additional 28 previously recorded cultural resources were identified within a 1-mile radius of the project API (Table 4). These include 13 historic-era refuse scatters, four (4) prehistoric isolates, two (2) lithic and groundstone scatters, two (2) historic-era isolates, two (2) built environment structures, one (1) prehistoric hearth feature, one (1) prehistoric bedrock milling feature, one (1) collapsed wooden structure with an associated refuse scatter, the Angeles National Forest, and the Angeles Forest Highway.

P-19-002893 and P-19-101014 are described in further detail below Table 4. P-19-192581 and all other built environment resources recorded and evaluated as part of this project are addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek in 2025 (Ahmanson et al. 2025). See Appendix B for the complete SCCIC records search results and associated documentation, and Appendix C for a Cultural Resources

Overview Map that depicts all previously recorded and newly identified (as part of Dudek's inventory and evaluation efforts) cultural resources within a 1-mile radius of the proposed project.

Table 4. Previously Recorded Cultural Resources within 1 Mile of Project API

Primary Number	Trinomial	Age	Type	Description	Eligibility for CRHR/NRHP
Intersects Project API					
P-19-002893	CA-LAN-002893H	Historic	Site	Abandoned segment of the Southern Pacific Railroad	Recommended ineligible for NRHP
P-19-101014	—	Historic	Isolate	Can isolate	Categorically Ineligible for CRHR/NRHP
P-19-192581	—	Historic	Engineering structure	Antelope-Mesa 220 kV Transmission Line	Recommended ineligible for CRHR/NRHP
Outside of Project API					
P-19-002414	CA-LAN-002414	Prehistoric	Site	Lithic and groundstone scatter	Not evaluated
P-19-002415	CA-LAN-002415	Prehistoric	Site	Lithic and groundstone scatter	Not evaluated
P-19-002459*	CA-LAN-002459H	Historic	Site	San Gabriel Dam Construction Camp Bldg. FC143	Unknown
P-19-002546	CA-LAN-002546	Prehistoric	Site	Hearth feature	Recommended ineligible for CRHR/NRHP
P-19-002561	CA-LAN-002561H	Historic	Site	Refuse scatter	Unknown
P-19-002907	CA-LAN-002907H	Historic	Site	Refuse scatter	Unknown
P-19-002908	CA-LAN-002908H	Historic	Site	Refuse scatter	Unknown
P-19-003116	CA-LAN-003116H	Historic	Site	Borrow pits with associated refuse scatter	Unknown
P-19-003124	CA-LAN-003124	Prehistoric	Isolate	Lithic isolate	Categorically Ineligible for CRHR/NRHP
P-19-003308	CA-LAN-003308H	Historic	Site	Refuse scatter	Determined ineligible for NRHP
P-19-003458	CA-LAN-003458H	Historic	Site	Refuse scatter	Unknown
P-19-003536	CA-LAN-003536H	Historic	Site	Refuse scatter	Unknown
P-19-003729	CA-LAN-003729H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003730	CA-LAN-003730H	Historic	Site	Refuse scatter	Unknown

Table 4. Previously Recorded Cultural Resources within 1 Mile of Project API

Primary Number	Trinomial	Age	Type	Description	Eligibility for CRHR/NRHP
P-19-003731	CA-LAN-003731	Prehistoric	Site	Bedrock milling feature	Unknown
P-19-003732	CA-LAN-003732H	Historic	Site	Collapsed wooden structure with associated refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003733	CA-LAN-003733H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003938	CA-LAN-003938H	Historic	Site	Refuse scatter	Determined ineligible for CRHR/NRHP
P-19-004335	CA-LAN-004335H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-004470	CA-LAN-004470H	Historic	Site	Refuse scatter	Unknown
P-19-100576*	—	Historic	Isolate	Glass insulator	Categorically Ineligible for CRHR/NRHP
P-19-100758	—	Prehistoric	Isolate	Core fragment	Categorically Ineligible for CRHR/NRHP
P-19-101018	—	Historic	Isolate	Bottle fragment	Categorically Ineligible for CRHR/NRHP
P-19-101021	—	Prehistoric	Isolate	Metate fragment	Categorically Ineligible for CRHR/NRHP
P-19-101359	—	Prehistoric	Isolate	Obsidian biface fragment	Categorically Ineligible for CRHR/NRHP
P-19-186535	—	Historic	Plaque	Angeles National Forest	California Historical Landmark
P-19-186876	—	Historic	Engineering structure	SCE Eagle Rock-Pardee Transmission Line	Recommended ineligible for CRHR/NRHP
P-19-187713	—	Historic	Highway	Angeles Forest Highway	Recommended ineligible for CRHR/NRHP

* PDF not on file at SCCIC

P-19-002893

P-19-002893 is characterized as an abandoned segment of the Southern Pacific Railroad grade through Soledad Canyon. This resource was first recorded in 2000 by SWCA Environmental Consultants and recommended ineligible for listing on the NRHP. At time of recordation, P-19-002893 consisted of imported stone, several railroad ties in secondary context, two water culverts (one dated to 1937) and a cement signal stand. This resource was revisited in 2013 by HDR. HDR was able to revisit all previously identified components, however indicated that the original mapping by SWCA in 2000 appeared to be incorrect (Purcell 2000).

P-19-101014

P-19-101014 is characterized as an isolated can scatter consisting of a three-tab seam, church key opened, steel beer can, a crushed painted label oil can, and additional cans noted upslope adjacent to the SCE Vincent Substation. This resource was first recorded in 2011 by Pacific Legacy, Inc. in support of the Tehachapi Renewable Transmission Project (Greenberg and Schrader 2011). Isolates are categorically ineligible for listing on the CRHR and do not meet the criteria to be considered significant or unique archaeological resources under CEQA.

7.2 Archival Research

7.2.1 Review of Historic Topographic Maps

Table 5 provides a summary of the historic topographic map review conducted for the BESS facility. This table has been modified from the *Phase I Environmental Site Assessment: Prairie Song Reliability Project* prepared by Dudek in 2024 (Smith and Huang 2024: 19-20).

Table 5. Summary of Historic Topographic Maps

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1900	The project site is depicted as vacant, undeveloped land. An east–west-trending light-duty road and a wide wash are depicted through the center of the site.	The adjoining and surrounding areas are depicted as vacant, undeveloped land. A northeast–southwest trending railroad is depicted to the north. A few light-duty roads are depicted throughout the adjoining and surrounding area.
1934	The light-duty road and wide wash are no longer depicted on the site. A tank and a well are depicted on the site. Narrow washes are depicted in the southwest and northwest portions of the site. Unimproved roads are depicted in the northwestern and northeastern portions of the site. A structure is depicted along the eastern border of the site.	Two wells and a patrol station are depicted north of the site. East–west trending Highway 6 and Soledad Canyon are depicted north of the project site. Additional roadways and narrow washes are depicted throughout the surrounding area.
1939	The site is depicted similarly to the 1934 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1934 topographic map.

Table 5. Summary of Historic Topographic Maps

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1940	The tank and the well are no longer depicted on the site. The narrow wash in the southwestern portion is no longer depicted on the site.	The two wells are no longer depicted north of the project site. Additional structures are depicted on the surrounding properties to the north.
1947	The structure along the eastern border is now depicted outside of the site boundary. The remaining site is depicted similarly to the 1940 topographic map.	A structure is depicted on the eastern-adjoining property. The remaining adjoining and surrounding areas are depicted similarly to the 1940 topographic map.
1948	The site is unmapped.	Most of the adjoining and surrounding properties are unmapped.
1959	The site is depicted similarly to the 1947 topographic map.	Kentucky Springs Canyon is depicted on the adjoining and surrounding property to the north. Additional roadways and structures are scattered throughout the surrounding area.
1974, 1978	The site is depicted similarly to the 1959 topographic map.	Highway 6 has been expanded to have several on-/off-ramps connecting to the highway and is renamed Highway 14. A substation is now depicted northeast of the project site. Two structures are depicted on the southwestern adjoining property. Additional buildings and unimproved roads have appeared in the areas surrounding the project site.
1991, 1994	The site is depicted similarly to the 1974/1978 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1974/1978 topographic map.
1995	A structure is depicted in the western portion of the site. A roadway is depicted along the western border of the site.	Additional structures and roads are depicted in the areas surrounding the project site.
2012	Structures are no longer depicted on the topographic map.	Structures and power transmission lines are no longer depicted on the topographic map.
2015	The site is depicted similarly to the 2012 topographic map.	Changes to road layouts are depicted in areas surrounding the site.
2018	The site is depicted similarly to the 2015 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2015 topographic map.
2022	The site is depicted similarly to the 2018 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2018 topographic map.

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

7.2.2 Review of Historic Aerial Photographs

Table 6 summarizes the review of the historic aerials photographs that cover the BESS facility (Smith and Huang 2024: 17–18).

Table 6. Summary of Historic Aerial Photographs

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1928	The site appears largely undeveloped. An east–west-trending wide wash is observed in the northwest portion of the site. A narrow wash is observed in the southwestern corner of the site. Two roads are observed on the northern half of site. Vegetation that appears to be bushes and shrubs sparsely covers the entirety of the site.	Undeveloped land is observed on all adjoining and surrounding properties. A road and railroad are observed northwest of the site. A few narrow washes and dirt roads/trails are observed throughout the surrounding area. Vegetation that appears to be bushes and shrubs sparsely covers the adjoining and surrounding properties.
1940	The site appears similar to the 1928 aerial photograph.	The adjoining and surrounding areas appear similar to the 1928 aerial photograph.
1954	The site appears similar to the 1940 aerial photograph.	The adjoining and surrounding areas appear similar to the 1940 aerial photograph.
1968	A cleared area is observed in the western portion of the project site. A north–south-trending road is observed along a portion of the western border.	Rural residential/farming structures are observed on the western- and eastern-adjoining properties. Additional residential/farming structures are observed to the south. Additional roads appear throughout the adjoining and surrounding properties.
1974	The site appears similar to the 1968 aerial photograph.	The adjoining and surrounding areas appear similar to the 1968 aerial photograph.
1976	The site appears similar to the 1974 aerial photograph.	The adjoining and surrounding areas appear similar to the 1974 aerial photograph.
1983	A small, cleared area is observed along the eastern border of the site, associated with the eastern-adjoining structure. The site appears similar to the 1976 aerial photograph.	Additional residential/farming structures are observed adjoining the subject property to the northeast and west and also on the surrounding property to the south.
1989	A residential area is observed in the western portion of the site. A graded area associated with structures on the eastern adjoining property is observed along the eastern border.	The northeastern- and western-adjoining areas are further developed with additional structures and grading. The remaining adjoining and surrounding areas appear similar to the 1983 aerial photograph.
1994	A few additional roads are observed throughout the site.	Additional structures are observed on the western adjoining property. The remaining adjoining and surrounding areas appear similar to the 1989 aerial photograph.
2002	Additional structures are observed in the western portion of the site.	Additional development is observed on the eastern and western-adjoining properties. The remaining adjoining and surrounding areas appear similar to the 1994 aerial photograph.
2005	The site appears similar to the 2002 aerial photograph.	The adjoining and surrounding areas appear similar to the 2002 aerial photograph.
2009	Additional structures are observed in the western portion of the site. The remaining	The adjoining and surrounding areas appear similar to the 2005 aerial photograph.

Table 6. Summary of Historic Aerial Photographs

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
	site appears similar to the 2005 aerial photograph.	
2012	The site appears similar to the 2009 aerial photograph.	The adjoining and surrounding areas appear similar to the 2009 aerial photograph.
2016	The site appears similar to the 2012 aerial photograph.	The adjacent and surrounding areas appear similar to the 2012 aerial photograph.
2020	The site appears similar to the 2016 aerial photograph.	The adjacent and surrounding areas appear similar to the 2016 aerial photograph.
2023	The site appears similar to the 2020 aerial photograph.	The adjacent and surrounding areas appear similar to the 2020 aerial photograph

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

7.2.3 Review of Geomorphological Context

According to the U.S. Department of Agriculture Natural Resources Conservation Services, several soil types are mapped within the project API. Official U.S. Department of Agriculture soil descriptions for the soil types identified within the project API are provided below (USDA 2025).

- Hanford coarse sandy loam, 2% to 9% slopes, is present within 27% of the project API. Hanford coarse sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,390 feet to 4,200 feet amsl.
- Terrace escarpments are present within 24% of the project API and are characterized by their high percent of slope, which in general, are not suitable for sustaining buried archaeological deposits.
- Hanford coarse sandy loam, 0% to 2% slopes, is present within 17% of the project API. Hanford coarse sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,390 feet to 4,200 feet amsl.
- Greenfield sandy loam, 2% to 9% slopes, is present within 14% of the project API. Greenfield sandy loams generally occur in settings with alluvial fans and terraces deriving from granite and are found in areas with elevations ranging from 2,600 feet to 4,200 feet amsl.
- Hanford sandy loam, 2% to 9% slopes, is present within 17% of the project API. Hanford sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,600 feet to 4,200 feet amsl.

The U.S. Department of Agriculture's soil types mapped within the project API demonstrate that alluvial soils are present, which have the potential to support the presence of buried archaeological resources. These soils are associated with the period of prehistoric human use, as well as represent ongoing processes of development that have potential to preserve cultural material in context, depending on area-specific topographical setting.

7.3 NAHC and Tribal Correspondence

Both of Dudek's NAHC SLF search requests yielded negative results for Native American cultural resources within a 0.5-mile and 1-mile radius of the project API. Along with the results of the SLF search, the NAHC provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. Informal tribal outreach letters were mailed on January 15 and 20, 2025 to all California Native American Tribal representatives included on the NAHC contact lists. These letters attempted to solicit additional information relating to Native American cultural resources that may be impacted by the project. Native American Tribal representatives were requested to define a general area where known resources intersect the project API. To date, Dudek has received three responses to this information request. These responses are paraphrased below:

> Raylene Borrego of the Yuhaaviatam of San Manuel Nation (formerly San Manuel Band of Mission Indians) responded on January 21, 2025. Ms. Borrego's response indicated that the project API is considered highly culturally sensitive to the Yuhaaviatam of San Manuel Nation (Yuhaaviatam), and that the Yuhaaviatam wish to engage with the CEC in Government-to-Government consultation pursuant to AB 52.
>
> Jill McCormick of the Quechan Tribe of the Fort Yuma Reservation responded on January 28, 2025. Ms. McCormick indicated that the Quechan Tribe of the Fort Yuma Reservation does not wish to comment on the project.
>
> Eunice Ambriz of the Yuhaaviatam responded on January 29, 2025. In her email, Ms. Ambriz requested Dudek provide a project map set in aerial view. Dudek responded to Ms. Ambriz on February 10, 2025, with the requested map set.

Dudek conducted a virtual follow-up meeting with the Yuhaaviatam for purposes of informal information gathering and tribal outreach efforts. The meeting took place on February 13, 2025. In attendance was Kristin Tuotso (Yuhaaviatam Tribal Archaeologist), Eunice Ambriz (Yuhaaviatam Cultural Resources Technician) and Roshanne Bakhtiary (Dudek Archaeologist). During the meeting, Dudek provided a review of the project API and the project design and discussed Dudek's inventory efforts to date, including the results of the SCCIC records search and NAHC SLF search. After a review of all available project documents, both Ms. Tuotso and Ms. Ambriz expressed interest in the project requiring mitigation measures for the inadvertent discovery of Native American cultural resources and human remains. The Yuhaaviatam also indicated that they intend to proceed with Government-to-Government AB 52 consultation with the CEC for the project. No additional information was provided during this meeting to support the presence of specific, geographically defined TCRs that could be affected by project-related construction or operation. See Appendix D for all NAHC documentation and tribal correspondence to date.

This correspondence was conducted for informational purposes only and does not constitute formal Government-to-Government consultation. In compliance with AB 52, the CEC, as lead agency, is responsible for conducting Government-to-Government consultation with tribal entities.

7.4 Pedestrian Survey

Dudek archaeologists Jessica Colston, Phillip Sharp-Garcia, Shane McDonnell, Brenda Rogers and Roshanne Bakhtiary conducted intensive-level archaeological resources pedestrian surveys of the project API in February 2023, November 2024, and February 2025. The Archaeological Survey Area encompassed the entire project API as well as all APNs identified within the project description as shown in Figure 3 (Archaeological Survey Area). This totaled approximately 321 acres. Ground surface visibility throughout the API ranged from poor to excellent. Poor ground surface visibility (0% to 25%) was observed throughout approximately 30% of the project API due to dense vegetation, and in some instances, the presence of road base (Exhibit 1). Fair (25% to 50%) to good (50% to 75%) ground surface visibility was observed within seasonal drainages, on terraces, and adjacent to the SCE Vincent Substation and accounted for approximately 50% of the project API (Exhibit 2). Excellent (75% to 100%) ground surface visibility was observed within unpaved access roads, transmission tower corridors, and alluvial washes and accounted for the remainder of the project API (20%) (Exhibit 3). Vegetation throughout the project API consisted of various species of invasive grasses, creosote (*Larrea tridentata*), juniper (*Juniperus* spp.), golden cholla (*Cylindropuntia echinocarpa*), chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos spp.),* coyote brush (*Baccharis pilularis*), scrub oak (*Quercus berberidifolia*), sage (*Saliva* spp.) and yucca (*Yucca* spp. or *Hesperoyucca* sp.). Throughout the project API there was evidence of modern dumping, vehicle overland travel, and other disturbances associated with the construction and operation of the SCE Vincent Substation and various residential properties. During these intensive-level pedestrian survey efforts, crews re-visited two previously recorded archaeological resources and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. DPR site forms were prepared for all resources and will be submitted to the SCCIC of the California Historic Resources Information System at California State University, Fullerton. The DPR site forms are included in Confidential Appendix E.

7.4.1 Previously Recorded Resources

P-19-002893

P-19-002893, an abandoned segment of the Southern Pacific Railroad, was revisited by Dudek archaeologists in February 2023 and November 2024. While the original mapping of P-19-002893 by SWCA places the segment within the project API, 2013 mapping by HDR places the segment outside of the project API.

Dudek's survey efforts to re-locate the resource concur with HDR's updated mapping of P-19-002893 as existing outside the project API (Purcell 2000). Metal detecting efforts conducted in 2024 also failed to identify any buried metal components of the railroad segment within or directly adjacent to the project API (negative scan). No additional efforts to record and/or evaluate this resource were conducted as part of the current study.

P-19-101014

P-19-101014, originally recorded as a can scatter isolate, was revisited by Dudek archaeologists in February 2025. Dudek relocated both previously recorded artifacts (one [1] church key opened steel beer can, and one [1] crushed yellow church key opened SAE 20 motor oil can) and recorded two additional internal side seam cans measuring 4.75 inches in height by 3 inches in diameter within the immediate vicinity. P-19-101014 measures approximately 5 meters north/south (N/S) by 5 meters east/west (E/W).

P-19-101014 is located at the base of a very steep activity eroding terrace escarpment with slopes ranging from 45° to 60° and is adjacent to the proposed gen-tie corridor. Upslope from the resource is a dirt access road. Metal detecting efforts conducted in 2025 failed to identify any buried metallic components within and adjacent to the newly recorded boundaries of P-19-101014 (negative scan).

7.4.2 Newly Identified Resources

ABS-PK-S-01

Dudek recorded ABS-PK-S-01 in February 2023 and revisited the resource in November 2024. ABS-PK-S-01 is characterized as a sparse historic-era refuse scatter consisting of a concentration of seven (7) solder top cans, three (3) miscellaneous food cans, church key opened, two (2) friction seal cans, two (2) screw top rectangular oil cans, one (1) coffee can, and one (1) large metal drum measuring approximately 22.5 inches in length by 18 inches in diameter (Concentration 1). Outside of this concentration and scattered throughout the vicinity are an additional five (5) miscellaneous bi-metal beverage cans, two (2) 1-gallon screw top rectangular oil cans, two (2) friction side seam 16-ounce condensed milk cans, one (1) bi-metal coffee can, one (1) bi-metal pull tab can, one (1) screw cap, one (1) colorless Owen's Illinois diamond marked glass bottle base, one (1) battery terminal, one (1) hole-in-top side crimped can, one (1) potted meat can, and one (1) amber Owen's Illinois marked bottle base. ABS-PK-S-01 measures approximately 35 meters (N/S) by 72 meters (E/W).

ABS-PK-S-01 is located on an actively eroding terrace escarpment with slopes ranging from 10° 30°, is directly south of a residential property, and is located within the proposed BESS facility footprint. There are multiple ephemeral drainages running across the extent of the resource in a general N/S axis. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-01 (negative scan).

ABS-PK-S-02

Dudek recorded ABS-PK-S-02 in February 2023 and revisited the resource in November 2024. ABS-PK-S-02 is characterized as a sparse and diffuse historic-era refuse scatter consisting of three (3) solder dot cans, two (2) amber glass vases, three (3) colorless glass bases (no marks), one (1) colorless glass bottle base marked "NW", one (1) colorless glass insulator fragment marked "Armstrong's T.W.", and multiple piles of shattered modern glass. ABS-PK-S-02 measures approximately 57 meters (N/S) by 50 meters (E/W).

ABS-PK-S-02 is located on an actively eroding terrace escarpment with slopes ranging from 10° to 20° and is directly east of a seasonal drainage, west of an informal dirt roadway, and south of a residential property. ABS-PK-S-02 is located within the proposed BESS facility footprint. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-02 (negative scan).

ABS-PK-S-03

Dudek recorded ABS-PK-S-03 in February 2023 and revisited the resource in November 2024. ABS-PK-S-03 is characterized as a historic-era refuse scatter consisting of three concentrations. Concentration 1 contains 20 food and beverage cans. Concentration 2 contains 21 indeterminate metallic constituents, and 100+ colorless glass and porcelain ceramic cup fragments. Concentration 3 contains over 100+ food and beverage cans (including

several solder dot cans), 13 ceramic porcelain teacup fragments, 12 whiteware fragments, two (2) potted meat cans, one (1) aqua Coca-Cola bottle base, and one (1) shoe sole. Outside of these concentrations, the following artifacts were observed throughout the vicinity: 23 miscellaneous food cans, church key opened, 12 sanitary seal food cans, machine opened, 11 solder top cans, 10 sanitary seal food cans, knife opened, nine (9) bi-metal beverage cans, three (3) potted meat tins, key wind, one (1) colorless RC Cola bottle, three (3) aqua Coca-Cola bottle fragments, three (3) paint cans, and one (1) tobacco flip lid container. ABS-PK-S-03 measures approximately 185 meters (N/S) and 165 meters (E/W).

ABS-PK-S-03 is located on an actively eroding terrace escarpment with slopes ranging from 20° to 30°, is east of a residential property, and is located within the proposed BESS facility footprint. Disturbances noted include evidence of vehicle overland travel and active downslope erosion. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-03 (negative scan).

ABS-JC-S-01

Dudek recorded ABS-JC-S-01 in February 2023 and revisited the resource in November 2024. ABS-JC-S-01 is characterized as a historic-era refuse scatter consisting of two concentrations. Concentration 1 consists of 200+ sanitary seal, side-crimp cans, knife-opened, 50+ 10-ounce milk cans, 40+ cone top cans, four (4) carbon canisters with perforated sides, two (2) 1-gallon screw top rectangular oil cans, and two (2) aqua Coca-Cola bottles. Concentration 2 consists of 50+ solder top cans, eight (8) friction seal cans, one (1) friction seal paint can, one (1) cooking oil can, and one (1) bailing wire string. Outside of the concentrations there were an additional four (4) solder top cans. ABS-JC-S-01 measures 62 meters (N/S) by 62 meters (E/W).

ABS-JC-S-01 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. There are multiple ephemeral drainages running across the extent of the resource in a general E/W axis. Metal detecting efforts conducted in 2024 failed to identify any buried metal components within and adjacent to the recorded boundaries of ABS-JC-S-01 (negative scan).

ABS-JC-S-02

Dudek recorded ABS-JC-S-02 in February 2023 and revisited the resource in November 2024. ABS-JC-S-02 is characterized as a historic-era refuse scatter consisting of one concentration amongst a more diffuse scatter of refuse. Concentration 1 consists of 14 solder top cans, one (1) church key opened can, one (1) ceramic white ware fragment, one (1) colorless glass fragment, and one (1) mason jar rim. Outside of the concentration, there are an additional 30+ sanitary seal food cans, 30+ solder top cans, 20+ beverage cans, church key opened, and 1 lard pail. ABS-JC-S-02 measures 25 meters (N/S) by 74 meters (E/W).

ABS-JC-S-02 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. A deep seasonal drainage is noted to the west of the resource. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-02 (negative scan).

ABS-JC-S-03

Dudek recorded ABS-JC-S-03 in February 2023 and revisited the resource in November 2024. ABS-JC-S-03 is characterized as a historic-era refuse scatter consisting of two concentrations. Concentration 1 consists of seven (7) sanitary seal food cans, machine opened, three (3) beverage cans, church key opened, and one (1) friction lid quart paint can. Concentration 2 (recorded in 2024) consists of 53 solder top food cans, machine opened, 14 8-ounce juice cans, eight (8) potted meat tins, three (3) friction closure cans measuring 4.75 inches in height by 4 inches in diameter, two (2) potted meat cans, friction closure, key wind, one (1) oil can measuring 6 inches in height by 1.5 inches in width by 3.75 inches in depth, one (1) seasoning shaker lid, one (1) cast iron pipe drain end fragment, one (1) packing flat strap band measuring 2 inches wide by 10 feet long, and one (1) friction close quart coffee can. Non-metallic artifacts in Concentration 2 include 50+ colorless glass fragments, two (2) mason jar glass quart rims, three (3) colorless pint mason jar rims, two (2) green ceramic plate fragments, and one (1) complete metal screw top glass jar marked “Glass Containers Corporation”. Outside these concentrations were an additional three (6) solder top cans and one (1) quarter paint can. ABS-JC-S-03 measures 27 meters (N/S) by 36 meters (E/W).

ABS-JC-S-03 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. 2024 efforts to revisit the resource noted that many artifacts appeared to have been subject to post-depositional wind and water erosion from date of original recordation in 2023. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-03 (negative scan).

ABS-JC-S-04

Dudek recorded ABS-JC-S-04 in February 2023 and revisited the resource in November 2024. ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The depression measures 12 feet (N/S) by 10 feet (E/W) and has a depth of approximately 18 inches. Artifacts within the depression consist of 30+ solder top cans, two (2) paint pails, two (2) solder top potted meat cans, knife opened, and one (1) amber glass beer bottle (in 20+ fragments).

ABS-JC-S-04 is located on a mostly flat terrace directly adjacent to several informal dirt roadways and within the proposed BESS facility. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-04 (negative scan).

ABS-JC-S-05

Dudek recorded ABS-JC-S-05 in February 2023 and revisited the resource in November 2024. ABS-JC-S-05 is characterized as a historic-era refuse scatter consisting of 74 miscellaneous sanitary seal food cans, 37 friction seal side crimped cans, 31 bi-metal beverage cans, 16 solder top cans, church key opened, two (2) paint pails, two (2) potted meat tins, knife opened, two (2) potted meat cans, key wind, one (1) pesticide fogger can, one (1) coffee can lid, and one (1) aqua Coca-Cola bottle. ABS-JC-S-05 measures 90 meters (N/S) by 40 meters (E/W).

ABS-JC-S-05 is located on an eroding terrace escarpment with slopes ranging from 30° to 40° and is adjacent to the proposed gen-tie corridor. The downslope movement of artifacts between 2023 and 2024 indicate that ABS-JC-S-05 is actively eroding into the lower lying wash to the northeast. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-05 (negative scan).

ABS-BR-S-01

Dudek recorded ABS-BR-S-01 in November 2024. ABS-BR-S-01 is characterized as a historic-era refuse scatter consisting of 23 whiteware fragments, four (4) porcelain fragments, melted glass (24 aqua, 10 colorless, 3 amethyst, 1 olive denoted as Concentration 1), one (1) fuel can, one (1) sanitary seal food can, one (1) rectangular spice lid, one (1) metal spring, and a decorated flat metal implement in three (3) pieces. The site also contains a concrete and granite slab fragment. This slab fragment measures 29 inches (N/S) by 15 inches (E/W) with a height of 6.5-in. ABS-BR-S-01 measures 22 meters (N/S) by 40 meters (E/W).

ABS-BR-S-01 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and is adjacent to the proposed gen-tie corridor. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-BR-S-01 (negative scan).

ABS-RB-S-01

Dudek recorded ABS-RB-S-01 in February 2025. ABS-RB-S-01 is characterized as a diffuse historic-era refuse scatter consisting of 50+ internal side seam steel beer cans, church key opened, six (6) 1-gallon paint pails, three (3) rectangular metal cooking oil jugs, three (3) potted meat cans, two (2) miscellaneous food cans, machine opened, one (1) partially buried corrugated metal bucket, one (1) crushed one-gallon paint pail, one (1) roof vent, one (1) solder dot can, a wooden mattress frame with metal box springs, and other large indeterminate metallic constituents. ABS-RB-S-01 measures 30 meters (N/S) by 55 meters (E/W).

ABS-RB-S-01 is located within an eroding terrace escarpment with slopes ranging from 30° to 40°, is adjacent to the proposed gen-tie corridor, and located directly west of the southern tip of the SCE Vincent Substation. The diffuse nature of the refuse scatter indicates that it has been subject to post-depositional wind and water erosion. Metal detecting efforts conducted in 2025 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-RB-S-01 (negative scan).

Exhibit 1. Example of poor ground surface visibility, view facing west.



Exhibit 2. Example of fair/good ground surface visibility, view facing north.



Exhibit 3. Example of excellent ground surface visibility, view facing southeast.



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8 Significance Evaluation Findings

This section summarizes the results of the significance evaluations conducted for the 11 archaeological resources identified within or directly adjacent to the project API (Table 7).

Table 7. Results of Archaeological Significance Evaluations

Resource ID	Resource Description	Eligibility Recommendation
P-19-101014	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-02	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-03	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-02	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-03	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-04	Shallow depression containing historic refuse	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-05	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-BR-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-RB-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation

8.1 Previously Recorded Resources

Resource P-19-101014 Evaluation

P-19-101014 is characterized as a sparce historic-era refuse scatter adjacent to a steep terrace escarpment and upslope of a dirt road. The identified SAE 20 motor oil can indicates that the primary period of deposition for the recorded component of P-19-101014 is likely dated to the mid-twentieth century (Lambton County Museums 2021). Artifacts associated with P-19-101014 were observed in a dispersed pattern within an eroding terrace escarpment, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with P-19-101014 were observed.

It is unlikely that P-19-101014 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, P-19-101014 is not associated with the lives of persons important in our past (Criterion 2). P-19-101014 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, P-19-101014 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of P-19-101014. As such, P-19-101014 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends P-19-101014 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

8.2 Newly Identified Resources

Resource ABS-PK-S-01 Evaluation

ABS-PK-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The identified food and beverage refuse indicate that the primary period of deposition for the recorded component of ABS-PK-S-01 is post-1940 (Brewery Collectables Club of America n.d.; Lockhart and Hoenig 2015). Artifacts associated with ABS-PK-S-01 were observed in a dispersed pattern within an eroding terrace escarpment and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-PK-S-01 were observed.

It is unlikely that ABS-PK-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-01. As such, ABS-PK-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

Resource ABS-PK-S-02 Evaluation

ABS-PK-S-02 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The insulator fragment together with the solder dot cans indicate that the primary period of deposition for the recorded component of ABS-PK-S-02 is the early/mid-twentieth century (BLM 2015; Merritt 2014). Artifacts associated with ABS-PK-S-02 were observed in a dispersed pattern within an eroding terrace escarpment, suggesting that the resource is in a secondary context. Modern debris identified throughout the general vicinity also indicate ABS-PK-S-02 has been subject to multiple, more recent, dumping episodes. No evidence of subsurface deposits associated with ABS-PK-S-02 were observed.

It is unlikely that ABS-PK-S-02 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-02 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-02 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-02 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-02. As such, ABS-PK-S-02 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-02 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

Resource ABS-PK-S-03 Evaluation

ABS-PK-S-03 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The vast quantity of solder dot cans dispersed throughout the site indicate that the primary period of deposition for the recorded component of ABS-PK-S-03 is the early/mid-twentieth century (BLM 2015; Merritt 2014). The RC Cola bottle further indicates a secondary period of deposition in the mid-/late twentieth century (Lockhart 2010). Artifacts associated with ABS-PK-S-03 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of modern anthropogenic displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-PK-S-03 were observed.

It is unlikely that ABS-PK-S-03 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-03 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-03 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-03 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-03. As such, ABS-PK-S-03 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-03 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-01

ABS-JC-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The solder top cans together with the cone top cans indicate that the primary period of deposition for the recorded component of ABS-JC-S-01 is the mid-twentieth century (BLM 2015; Maxwell 1993). Artifacts associated with ABS-JC-S-01 were observed in a dispersed pattern within an eroding terrace escarpment and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-01 were observed.

It is unlikely that ABS-JC-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-01. As such, ABS-JC-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-02

ABS-JC-S-02 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-02 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-02 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-02 were observed.

It is unlikely that ABS-JC-S-02 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-02 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-02 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-02 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-02. As such, ABS-JC-S-02 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-02 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-03

ABS-JC-S-03 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-03 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-03 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-03 were observed.

It is unlikely that ABS-JC-S-03 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-03 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-03 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-03 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-03. As such, ABS-JC-S-03 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-03 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-04

ABS-JC-S-04 is characterized as a large shallow depression containing historic-era refuse. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component

of ABS-JC-S-04 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Though no evidence of subsurface deposits associated with ABS-JC-S-04 were observed, the inspection of observable material on the ground surface was sufficient to gain a representative sample of associated use and chronological data for purposes of a significance determination.

It is unlikely that ABS-JC-S-04 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-04 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-04 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-04 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-04. As such, ABS-JC-S-04 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-04 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-05

ABS-JC-S-05 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-05 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-05 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-05 were observed.

It is unlikely that ABS-JC-S-05 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-05 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-05 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-05 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-05. As such, ABS-JC-S-05 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-05 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-BR-S-01

ABS-BR-S-01 is characterized as a historic-era refuse scatter containing mostly ceramics and glass. Though the majority of the deposit is non-diagnostic, the presence of a single sanitary seal food can indicates the period of deposition for the recorded component of ABS-BR-S-01 is likely post-1900 (Merritt 2014). Artifacts associated with ABS-BR-S-01 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-BR-S-01 were observed.

It is unlikely that ABS-BR-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-BR-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-BR-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-BR-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-BR-S-01. As such, ABS-BR-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-BR-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-RB-S-01

ABS-RB-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. Though the majority of the deposit is non-diagnostic, the presence of a single solder dot can indicates the period of deposition for the recorded component of ABS-RB-S-01 is likely the early/mid-twentieth century (BLM 2015; Merritt 2014). Artifacts associated with ABS-RB-S-01 were observed in a dispersed pattern within an eroding terrace, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-RB-S-01 were observed.

It is unlikely that ABS-RB-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-RB-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-RB-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-RB-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-RB-S-01. As such, ABS-RB-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-RB-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

9 Summary and Management Considerations

Dudek's archaeological resources inventory and evaluation in support of the project suggests there is a moderate potential for the inadvertent discovery of subsurface archaeological resources during project implementation. Dudek conducted a records search of the project API and surrounding 1-mile radius at the SCCIC. The records search identified three previously recorded cultural resources that intersect with the API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). P-19-002893 and P-19-101014 are addressed in this study, while P-19-192581 is addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek for the project in 2025 (Ahmanson et al. 2025).

A NAHC SLF search was also conducted for the project in 2023 and 2025, and results were negative for Native American cultural resources within 1 mile of the project API. Additionally, a review of historic topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries.

Several Dudek archaeologists conducted intensive-level archaeological resources pedestrian surveys of the project API in 2023, 2024, and 2025. During these survey efforts, crews relocated one previously recorded archaeological resource (P-19-101014) and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. P-19-002893 was identified as being outside of the project API and thus was not subject to evaluation efforts as part of the current study.

P-19-101014, ABS-PK-S-01, ABS-PK-S-02, ABS-PK-S-03, ABS-JC-S-01, ABS-JC-S-02, ABS-JC-S-03, ABS-JC-S-04, ABS-JC-S-05, ABS-BR-S-01, and ABS-RB-S-01 were evaluated as part of the current study. Dudek recommends that all 11 archaeological resources are not eligible for listing on the CRHR and do not meet the criteria to be considered significant or unique archaeological resources under CEQA.

Based on the quantity of archaeological resources identified within a 1-mile radius of the project API, the geoarchaeological suitability of the API for supporting the presence of buried archaeological resources, and in consideration of the lack of past disturbances within the majority of the project API, there is a moderate potential for the inadvertent discovery of unanticipated archaeological resources during initial project-related ground disturbance.

9.1 Assessment of Effects and Recommendations

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect (adverse effect) on the environment and the cultural resource itself. A substantial adverse change in the significance of a historical resource (CRHR eligible resource) would be constituted by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

A total of 11 archaeological resources were identified within the API during Dudek's inventory efforts for the project. Through significance evaluations as part of the current study, Dudek determined that all 11 resources do not meet

the criteria to be considered historical resources or significant or unique archaeological resources under CEQA and are recommended ineligible for listing on the CRHR. Though the project will not have any direct or indirect impacts on known significant archaeological resources, there is potential for the project to impact previously unanticipated archaeological resources during initial project-related ground disturbance.

TCRs, while often also cultural resources, do represent a separate resource class under CEQA. Potential impacts (direct and indirect) to TCRs, as defined by CEQA, should be determined by the CEC based on Government-to-Government consultation or through other tribal engagement efforts. Dudek has not received any responses to date from contacted Tribes that supports the presence of specific, geographically defined TCRs that could be affected by project-related construction or operation. Based on present information, the proposed project will not present impacts to resources of Native American value or association, including potential TCRs.

Compliance with Mitigation Measures **MM-CUL-1**, **MM-CUL-2, and MM-CUL-3** outlined below, would reduce potential impacts to previously unanticipated cultural resources and human remains during project implementation. To the extent feasible, these measures are also inclusive of TCR considerations.

MM-CUL-1 Worker's Environmental Awareness Program. Prior to the initiation of ground-disturbing work, construction crews shall be made aware of the potential to encounter cultural resources and the requirement for cultural monitors to be present during these activities. This may occur as part of a Worker Environmental Awareness Program (WEAP). Topics addressed should include definitions and characteristics of cultural resources and Tribal Cultural Resources (TCRs), regulatory requirements and penalties for intentionally disturbing cultural resources, and protocols to be taken in the event of an inadvertent discovery.

MM-CUL-2 Cultural Resources Management and Inadvertent Discovery Program. It is recommended that a Cultural Resources Management and Inadvertent Discovery Plan (CRMIDP) be prepared and subject to lead agency review prior to initiation of construction. This should detail, at a minimum, requirements for archaeological and Native American monitoring (as applicable); roles and responsibilities; inadvertent discovery, management, and communication protocols; and daily and post-construction reporting. The CRMIDP should be prepared by a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, and implemented upon approval by the CEC. Archaeological monitors shall be present part-time (and as defined by the CRIDMP) during initial ground-disturbing activities to monitor rough and finish grading, excavation, and other ground-disturbing activities in the native soils. Archaeological monitoring may be adjusted (increase, decreased, or discontinued) at the recommendation of the qualified archaeologist and based on inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. Although recommended, the requirement to include a Native American monitor should be determined by the CEC through consultation and review of the present report findings. If it is determined that Native American monitoring is required during ground-disturbing activities, an archaeological monitor shall also be present to support and coordinate with Native American efforts.

If cultural materials are discovered during initial disturbances associated with site preparation, grading, or excavation, the construction contractor shall divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and

significance of the find. The area of avoidance shall be assumed to be a minimum of 50 feet around the find, however, may be adjusted to support construction needs by the qualified archaeologist in coordination with the construction team so long as protection of the discovery can be ensured. If determined necessary by the qualified archaeologist for the protection of this area, it shall be delineated by a temporary physical exclusionary boundary using staking and survey tape or other similar materials. The CRMIDP shall address protocols for TCRs, integrating management strategies informed through the process of Government-to-Government consultation. In the event that a potential inadvertent cultural resources discovery may meet the definition of a TCR, the lead agency or identified representative should management strategies stipulated by approved mitigation and outlined in the CRMIDP. Non-cultural project personnel shall not handle, collect or move any archaeological materials or human remains and associated materials. To the extent feasible, project activities shall avoid these deposits. Where avoidance is not feasible, the archaeological deposits shall be evaluated for their eligibility for listing on the California Register of Historical Resources (CRHR). If the deposits are not eligible, regulations provide that avoidance is not necessary. If the deposits are eligible, adverse effects to the identified resource must be avoided, or such effects must be mitigated. Mitigation strategies are dependent on the nature of the resource, and can include, but are not necessarily limited to: preservation in place, excavation of the deposit in accordance with a data recovery plan (see California Code of Regulations [CCR] Title 4(3) Section 5126.4(b)(3)(C)) and standard archaeological field methods and procedures; laboratory and technical analyses of recovered archaeological materials; production of a report detailing the methods, findings, and significance of the archaeological site and associated materials; curation of archaeological materials at an appropriate facility for future research and/or display; an interpretive display of recovered archaeological materials at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials. The CEC, or designee, shall be responsible for reviewing management plans and any reports produced by the archaeologist to determine the appropriateness and adequacy of the findings and recommendations.

Daily monitoring logs should be completed by onsite archaeological monitors (and Native American monitors, if present). Within 90 days following completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency for review. The intent of this report should be to document compliance with approved mitigation. This report should include the results of the cultural resources monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices should include monitoring logs and documentation relating to any newly identified or updated cultural resources.

MM-CUL-3 Treatment of Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code and the requirements of the California Code of Regulations (CCR) Section 15064.5(e), if human remains are encountered during site disturbance, grading, or other construction activities on the project site, the construction contractor shall halt work within 50 feet of the discovery; all work within 50 feet of the discovery shall be redirected and the Los Angeles County Medical Examiner (County Coroner) notified immediately. This exclusionary buffer may be adjusted based on project needs, while also ensuring the protection of this area and regulatory compliance, at the

recommendation of a qualified archaeologist. If determined necessary by the qualified archaeologist for the protection of this area, it shall be delineated by a temporary physical exclusionary boundary using staking and survey tape or other similar materials. No further disturbance shall occur in areas likely to contain human remains until the County Coroner has made a determination with regard to if the find is human in origin pursuant to Public Resources Code Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify the Most Likely Descendant (MLD). With the permission of the CEC and land owner, the MLD may inspect the site of the discovery. The MLD shall make recommendations or preferences for treatment within 48 hours of being granted access to the site. Public Resources Code Section 5097.98 includes reasonable options for treatment that may be requested by the MLD. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the CEC, in coordination with the landowner, shall consult with the MLD identified by the NAHC to develop an agreement for the treatment and disposition of the remains.

Upon completion of the assessment, the consulting archaeologist shall prepare a report documenting the methods and results and provide recommendations regarding the treatment of the human remains and any associated cultural materials, as appropriate, and in coordination with the recommendations of the MLD. The report shall be submitted to the CEC, or designee, and the South Central Coastal Information Center. The CEC, or designee, shall be responsible for reviewing any reports produced by the archaeologist to determine the appropriateness and adequacy of the findings and recommendations. See Table 8 for a list of the Project's agency contacts for Cultural Resources.

Table 8. Agency Contacts for Cultural Resources

Issue	Agency	Contact
Native American Tribal Cultural Resources, Traditional Cultural Properties, Most Likely Descendent Designation	Native American Heritage Commission	1550 Harbord Blvd, Suite 100 West Sacramento, California 95691 916.373.3710
Local Regulatory Requirements	Los Angeles County Planning	335A East Avenue K-6 Lancaster, California 93535 213.974.6411
Human Remains	Los Angeles County Medical Examiner	1104 N Mission Road Los Angeles, California 90033 323.343.0711

10 References

Ahmanson, K., C. Cancilla, and P. Ambacher. 2025. Built Environment Inventory and Evaluation Report, Prairie Song Reliability Project, Los Angeles County, California. On File at Dudek.

Amsden, C.A. 1937. "The Lake Mohave Artifacts." In The Archaeology of Pleistocene Lake Mohave, by E.W. Campbell, 51–95. Southwest Museum Papers No. 11. Los Angeles.

Antelope Valley Indian Museum. 2019. Kawaiisu. Accessed July 2019. http://www.avim.parks.ca.gov/people/ph_kawaiisu.shtml

Antevs, E. 1953. "The Postpluvial or Neothermal." University of California Archaeological Survey Reports 22:9-23. Berkeley.

Basgall, M.E. 1993. "Early Holocene Prehistory of the North-Central Mojave Desert." PhD dissertation, Department of Anthropology, University of California, Davis.

Basgall, M.E. 2000. "The Structure of Archeological Landscapes in the North-Central Mojave Desert." In Archeological Passages, edited by J.S. Schneider, R.M. Yohe II, and J.K. Gardner, 123–138. Western Center for Archeology and Paleontology Publications in Archeology No. 1.

Basgall, M.E., and M.A. Giambastiani. 2000. An Archaeological Evaluation of 13 Locations in the Deadman Lake Basin, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report submitted to U.S. Army Corps of Engineers, Sacramento.

Basgall, M.E., and M.C. Hall. 1991. "Relationships between Fluted and Stemmed Points in the Mojave Desert." Current Research in the Pleistocene 8:61–64.

Basgall, M.E., and M.C. Hall. 1992. For Irwin Archaeology: Emerging Perspectives on Mojave Desert Prehistory. Society for California Archaeology Newsletter 26(5): 1-7.

Basgall, M.E., and D.M. Jurich. 2006. Archeological Investigations at Nine Prehistoric Sites in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report on file at Natural Resources and Environmental Affairs, Marine Corps Air Ground Combat Center, Twentynine Palms, California.

Basgall, M.E., and S.A. Overly. 2004. Prehistoric Archaeology of the Rosamond Lake Basin, Phase II Cultural Resource Evaluations at 41 Sites in Management Region 2, Edwards Air Force Base, California. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base, California.

Bean, L.J., and C.R. Smith. 1978. Serrano. In California, edited by R. F. Heizer, pp. 570-574. Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Bean, L.J., and S.B. Vane. 2003. *The Native American Ethnography and Ethnohistory of Joshua Tree National Park: An Overview. Cultural Systems Re*search, Inc. Prepared for U.S. Forest Service.

Bedwell, S.F. 1973. Fort Rock Basin: Prehistory and Environment. University of Oregon Press, Eugene.

Blackburn, T.C., and L.J. Bean. 1978. "Kitanemuk." In Handbook of North American Indians, Volume 8: California, edited by R.F. Heizer, 564–569. Washington, DC: Smithsonian Institution.

BLM (Bureau of Land Management). 2015. Historic Identification Guide. Accessed April 2025. https://www.ntc.blm.gov/krc/system/files?file=legacy/uploads/22015/HistoricArtifactIDGuide.pdf

Blumel, W., R. Cunningham, E. Chandler, and E. Denniston. 2013. Cultural Resources Inventory for the Oro Verde Solar Project, Near the City of Mojave, and Within Management Region 1, Edwards Air Force Base, Kern County, California. Prepared by ECORP Consulting, Inc., Redlands, California. Prepared for Sun Edison, San Francisco, California.

Brewery Collectibles Club of America. N.d. Berr Can History. Accessed April 2025. https://bcca.com/page/beer-can-history

Byrd, B.F., D.M. Pallette, and C. Serr. 1994. Prehistoric Settlement along Rogers Dry Lake, Western Mojave Desert, California. Brian F. Mooney Associates Anthropological Technical Series No. 2. San Diego.

California Department of Parks and Recreation. 2019. The Kawaiisu Culture. Accessed July 2019. https://www.parks.ca.gov/?page_id=24579

California Language Archives. 2019. Kawaiisu. Accessed 2019. http://cla.berkeley.edu/languages/kawaiisu.php

Campbell, E.W.C., and W.H. Campbell. 1935. The Pinto Basin Site: An Ancient Aboriginal Camping Ground in the California Desert. Southwest Museum Papers No. 9. Los Angeles.

Clewlow, C.W., Jr. 1968. "Surface Archeology of the Black Rock Desert, Nevada." University of California Archeological Survey Reports 73(1): 1–94.

County of Los Angeles. 2015a. Los Angeles County General Plan. Accessed April 2025. https://planning.lacounty.gov/long-range-planning/general-plan/

County of Los Angeles. 2015b. Los Angeles County Code of Ordinances. Accessed April 2025. https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances

Davis, E.L. (editor). 1978. The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country. Los Angeles County Museum of Natural History Science Series 29.

Davis, E.L., and C. Panlaqui. 1978. "Stone Tools, the Action Units." In The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country, edited by E.L. Davis, 30–73. Natural History Museum of Los Angeles County Science Series No. 29.

Drucker, P. 1937. *Culture Element Distributions: V, Southern California*. University of California Anthropological Records 1(1). University of California Press, Berkeley.

Dumke, G.S. 1944. The Boom of the Eighties in Southern California. San Marino, California: The Huntington Library.

Earle, D.D. 1998. Muroc Community Inventory, Edwards AFB, Kern County, California. Submitted to the Air Force Flight Test Center, Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Earle, D.D. 2003. *Ethnohistorical and Ethnographic Overview and Cultural Affiliation Study of the Fort Irwin Region and the Central Mojave Desert*. Prepared for TRC Solutions, Inc. Salt Lake City, Utah.

Earle, D.D. 2004. "Desert Frontier Settlement and Land Use in the Antelope Valley Region, 1850–1950." In The Human Journey and Ancient Life in California's Deserts. Proceedings from the 2001 Millennium Conference, edited by M.W. Allen and J. Reed. Maturango Museum Publication No. 15.

Earle, D.D. 2005. The Mojave River and the Central Mojave Desert: Native Settlement, Travel, and Exchange in the Eighteenth and Nineteenth Centuries. *Journal of California and Great Basin Anthropology* 25(1), 1-38.

Earle, D.D. 2010. Fray Joaquín Pascaul Nuez's Account of the Mojave River Expedition of 1819. *Journal of California and Great Basin Anthropology* 30(2):184-192.

Earle, D.D., B.L. Boyer, R.A. Bryson, R.U. Bryson, M.M. Campbell, J.J. Johannesmeyer, K.A. Lark, C.J. Parker, M.D. Pittman, L.M. Ramirez, M.R. Ronning, and J. Underwood. 1997. "Overview of Prehistoric Cultural Resources." In Cultural Resources Management Plan for Edwards AFB, California, Vol. 1. On file at Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Earle, D.D., K. Lark, C. Parker, M. Ronning, and J. Underwood. 1998. Cultural Resources Overview and Management Plan for Edwards AFB, California. Volume 2: Overview of Historic Cultural Resources. Computer Sciences Corporation. Submitted to the Air Force Flight Test Center, Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Fages, P. 1775. A Historical, Political, and Natural Description of California. Translated by Herbert Ingram Priestly, 1937. University of California Press, Berkeley.

Fowler, C.S., and D.D. Fowler. 1971. Notes on the History of the Southern Paiutes and Western Shoshonis. *Utah Historical Quarterly* 39(2):95-113. Salt Lake City, Utah.

Gardner, J. 2007. The Potential Impact of the Medieval Climatic Anomaly on Human Populations in the Mojave Desert. Coyote Press Archives of Great Basin Prehistory, Number 7. Mojave, California.

Garfinkel, A.P. and H. Williams. 2011. Handbook of the Kawaiisu. *Bakersfield: Wa-hi sina'avi Publications*.

Giambastiani, M.A., and M.E. Basgall. 2000. Phase II Cultural Resource Evaluation for Sites CA-KER-4773/H and CA-KER-2016 in the Bissell Basin, Edwards Air Force Base, California. Prepared for Department of the Army Corps of Engineers, Sacramento.

Giambastiani, M., M. Hale, M. Richards, and S. Shelley. 2008. Draft Report Phase II Cultural Resource Evaluations at 47 Archaeological Sites on the East and Northeast Shores of Rogers Lake, Management Region 3, Edwards Air Force Base, Kern and Los Angeles Counties, California.

Glennan, W.S. 1970. Preliminary Investigations into the Subsistence and Settlement Patterns in the Antelope Valley between 3,500 and 5,000 B.P. Manuscript on file, Department of Anthropology, Antelope Valley College, Lancaster, California.

Glennan, W.S. 1971. A Glimpse at the Prehistory of Antelope Valley: Archaeological Investigations at the Sweetser Site (KER-302). Manuscript on file, Kern-Antelope Historical Society, Rosamond, California.

Grayson, D.K. 1993. The Desert's Past: A Natural Prehistory of the Great Basin. Washington, DC: Smithsonian Institution Press.

Greenburg, M., T.D. Schneider, and J. Holson. 2011. Supplemental Archaeological Survey Report, Tehachapi Renewable Transmission Project Segment 6, Los Angeles County, California. Prepared for Southern California Edison by Pacific Legacy, Inc. Report on file at the South Central Coastal Information Center at California State University, Fullerton.

Greenberg, M., and L. Schrader. 2011. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-101014. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Hale, M., M. Giambastiani, J. Daniels, and M. Dalope. 2010. Final Report Phase II Cultural Resource Evaluations at 85 Archaeological Sites in Management Areas 2B, 2C, 3F, 3H, 3I, AND 4B, Edwards Air Force Base, Kern and Los Angeles Counties, California. Prepared for Richard Bark, JT3 LLC, Subcontract Number 1A10000101.

Hall, M.C. 2000. Archeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Heizer, R.F. 1966. Languages, *Territories, and Names of California Indian Tribes.* University of California Press, Berkeley.

Horne, M.C., and D.P. McDougall. 2005. A Phase II Evaluation of 25 Prehistoric Archaeological Sites Located in Management Area 3, Edwards Air Force Base, California. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base.

Hunt, C.B. 1960. Archaeology of the Death Valley Salt Pan. University of Utah Anthropological Papers 47. Salt Lake City.

Johnson, J.R., and D.D. Earle. 1990. Tataviam Geography and Ethnohistory. *Journal of California and Great Basin Anthropology* 12(2):191-214.

Kelly, I.T., and C. S. Fowler. 1986. Southern Paiute. In *Great Basin*, edited by W. L. d'Azevedo, pp. 368-397. Handbook of North American Indians, Vol. 11, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

King, C., and T.C. Blackburn. 1978. Tataviam. In *California*, edited by Robert F. Heizer, pp. 535-537. *Handbook of North American Indians*, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Kroeber, A.L. 1925. "Handbook of the Indians of California." Bureau of American Ethnology Bulletin 78. Washington.

Lambton County Museums. 2021. History of the Oil Can. Accessed April 2025. https://www.lambtonmuseums.ca/en/lambton-county-archives/history-of-the-oil-can.aspx

Lechner, T., and M. Hale. 2009. *Cultural Resources Inventory of Approximately 6,200 Acres in the Johnson Valley Acquisition Area, San Bernardino County, California*. Report submitted to Jim Shearer of the Bureau of Land Management, Barstow Field Office, and Dr. Marie Cottrell, NREA, Marine Corps Air Ground Combat Training Center, Twentynine Palms, California.

Lockhart, B. 2010. Bottles on the Border: The History and Bottles of the Soft Drink Industry in El Paso, Texas, 1881-2000. Society of Historical Archaeology Online Article. Accessed April 2025. https://sha.org/bottle/pdffiles/EPChap10a.pdf

Lockhart, B., and R. Hoenig 2015. The Bewildering array of Owens' Illinonis Glass Co. Logos and Codes. Society of Historical Archaeology Online Article. Accessed April 2025. https://sha.org/bottle/pdffiles/OwensIll_BLockhart.pdf

Loechl, S.K., T. Britt, W. Meyer, R.R. Sands, A. Smith, J.L. Webster, and L.A. Whalley. 2002. *(Draft) Integrated Cultural Resources Management Plan for Edwards Air Force Base, California*. Prepared by JT3/CH2M Hill for Department of the Air Force, Base Historic Preservation Office, Edwards Air Force Base, California.

Maxwell, D. 1993. Beer Cans: A guide for the Archaeologist. Historical Archaeology 27(1): 95-113.

Mehringer, P.J., Jr. 1986. "Prehistoric Environments." In Handbook of North American Indians, Vol. 11: Great Basin, edited by W.L. d'Azevedo, 31–50. Washington, DC: Smithsonian Institution.

Merritt, C. W. 2014. Historic Artifact Guide. Utah State Division of State History. Accessed April 2025. https://ushpo.utah.gov/wp-content/uploads/2018/08/ARCH_HistoricArtifactsGuide.pdf

Mithun, Marianne. 1999. *The Languages of Native North America.* Cambridge University Press, Cambridge, United Kingdom.

Moratto, M.J. 1984. California Archaeology. Orlando: Academic Press.

Norwood, R.H. 1987. "Prehistoric Archaeology at Edwards Air Force Base, California." In Prehistory of the Antelope Valley: An Overview, edited by R.W. Robinson, 91–106.

OHP (Office of Historic Preservation). 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

Pendleton, L.S.A. 1979. "Lithic Technology in Early Nevada Assemblages." Master's thesis, California State University, Long Beach.

Pritchard-Parker, M., H. Wells, H.R. Puckett, and D.R. Cooper. 1999. Phase II Cultural Resource Evaluation of Five Archaeological Sites in the Rogers Lake North Management Area, Edwards AFB, Kern County, California.

Prepared by Earth Tech for the Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Purcell, D.E. 2000. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-002893. Updated in 2014 by K. Tennessen. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Rhode, D., and N. Lancaster. 1996. Past Environments of Edwards Air Force Base, California: Geological and Paleoecological Evidence. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base, California.

Robinson, W.W. 1979. Land in California. University of California Press, Berkeley.

Sander, J.K., and C.D. Cotterman. 2003. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-187713. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Smith, S., and M. Huang. 2024. Phase I Environmental Site Assessment: Prairie Song Reliability Project, Acton, Los Angeles County, California. On File at Dudek.

Spinney, H.E., L. Fryman, S. Ashkar, S. Schneyder-Case, C. Walker, H.R. Puckett, and F.E. Budinger Jr. 2004. Cultural Resource Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. 3 vols. Tetra Tech, Inc. Submitted to U.S. Army Corps of Engineers, Sacramento District.

Stickel, E.G., L.J. Weinman-Roberts, R. Berger, and P. Hopa. 1980. An Overview of the Cultural Resources of the Western Mojave Desert. Cultural Resources Publications, Anthropology-History. Desert Planning Program, Bureau of Land Management, Riverside, California

Strong, W.D. 1929. *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology No. 26.

Sutton, M.Q. 1980. “Some Aspects of Kitanemuk Prehistory.” Journal of California and Great Basin Anthropology 2(2): 214–225.

Sutton, M.Q. 1988. “An Introduction to the Archaeology of the Western Mojave Desert, California.” Coyote Press Archives of California Prehistory 14.

Sutton, M.Q. 1996. “The Current Status of Archaeological Research in the Mojave Desert.” Journal of California and Great Basin Anthropology 18(2): 221–257.

Tadlock, W.L. 1966. “Certain Crescentic Stone Objects as Time Markers in the Western United States.” American Antiquity 31:662–675.

Tuohy, D.R. 1974. “A Comparative Study of Late Paleo-Indian Manifestations in the Western Great Basin.” In A Collection of Papers on Great Basin Archaeology, edited by R. Elston and L. Sabini, 90–116. Nevada Archaeological Survey Research Paper 5.

Underwood, J. 2006. Discovering the Desert Kawaiisu. In *A Festschrift Honoring the Cntributions of California Archaeologist Jay von Werlhof,* edited by Russell L. Kaldenberg, pp. 179-192. Maturango Museum Publication Number 20. Maturango Press, Ridgecrest, California.

USDA (U.S. Department of Agriculture). 2025. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey. Accessed April 2025. https://websoilsurvey.sc.egov.usda.gov/

Wardle, H.N. 1913. "Stone Implements of Surgery from San Miguel Island, California." American Anthropologist 15(4): 656–660.

Warren, C.N. 1984. "The Desert Region." In California Archaeology, by M.J. Moratto, 339–430. Orlando: Academic Press.

Warren, C.N., and R.H. Crabtree. 1986. "Prehistory of the Southwestern Area." In Handbook of the North American Indians, Vol. 11: Great Basin, edited by W.L. d'Azevedo, 183–193. Washington, DC: Smithsonian Institution.

Waters, M.R. 1988. "Geomorphology of Drinkwater Basin." In The Late Holocene Archaeology of Drinkwater Basin, Fort Irwin, San Bernardino County, California, by M.E. Basgall, M.C. Hall, and W.R. Hildebrandt, 24–33. Report submitted to U.S. Army Corps of Engineers, Los Angeles.

Waters, M.R. 1991. "The Geomorphology of Nelson Basin and Adjacent Areas." In The Archaeology of Nelson Basin and Adjacent Areas, Fort Irwin, San Bernardino County, California, by M.E. Basgall, 15–20. Submitted to U.S. Army Corps of Engineers, Los Angeles.

WRCC (Weather Regional Climate Center). 2025. Regional Climate for Acton, California. Access April 2025. https://wrcc.dri.edu

Willig, J.A. 1988. "Paleo-Archaic Adaptations and Lakeside Settlement Patterns in the Northern Alkali Basin, Oregon." In Early Human Occupation in Far Western North America: The Clovis-Archaic Interface, edited by J.A. Willig, C.M. Aikens, and J.L. Fagan, 417–482. Nevada State Museum Anthropological Papers 21.

Willig, J.A. 1990. "Western Clovis Occupation at the Dietz Site, North Alkali Lake Basin, Oregon." Current Research in the Pleistocene 7:52–56.

Willig, J.A., and M. Aikens. 1988. "The Clovis-Archaic Interface in Far Western North America." In Early Human Occupation in Far Western North America: The Clovis-Archaic Interface, edited by J.A. Willig, C.M. Aikens, and J.L. Fagan, 1–40. Nevada State Museum Anthropological Papers 21.

Yohe, R. 1992. "A Reevaluation of Western Great Basin Cultural Chronology and Evidence for the Timing of the Introduction of the Bow and Arrow to Eastern California Based on New Excavations at the Rose Spring Site (CA-INY-372)." PhD dissertation, University of California, Riverside.

Yohe, R. 1998. "The Introduction of the Bow and Arrow and Lithic Resource Use at Rose Spring (CA-INY-372)." Journal of California and Great Basin Anthropology 20(1): 26–52.

Zigmond, M.L. 1986. Kawaiisu. In Handbook of North American Indians, Vol. 11, Great Basin, edited by Warren L. d'Azevedo, pp. 398-411. Washington: Smithsonian Institution.

Appendix A

Key Personnel Resumes

Appendix B

(Confidential) SCCIC Records Search Results

Appendix C

(Confidential) Cultural Resources Overview Map

Appendix D
NAHC and Tribal Correspondence

Appendix E
(Confidential) DPR Site Forms

Attachment 6B

Appendix 3.3A, Archaeological Resources Management Report (Clean)

Archaeological Resources Management Report

Prairie Song Reliability Project, Los Angeles County, California

SEPTEMBER 2026

Prepared for:

PRAIRIE SONG RELIABILITY PROJECT LLC
Project Applicant

Prepared by:

DUDEK

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Printed on 30% post-consumer recycled material.

National Archaeological Database (NADB) Information

Authors:	Roshanne Bakhtiary, MA, RPA, Jessica Colston, BA, Brenda Rogers, BA, and Micah Hale, PhD, RPA
Firm:	Dudek
Project Proponent:	Prairie Song Reliability Project LLC
Report Date:	September 2026
Report Title:	Archaeological Resources Management Report for the Prairie Song Reliability Project, Los Angeles County, California
Type of Study:	Archaeological Resources Inventory and Evaluation
Resources:	P-19-101014; ABS-PK-S-01; ABS-PK-S-02; ABS-PK-S-03; ABS-JC-S-01; ABS-JC-S-02; ABS-JC-S-03; ABS-JC-S-04; ABS-JC-S-05; ABS-BR-S-01; ABS-RB-S-01
USGS Quads:	Acton, California and Pacifico, California 1:24,000; T 5N, R 12W, Sections 27, 28, 33, and 34
Acreage:	195.2 acres
Keywords:	Acton, California USGS 7.5-Minute Quadrangle; Pacifico, California USGS 7.5-Minute Quadrangle; Acton, California; Intensive-Level Pedestrian Survey; P-19-101014; ABS-PK-S-01; ABS-PK-S-02; ABS-PK-S-03; ABS-JC-S-01; ABS-JC-S-02; ABS-JC-S-03; ABS-JC-S-04; ABS-JC-S-05; ABS-BR-S-01; ABS-RB-S-01

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D NAHC and Tribal Correspondence
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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
Amsl	above mean sea level
APN	Assessor's Parcel Number
API	Area of Potential Impacts
BESS	battery energy storage system
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
County	County of Los Angeles
CRHR	California Register of Historical Resources
DPR site forms	California Department of Parks and Recreation 523 (Series 1/95) forms
E/W	east/west
gen-tie	generation interconnection
kV	kilovolt
MLD	Most Likely Descendant
N/S	north/south
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
PRC	Public Resources Code
project	Prairie Song Reliability Project
project API	area of potential impacts for Archaeological Resources
SCCIC	Southern Central Coastal Information Center
SCE	Southern California Edison
SLF	Sacred Lands File
TCR	tribal cultural resource
Yuhaaviatam	Yuhaaviatam of San Manuel Nation

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Management Summary

Dudek conducted an archaeological resources inventory and evaluation in support of the Prairie Song Reliability Project (project), located on up to 114.39 acres of unincorporated land in Los Angeles County, California (Figure 1, Project Location). Prairie Song Reliability Project LLC proposes to construct and operate an up to 1,150-megawatt battery energy storage system facility that will include operation and maintenance buildings, a project substation, a 500-kilovolt overhead generation interconnection transmission line, and interconnection facilities within the existing Southern California Edison owned and operated Vincent Substation (Figure 2, Project Site Design). The project is located south of State Route 14, approximately 3 miles northeast of the unincorporated community of Acton and is within the U.S. Geological Survey 7.5-minute *Acton, California* and *Pacifico Mountain, California* Quadrangles, Township 5 North, Range 12 West, Sections 27, 28, 33 and 34. The project site is comprised of Assessor's Parcel Numbers 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. This study included a records search, an archival information and literature review, correspondence with the Native American Heritage Commission, informal tribal outreach, an intensive-level archaeological resources pedestrian survey of the project area of potential impacts (API), and the evaluation of one previously recorded and 10 newly identified historic-era archaeological resources under all applicable historical significance criteria.

This archaeological resources investigation was conducted in compliance with the California Environmental Quality Act (CEQA) and local regulations. The California Energy Commission is the lead agency responsible for compliance with CEQA. The project's API for Archaeological Resources (project API or API) is 195.2 acres. This includes the proposed battery energy storage system facility footprint and both generation interconnection route corridor options with a 50-foot buffer, as well as any access roads, laydown yards, and work areas with a 200-foot buffer (Figure 3, API for Archaeological Resources). For the purposes of providing management recommendations, the vertical API, as represented by the average depth of ground disturbance, is assumed to be 10 feet below the existing ground surface. The maximum ground disturbance depth is assumed to be 25 to 55 feet below the existing ground disturbance for the gen-tie line structure foundations.

Dudek conducted a California Historical Resources Information System records search of the project API and surrounding 1-mile radius at the South Central Coastal Information Center. The records search identified three previously recorded cultural resources that intersect with the API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). P-19-002893 and P-19-101014 are addressed in this study, while P-19-192581 are addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek for the project in 2025 (Ahmanson et al. 2025).

A Native American Heritage Commission Sacred Lands File search was also conducted for the project in 2023 and 2025, and results were negative for Native American cultural resources within 1 mile of the project API. The Native American Heritage Commission additionally provided a list Native American individuals and/or tribal organizations that should be contacted for more information on potential tribal sensitivities regarding the currently proposed project. Dudek sent letters via USPS certified mailing on January 15 and 20, 2025 to all California Native American Tribal representatives included on the Native American Heritage Commission contact lists. Results of these efforts are provided in Section 6. A review of historic topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries. Additionally, review of historic topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries.

Several Dudek archaeologists conducted intensive-level archaeological resources pedestrian surveys of the project API in 2023, 2024, and 2025. During these survey efforts, crews revisited one previously recorded archaeological resource (P-19-101014) and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. P-19-002893 was identified as being outside of the project API and thus was not subject to evaluation efforts as part of the current study. 10 of the identified archaeological resources are characterized as surficial historic-era refuse scatters, while ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The majority of these resources likely represent single dumping episodes as indicated by their localized concentration of mostly contemporaneous domestic refuse and food waste items.

P-19-101014, ABS-PK-S-01, ABS-PK-S-02, ABS-PK-S-03, ABS-JC-S-01, ABS-JC-S-02, ABS-JC-S-03, ABS-JC-S-04, ABS-JC-S-05, ABS-BR-S-01, and ABS-RB-S-01 were evaluated as part of the current study. Dudek recommends that all 11 archaeological resources are not eligible for listing on the California Register of Historic Resources and do not meet the criteria to be considered significant or unique archaeological resources under CEQA

Based on the quantity of archaeological resources identified within a 1-mile radius of the project API, the geoarchaeological suitability of the API for supporting the presence of buried archaeological resources, and in consideration of the lack of past disturbances within the majority of the project API, there is a moderate potential for the inadvertent discovery of unanticipated archaeological resources during initial project-related ground disturbance. Dudek recommends part-time archaeological monitoring during initial ground disturbing activities for the project. A Cultural Resources Management and Inadvertent Discovery Plan (CRMIDP) should be developed prior to initiation of construction. The requirement for Native American monitoring should be determined by the lead agency, as informed through the process of consultation. See the Summary and Management Considerations section of this report for details on recommended mitigation measures.

1 Report Structure and Key Personnel

This report is divided into nine sections. Following this section, Section 2 discloses the project location, description, and area of potential impacts delineation. Section 3 provides a summary of the regulatory setting, Section 4 reviews the natural environment and cultural context, and Section 5 provides the research design for the study's significance evaluations. Section 6 provides the methods used to complete the current inventory and evaluation. The records search, archival research, survey results, and all Native American Heritage Commission (NAHC) and tribal correspondence to date are discussed in Section 7. Section 8 provides the significance evaluation findings for all 11 archaeological resources identified as intersecting with the project area of potential impacts (API), and Section 9 summarizes the archaeological resources work completed for the project to date and provides recommendations for further treatment of archaeological resources in accordance with CEQA and local regulations. Finally, Section 10 includes a list of all materials referenced in this report. Several appendices are attached to this report. Appendix A provides resumes of key personnel; Appendix B includes confidential records search results; Appendix C contains a cultural resources overview map; Appendix D documents all NAHC and Tribal correspondence to date; and Appendix E includes all California Department of Parks and Recreation 523 (Series 1/95) forms (DPR site forms) prepared in support of this study.

Brenda Rogers, BA, and personnel at the South Central Coastal Information Center (SCCIC) conducted the California Historical Resources Information System records searches in support of this project. Jessica Colston, BA; Phillip Sharp-Garcia, BA; Shane McDonnell, BA; Brenda Rogers, BA; and Roshanne Bakhtiary, MA, conducted the intensive-level archaeological resources pedestrian surveys in support of this project. Roshanne Bakhtiary, MA; Jessica Colston, BA; and Brenda Rogers, BA, drafted the present report and Micah Hale, PhD, RPA provided contributions to ethnographic context sections. Adam Giacinto acted as principal investigator, reviewed management recommendations, and finalized the technical report. All archaeologists were overseen by the principal investigator, who exceeds the Secretary of the Interior's Professional Qualification Standards for archaeology and all have extensive experience working within local, state, and federal regulatory contexts.

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2 Introduction

2.1 Project Location and Description

Dudek's archaeological resources inventory and evaluation in support of the Prairie Song Reliability Project (project) was conducted in compliance with the California Environmental Quality Act (CEQA). Prairie Song Reliability Project LLC, a subsidiary of Coval Infrastructure DevCo LLC, is filing an Application for Opt-In Certification under the California Energy Commission's (CEC) licensing process. The CEC is the lead agency responsible for compliance with CEQA.

Prairie Song Reliability Project LLC is proposing to construct, operate, and eventually repower or decommission the up to 1,150-megawatt project located on up to 114.39 acres of unincorporated land in Los Angeles County (County), California. The project is located south of State Route 14 and approximately 3 miles northeast of the unincorporated community of Acton. The project is within the U.S. Geological Survey 7.5-minute *Acton, California* and *Pacifico Mountain, California* Quadrangles, Township 5 North, Range 12 West, Sections 27, 28, 33 and 34. The project site is comprised of Assessor's Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040, and will occur on an area of land sandwiched between two existing transportation corridors, State Route 14 to the north and Southern Pacific Railroad lines and Carson Mesa Road to the south, that are approximately 1,200 feet apart (Figure 1, Project Location).

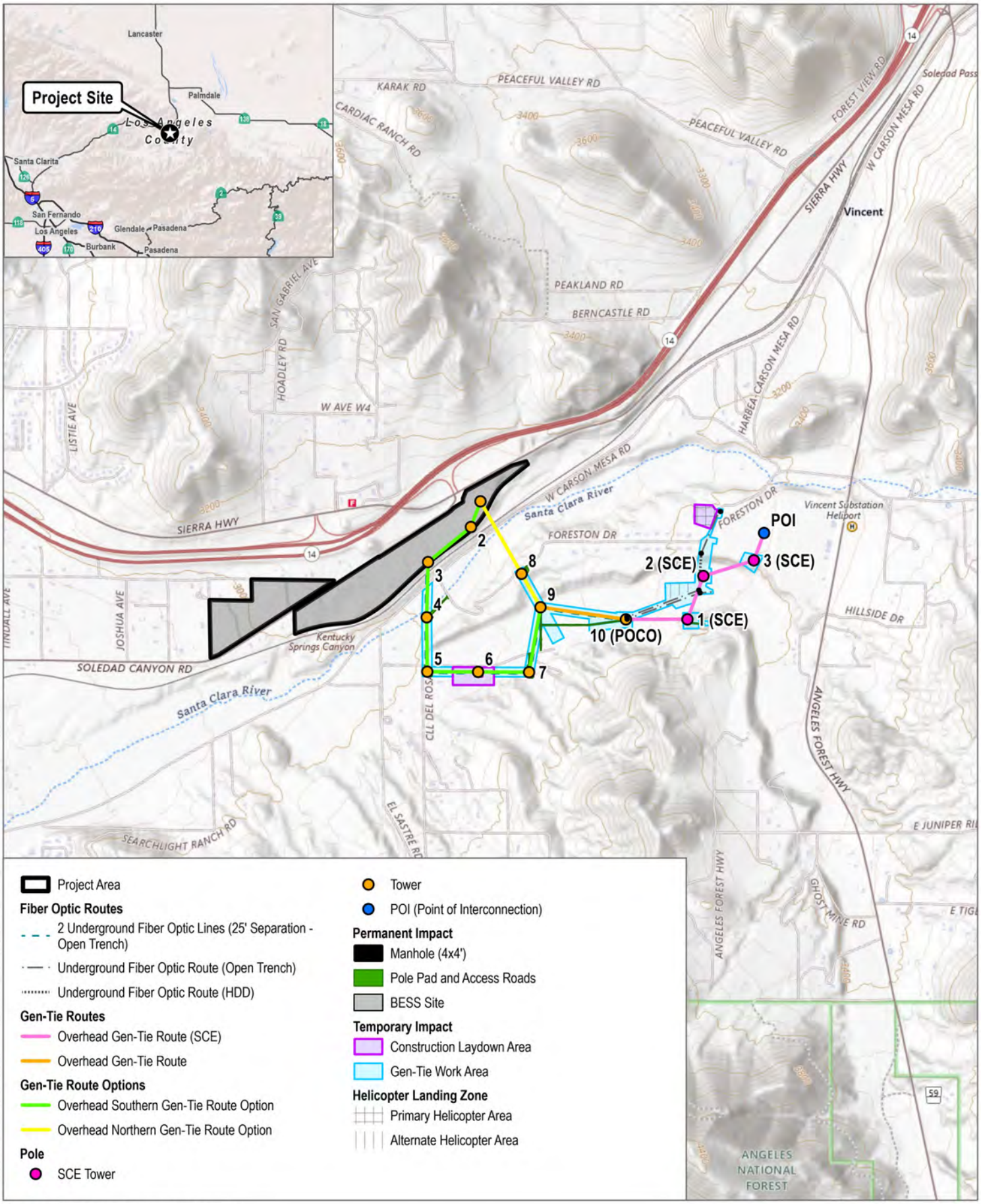
The primary components of the project include a battery energy storage system (BESS) facility, operation and maintenance buildings, a project substation, a 500-kilovolt (kV) overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing Southern California Edison (SCE) owned and operated Vincent Substation (Figure 2, Project Site Design).

The project will utilize one of two potential gen-tie routes. Either route will extend south and east from the project substation, crossing Southern Pacific Railroad tracks and West Carson Mesa Road, and then proceed northeast to the Point of Interconnection at the SCE Vincent Substation. The Northern Gen-Tie Route is approximately 1.2 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-906, 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Southern Gen-Tie Route is approximately 1.9 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. Both gen-tie route options are defined by 150-foot-wide linear corridors, reflective of the anticipated impact area for project-related construction and operation. The project's interconnection facilities will be located within the SCE Vincent Substation.

2.2 Area of Potential Impacts for Archaeological Resources

The project's API for archaeological resources (project API), as represented by the area that may be subject to physical impacts, is approximately 195.2 acres. This includes the proposed BESS facility footprint as well as any access roads, laydown yards, and work areas with a 200-foot buffer, and both gen-tie route corridor options with a 50-foot buffer (Figure 3, API for Archaeological Resources). To note, the API does not include a 200-foot buffer around the BESS facility footprint, as it is surrounded by private property and beyond the established limits that

could be affected by proposed project-related construction or operation. For the same reason, the 200-foot buffer was applied to work areas only where appropriate and was excluded from areas that extend onto private property. For the purposes of providing management recommendations, the vertical API, as represented by the average depth of ground disturbance for the project, is assumed to be 10 feet below the existing ground surface, while the maximum depth of ground disturbance is assumed to be 25 to 55 feet below the existing ground disturbance for the gen-tie line structure foundations.



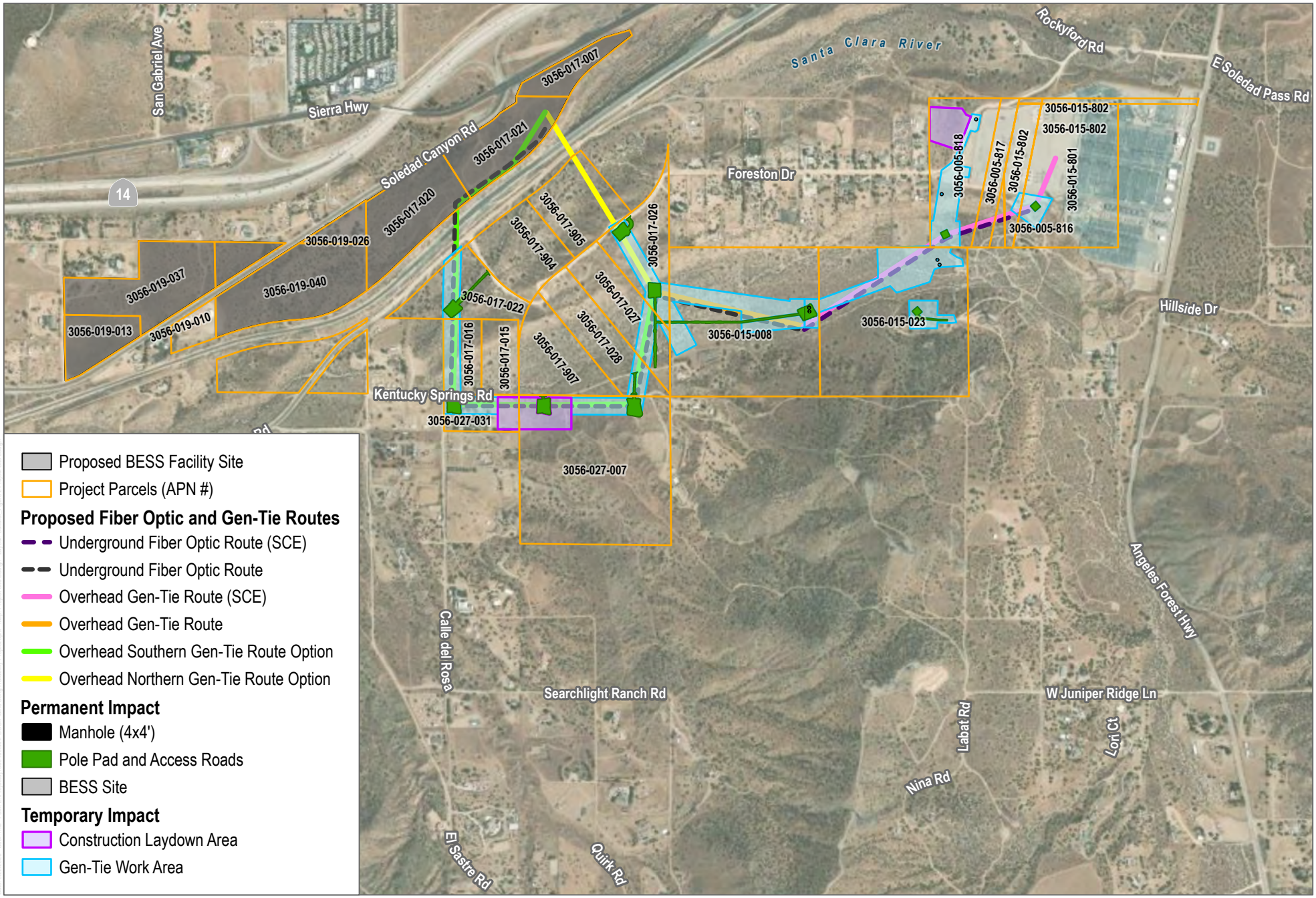
SOURCE: USGS 7.5' Minute Series Acton Quadrangle
Township 5N; Range 12W; Section 28

0 280 560 Meters
0 1,100 2,200 Feet

DUDEK

FIGURE 1
Project Location
Prairie Song Reliability Project

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SOURCE: Bing Maps

DUDEK

0 160 320 Meters

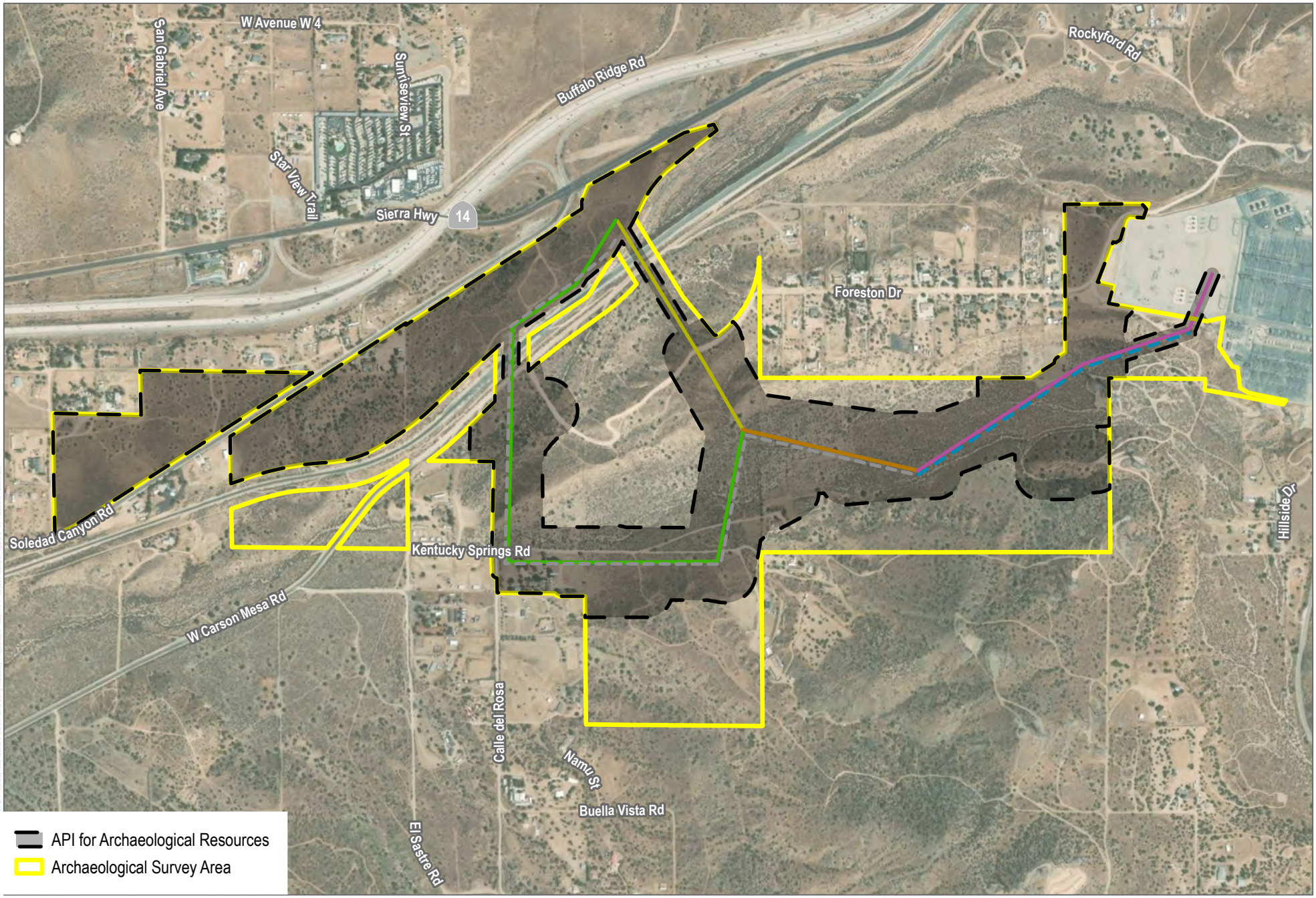
0 550 1,100 Feet

FIGURE 2

Project Site Design

Prairie Song Reliability Project

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SOURCE: Bing Maps

DUDEK

0 485 970 Feet

FIGURE 3

Area of Potential Impacts for Archaeological Resources

Prairie Song Reliability Project

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3 Regulatory Setting

The following section, outlined in Table 1, provides a summary of the applicable laws, ordinances, regulations, and standards relating to the proper management of cultural resources.

Table 1. Laws, Ordinances, Regulations, and Standards Applicable to Cultural Resources

Jurisdiction	LORS	Applicability	Report Reference	Project Conformity
Federal	Section 106, National Historic Preservation Act	Applies if the project would require federal funding or permitting.	Not applicable	The project will not include any federal funding or permitting.
State	California Register of Historical Resources	Program used by state and local agencies to identify, evaluate, register, and protect California's historical resources.	Not applicable	The current study did not identify any cultural resources that meet the eligibility criteria for listing on the California Register of Historical Resources.
State	California Environmental Quality Act	Requires state and local government agencies to inform decisionmakers and the public about the potential environmental effects of a project and to prevent significant, avoidable environmental impacts to extents feasible.	Throughout this Report	Certification of the project by the CEC will be required to comply with CEQA as required by the CEC's Opt-In Application process.
State	Assembly Bill 52	Requires lead agencies to consult with Tribal Governments to address Tribal Cultural Resources that may be impacted by a project.	Not applicable	CEC will be required to complete Government-to-Government consultation pursuant to AB 52 as part of the Opt-In Application process.
State	California Health and Safety Code Section 7050.5	Work shall be halted in the event of human remains discovery.	Section 9.1	Mitigation Measure CUL-3 requires compliance with the California Health and Safety Code Section 7050.5.
State	Public Resources Code Section 5097.98	Most Likely Descendant designation following the discovery of human remains determined by the County Coroner to be Native American in origin.	Section 9.1	Mitigation Measure CUL-3 requires compliance with Public Resources Code Section 5097.98.
Local	Los Angeles County General Plan	Protects historic, cultural, and paleontological resources in	Throughout this Report	The project would conform with the Los Angeles County General Plan goal and policies, as required by the

Table 1. Laws, Ordinances, Regulations, and Standards Applicable to Cultural Resources

Jurisdiction	LORS	Applicability	Report Reference	Project Conformity
		unincorporated areas of Los Angeles County.		CEC's Opt-In Application process.
Local	Los Angeles County Historic Preservation Ordinance	Establishes criteria and procedures for the nomination, designation, and review of work on historic landmarks and property located within historic districts in unincorporated areas of Los Angeles County.	Not applicable	The current study did not identify and cultural resources that meet the Los Angeles County Historic Preservation Ordinance criteria.

Note: LORS = laws, ordinances, regulations, and standards; CEC = California Energy Commission; CEQA = California Environmental Quality Act; AB = Assembly Bill.

3.1 Federal Level Regulations

No federal nexus has been identified that would require the proposed project to comply with federal laws, ordinances, regulations, and standards related to cultural resources.

3.2 State Level Regulations

California Register of Historical Resources

In California, the term "historical resource" includes, but is not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Public Resources Code [PRC] Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated as follows: According to California PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity" and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (14 California Code of Regulations [CCR] 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and Tribal Cultural Resources (TCRs):

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines "Tribal Cultural Resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14-CCR 15064.5[b]).

A "substantial adverse change in the significance of an historical resource," reflecting a significant effect under CEQA, means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14- CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following (14 CCR 15064.5[b][2]):

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register [CRHR]; or

2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any historical resources, then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance would be materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a]–[c]).

PRC Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21083.2[g]):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074[c] and 21083.2[h]), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

California State Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency.

Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, the procedures are detailed in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the California NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

Guidelines for Determining Significance

According to CEQA (Section 15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change:

> Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

- When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
- If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
- If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or Environmental Impact Report (EIR), if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

- When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:
  1. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and
  2. The requirement of CEQA and the Coastal Act.

Under CEQA, an EIR is required to evaluate any impacts on unique archaeological resources (PRC Section 21083.2). A "unique archaeological resource" is defined as (PRC Section 21083.2(g)):

> [A]n archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

An impact to a non-unique archaeological resource is not considered a significant environmental impact and such non-unique resources need not be further addressed in the EIR (Public Resources Code Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)).

As stated above, CEQA contains rules for mitigation of "unique archeological resources." For example (PRC Section 21083.2(b)(1)-(4)), "[i]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:"

1. "Planning construction to avoid archeological sites."
2. "Deeding archeological sites into permanent conservation easements."
3. "Capping or covering archeological sites with a layer of soil before building on the sites."
4. "Planning parks, greenspace, or other open space to incorporate archeological sites."

PRC Section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be

required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

The rules for mitigating impacts to archeological resources to qualify as "historic resources" are slightly different. According to CEQA Guidelines Section 15126.4(b), "[p]ublic agencies should, whenever feasible, seek to avoid damaging effects on any historic resource of an archeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archeological site:

A. Preservation in place is the preferred manner of mitigating impacts to archeological sites. Preservation in place maintains the relationship between artifacts and the archeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
B. Preservation in place may be accomplished by, but is not limited to, the following:
    1. Planning construction to avoid archeological sites;
    2. Incorporation of sites within parks, greenspace, or other open space;
    3. Covering the archeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site [; and]
    4. Deeding the site into a permanent conservation easement.

Thus, although Section 21083.2 of the Public Resources Code, in addressing "unique archeological sites," provides for specific mitigation options "in no order of preference," CEQA Guidelines Section 15126.4(b), in addressing "historical resources of an archeological nature," provides that "[p]reservation in place is the preferred manner of mitigating impacts to archeological sites."

Under CEQA, "[w]hen data recovery through excavation is the only feasible mitigation," the lead agency may cause to be prepared and adopt a "data recovery plan," prior to any excavation being undertaken. The data recovery plan must make "provision for adequately recovering the scientifically consequential information from and about the historic resource" (CEQA Guidelines Section 15126.4(b)(3)(C)). The data recovery plan also "must be deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(C)). Further, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation" (CEQA Guidelines Section 15126.4(b)(3)(C)).

However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center" (CEQA Guidelines Section 15126.4(b)(3)(D)).

3.3 Local Level Regulations

Los Angeles County 2035 General Plan

Chapter 9, the Conservation and Natural Resources Element of the Los Angeles County 2035 General Plan, Section VIII. Historic, Cultural, and Paleontological Resources, provides the following goals and policies potentially relevant to the project (County of Los Angeles 2015a):

Goal C/NR 14. Protected historic, cultural, and paleontological resources.

Topic: Historic, Cultural, and Paleontological Resource Protection

Policy C/NR 14.1. Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.

Policy C/NR 14.2. Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.

Policy C/NR 14.3. Support the preservation and rehabilitation of historic buildings.

Policy C/NR 14.4. Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).

Policy C/NR 14.5. Promote public awareness of historic, cultural, and paleontological resources.

Policy C/NR 14.6. Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

Los Angeles County Preservation Ordinance

On September 1, 2015, the Board of Supervisors recognized the importance of preserving the County's distinctive architectural and cultural history by adopting the Historic Preservation Ordinance that (County of Los Angeles 2015b):

- Specifies criteria and procedures for the designation of landmarks and historic districts.
- Specifies criteria and procedures for reviewing proposed work on designated landmarks or on property within historic districts.
- Establishes penalties for unauthorized work, including demolition, on landmarks or historic district contributors.
- Requires maintenance of landmarks and historic district contributors to prevent deterioration.
- Prohibits work, including demolition, on property nominated but not yet designated as a landmark or historic district.
- Encourages adaptive reuse of landmarks and historic district contributors by providing relief from parking requirements.

- Provides for the enhancement of historic districts by the establishment of development guidelines and standards, and by allowing streetscape improvements that are compatible with the areas historic character.

4 Context and Setting

4.1 Environmental Setting

The project is located in northern Los Angeles County within the foothills of the Sierra Pelona Mountains and at the edge of the Antelope Valley of the western Mojave Desert. The nearest municipality to the project is the City of Palmdale, which is located approximately 4 miles to the northeast. Land uses in the immediate vicinity of the project include undeveloped and rural lands, multiple high-voltage transmission lines and an electrical substation, paved and rural roads, State Route 14, and railroad lines. The majority of the project API is currently either undeveloped or rural residential. The API ranges in elevation from approximately 3,000 feet to 3,200 feet above mean sea level (amsl) and is generally hilly in nature, with greater elevations along the eastern portion of the API. The region surrounding the project receives approximately 8.7 inches of precipitation annually. Average temperatures range from approximately 38°F to 97°F (WRCC 2025). Additionally, several seasonal drainages are located within and adjacent to project, with the Santa Clara River located directly to the north.

The project API sits within an ecotone characterized by a blend of desert scrub and mixed chaparral native plant communities. Common plant species within desert scrub environments include creosote (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), juniper (*Juniperus* spp.), and golden cholla (*Cylindropuntia echinocarpa*), while species typical of mixed chaparral include chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), coyote brush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), scrub oak (*Quercus berberidifolia*) and yucca (*Yucca* spp. or *Hesperoyucca* sp.). Additionally, a wide array of fauna is known to exist within the foothills of the western Mojave Desert. Medium-sized mammals such as coyote (*Canis latrans*) and fox (*Urocyon cinereoargenteus*) are common. Smaller animals include blacktailed jackrabbit (*Lepus californicus*), cottontail rabbit (*Sylvilagus audubonii*), ground squirrel (*Spermophilus* sp.), and kangaroo rat (*Dipodomys* sp.), as there are many birds and migratory waterfowl present at lower elevations across cross the Antelope Valley (Earle et al. 1997; Pritchard-Parker et al. 1999; Rhode and Lancaster 1996).

4.2 Prehistoric Setting

Earle et al. (1997) and Loechl et al. (2002) have divided the prehistoric cultural chronology for the Mojave Desert into seven cultural/temporal periods: Fluted Point Period, Lake Mojave Period, Pinto Period, Gypsum Period, Saratoga Springs Period, Post-Saratoga Springs/Late Period, and Contact/Ethnographic Period; the last includes the Euro-American historic record as well. Following Loechl et al. (2002) and Horne and McDougall (2005), Giambastiani et al. (2008) synthesized these periods with inferred paleoclimatic events over the past 12,000 years in the Mojave Desert. However, their scenario conflicts with the “standard” culture synthesis currently in use within the region, and there are minor aspects of that scheme that appear somewhat outdated in light of recent data from Edwards Airforce Base (Basgall and Overly 2004; Giambastiani and Basgall 2000; Rhode and Lancaster 1996), Fort Irwin (Basgall and Hall 1992; Byrd et al. 1994), and Twentynine Palms (Basgall and Giambastiani 2000; Basgall et al. 2002; Basgall and Jurich 2006; Hall 2000).

While it is likely that long-term trends in prehistoric subsistence/settlement adaptations, and the timing of major changes in them, were largely similar across the Mojave Desert region, the many attempts to summarize them during the last 30 years of archaeological research have often produced differing results. In particular, the character of Late Pleistocene/early Holocene adaptations is still unclear and strongly debated, due in part to the persistence

of long-standing notions of Paleoindian lifeways but due also to the continued scarcity of archaeological data from ancient sites in good, dateable contexts. The following summary of early prehistoric culture history, therefore, contains some assertions that are largely inferred and many that are highly debatable. Other important, more detailed syntheses can be found elsewhere (Basgall 1993, 2000; Giambastiani and Basgall 2000; Grayson 1993; Warren 1984; Warren and Crabtree 1986), and the interested reader is referred to those sources to become more familiar with the number of different and often better substantiated opinions about the nature of ancient human adaptations in the Mojave Desert.

4.2.1 Fluted Point Period (12,000–10,000 BP)

Typically, sites of this age have been identified based on the presence of fluted-base projectile points similar to the well-known Clovis forms typically associated with ancient cultures of the Great Plains. Termed "Western Clovis" (Tuohy 1974; Willig and Aikens 1988), "Black Rock Concave Base" (Clewlow 1968) or "Great Basin Concave-Base" (Pendleton 1979), many types of Clovis-like points have been found in various locations throughout the western Great Basin and in California. Lithic assemblages containing fluted points often contain crescents, gravers, scrapers, choppers, and "perforators" (Davis 1978). Fluted point sites occur in a variety of environments, indicating that inhabitants were likely generalized foragers rather than specialized big game hunters (Earle et al. 1997; Moratto 1984).

4.2.2 Lake Mojave Period (10,000–7000 BP)

In the western Great Basin, various stemmed projectile point forms have been fairly well dated to the early Holocene, roughly between 10,000 and 7500 BP. Generally subsumed under the broader appellation "Great Basin Stemmed," these artifacts are elongate, lanceolate forms often with subtle, sloping shoulders, although many different regional styles exist. In the western Mojave Desert, typical stemmed points are Lake Mojave (unshouldered) and Silver Lake (slightly shouldered) forms, both of which are parts of lithic assemblages similar to those of the Fluted Point period.

Because of their tendency to occur along the shorelines of extinct lakes, stemmed point assemblages were once considered to represent a unique, lacustrine-based subsistence adaptation. The term "Western Pluvial Lakes Tradition,", originally coined by Bedwell (1973), was applied to stemmed point sites found in ancient lakeshore contexts across the Great Basin. Lithic assemblages of the Western Pluvial Lakes Tradition were found to be fairly comparable to Clovis materials, and in many cases points of both kinds occur together in the same sites (cf., Basgall and Hall 1991; Davis and Panlaqui 1978; Willig 1988, 1990). Flaked stone "crescents" (Amsden 1937; Tadlock 1966; Wardle 1913) were found primarily in such lakeshore assemblages, leading many archaeologists to draw associations between crescents and lacustrine environments. Support for the Western Pluvial Lakes Tradition has faded in recent years, however, as more and more stemmed point sites have been discovered in locations away from extinct bodies of water, and the landform bias in early survey programs becomes increasingly clear. Bias in the differential preservation of ancient land surfaces along fossil washes and in the center of dry lake basins has also been recognized (Basgall and Hall 1991; Waters 1988, 1991).

4.2.3 Pinto Period (7000–4000 BP)

Archaeological assemblages dating to this period are typified by Pinto points, which are projectiles bearing weak shoulders and indented or split-stem bases. Associated flaked stone assemblages include leaf-shaped bifaces,

formal unifaces, flake tools, and consistent quantities of core-cobble implements (Basgall 1993, 2000; Campbell and Campbell 1935; Hunt 1960; Rogers 1939). Lithic selection evidently favored fine-grained igneous stones, such as basalt and rhyolite, for points and bifaces (Glennan 1970, 1971; Norwood 1987). Milling stones are a major part of Pinto period assemblages, reflecting the importance of seed processing. The timing of the Pinto period coincides with Antevs' (1953) "Altithermal," an extended interval when climate was supposedly very hot and dry. Archaeologists once believed a scarcity of Pinto sites in the Mojave Desert signaled a near-total abandonment of the region due to the oppressive climate, but recent studies suggest that the middle Holocene in the Antelope Valley was punctuated by wetter episodes (Grayson 1993; Mehringer 1986) and that the effects of the Altithermal were variable in different parts of the desert. The Pinto Period is synonymous with the "Archaic" period throughout North America. During this time, Pinto Period artifacts tend to occur in aggregates at fewer locations having the appearance of being sedentary encampments. However, the relatively limited diversity of artifacts at these sites indicates they were serially occupied, perhaps during a particular season by the same families, leading to stockpiles of ground and battered stones. This seems to fit with the occurrence of Pinto Period projectile points at small, task specific sites indicating a greater reliance on logistical forays around a more stable encampment.

4.2.4 Gypsum Period (4000–1500 BP)

Diagnostic artifacts at Gypsum period sites include Gypsum contracting-stem projectile points, Elko eared and corner-notched points, and Humboldt basal-notched points. Lithic assemblages are typified by bifaces, scrapers, and a variety of other flake-based tools, but also contain mortars and pestles as evidence of expanded plant processing (including mesquite, pine nuts, yucca, and agave). Large villages or village complexes appear during Gypsum times, reflecting a transition from seasonal transhumance to year-round sedentary occupation within the Antelope Valley (Sutton 1988, 1996). The presence of marine shell artifacts at Gypsum period sites indicates economic ties between the Antelope Valley and the California coast (Warren 1984). Gardner (2007) analyzed data from a slew of sites in the western Mojave to assess the socioeconomic impact of the Medieval Climatic Anomaly and in so doing, suggested a revision in the terminus of the Gypsum period to about 2000 BP. Gardner (2007:241) based this revision on the early appearance of the bow and arrow within the Rose Spring Complex in conjunction with an increase in effective moisture at 2000 BP.

4.2.5 Saratoga Springs Period (1500–800 BP)

By at least 1500 BP (or 2000 BP using Gardner's [2007] chronological scheme), the aboriginal people of the Mojave Desert had replaced the atl atl (or spear-thrower) with the bow and arrow (Yohe 1992, 1998). This change brought about a shift toward the use of smaller projectile points, including various corner-notched and side-notched Saratoga Springs types and the corner-notched Rose Spring and Eastgate types. Anasazi ceramics also appear in the southern Mojave around 1200–1100 BP, coinciding with the westward spread of the Virgin Anasazi into southern Nevada. Influence from the cultures of the Colorado River eventually grew stronger than those from the east, allowing for an influx of buffware ceramics and other goods that persisted until the historic present. The intensification of plant use initiated during the Gypsum period continued in the Saratoga Springs period, as diet breadth was expanded to include a wide range of plant foods that required high cost/high return procurement and processing strategies. This is indicated by a general increase in milling equipment from Gypsum times through the Saratoga Springs period (see Gardner 2007:225–228).

4.2.6 Post-Saratoga Springs or Late Period (800–300 BP)

In the Antelope Valley, social and economic adaptations during this final prehistoric interval were largely an extension of patterns that developed during the Saratoga Springs period. Trade along the Mojave River continued to provide the people of eastern Antelope Valley with a variety of exotic goods and materials, although it appears that relationships with groups in coastal California eventually grew stronger than those with groups inhabiting the arid interior. Projectile points also shifted in form, with unnotched Cottonwood triangular and Desert side-notched points being even smaller than their predecessors. Mortars and pestles also appear in significant quantities, probably an indication of increased emphasis on high-cost/high-yield processing.

4.3 Ethnohistoric Setting (300 BP–Present)

This last interval is defined as the period of contact between native desert people and Euro-American explorers and settlers. Kroeber (1925) argued that as many as six different native groups were living in the western Mojave at the time of Euro-American contact, including the Chemehuevi, Serrano, Kawaiisu, Kitanemuk, Alliklik (Tataviam), and Vanyume, although it is likely that only the latter four groups used lands within Antelope Valley on a regular basis. Blackburn and Bean (1978) later reinterpreted the political geography in the western Mojave Desert, dividing western Antelope Valley between the Tataviam (to the south) and the Kitanemuk (to the north). Sutton (1980:220) followed Blackburn and Bean, claiming that the late prehistoric population in the majority of Antelope Valley was "ancestral to the ethnographic Kitanemuk." He later hypothesized that the floor of the valley might have been abandoned a few decades prior to Spanish contact in 1772 (Sutton 1988; Warren 1984). Earle et al. (1997:8), however, feels this idea is probably "overdrawn," citing the diaries of Pedro Fages (1775 and Father Garcés (1776, as cited in Earle et al. 1997) that remarked on seeing and visiting native villages in what is now western Antelope Valley. The site of Apavuchiveat, probably located at Buckhorn Springs, is likely affiliated with the Desert (Vanyume) Serrano. Another site at Willow Springs, west of Rosamond Dry Lake, was identified by contemporary Kitanemuk Serrano as an additional village location (Earle et al. 1997). Although only two Native American ethnolinguistic groups—the Tataviam and the Serrano (Heizer 1966: Map 4)—are ethnographically documented within a 5-mile radius of the Project area, the following sections present ethnographic contexts for all six (6) Native American ethnolinguistic groups historically and culturally associated with the broader western Mojave Desert as outlined by Kroeber (1925).

4.3.1 Tataviam

The project is located within the ethnographically documented traditional cultural territory of the Tataviam Native American group. The Tataviam territories included the upper reaches of the Santa Clara River drainage east of Piru Creek but also encompassed the Sawmill Mountains to the north and the southwestern portion of the Antelope Valley. Relatively little is known about the Tataviam. Most of what is known today about the Tataviam comes from the work of Alfred L. Kroeber and John P. Harrington, and data obtained from one consultant named Juan José Fustero (Johnson and Earle 1990).

There are different hypotheses in regard to the affiliation of the Tataviam language. Some scholars hypothesize that the Tataviam may have spoken a language that was uncommonly used in southern California, or that they may have spoken a Takic language like their southern neighbors (King and Blackburn 1978). As with most languages, the Takic dialects may have been more noticeable at the geographic extremes even though the language was likely

a continuum of slight sound and synonym shifts from one community to the next. One scholar has suggested that the northern edge of Western Tongva lands were home to the Tataviam Takic speakers, a related but separate language from Northern Takic (Mithun 1999:539).

King and Blackburn (1978:536) have identified several significant Tataviam settlements based on information provided by Harrington, including the important village of *tsawayung* located near Castaic Junction at the site of Rancho San Francisquito (Newhall Ranch). Others include *tikatsing* located on upper Castaic Creek, and *pi'ing* located where Castaic Creek meets Elizabeth Lake Canyon. Another significant village, *Tochonaga*, was recorded on an 1843 land grant map. This site appears to be located to the southeast of Newhall. Other villages and seasonal camp sites identified by Harrington include *akure'eng*, which was located at the original Newhall townsite; *apatsitsing*, located on upper Castaic Creek; and *naqava'atang*, located east of Townsend Peak. Piru Creek also contained several village and rancheria sites, located on the northern edge of Tataviam territory (Johnson and Earle 1990).

It is suggested that Tataviam villages varied in size from large centers containing close to 200 people, intermediate villages containing 20-60 people, and small settlements containing 10-15 people. Permanent family dwellings were known as *Ki'j* and consisted of 12-to-20-foot diameter dome-shaped structures fashioned from willow branches. The outside was typically covered in bulrush or cattails, and a hole was left in the top of the roof to allow for a fire inside the *Ki'j* (King and Blackburn 1978).

Tataviam subsistence consisted largely of hunting and gathering. Vegetable foods include yucca, acorns, sage seeds, juniper berries, and berries of islay. Animal foods include small mammals, deer, and perhaps antelope. There is also evidence of marine shellfish and fish at various Tataviam sites. It is thought that the Tataviam probably relied more heavily on the buds of the yucca as a major staple than did neighboring groups (King and Blackburn 1978).

Pedro Fage's account of the 1769 Portola expedition indicates that the first Chumash settlement encountered upon leaving Tataviam territory was located west of the mouth of Piru Creek. The village of *kamulus* (Camulos), located east of Piru Canyon, bears a Chumash name, and it is thought that this village consisted of a mixed Chumash-Tataviam population (Johnson and Earle 1990).

4.3.2 Serrano

The Project is also located adjacent to the ethnographically documented traditional cultural territory of the Serrano Native American group. The Serrano language is part of the Serrano division of a branch of the Takic family of the Uto-Aztecan linguistic stock (Mithun 1999). The Serrano language was originally spoken by a relatively small group located within the San Bernardino and Sierra Madre Mountains, and the term *Serrano* has come to be ethnically defined as the name of the people in the San Bernardino Mountains (Kroeber 1925). The traditional territory for the Serrano centered in the San Bernardino Mountains and extended northeast into parts of the Mojave River area and southeast to the Tejon Creek area (Bean and Smith 1978). Their territory extended west along the northern slopes of the San Gabriel Mountains, east as far as Twentynine Palms, north along the Mojave River, and south to the Yucaipa Valley. The Vanyume, who lived along the Mojave River and associated Mojave Desert areas and are also referred to as the Desert Serrano, spoke either a dialect of Serrano or a closely related language (Mithun 1999).

The Serrano were mainly hunters and gatherers who occasionally fished. A variety of materials were used for hunting, gathering, and processing food, as well as for shelter, clothing, and luxury items. Shells, wood, bone, stone,

plant materials, and animal skins and feathers were used for making baskets, pottery, blankets, mats, nets, bags and pouches, cordage, awls, bows, arrows, drills, stone pipes, musical instruments, and clothing (Bean and Smith 1978). Game that was hunted included mountain sheep, deer, antelope, rabbits, small rodents, and various birds, particularly quail. Vegetable staples consisted of acorns, piñon nuts, bulbs and tubers, shoots and roots, berries, mesquite, barrel cacti, and Joshua tree (Bean and Smith 1978).

Settlement locations were determined by water availability, and most Serranos lived in small villages near water sources. Houses and ramadas were round and constructed of poles covered with bark and tule mats (Kroeber 1925). Most Serrano villages also had a ceremonial house used as a religious center. Other structures within the village might include granaries and sweathouses (Bean and Smith 1978). The Serrano were loosely organized along patrilineal lines and associated themselves with either the Tukum (wildcat) or the Wahilyam (coyote) moiety. Individual bands of Serrano constituted political groups (Kroeber 1925). Partly due to their mountainous inland territory, contact between Serrano and European- Americans was minimal prior to the early 1800s. In 1819, an asistencia (mission outpost) was established near present-day Redlands and was used to help relocate many Serrano to Mission San Gabriel. However, small groups of Serrano remained in the area northeast of the San Gorgonio Pass and were able to preserve some of their native culture. Today, most Serrano live either on the Morongo or San Manuel reservations (Bean and Smith 1978).

4.3.3 Vanyume

The Vanyume were a northern division of the Serrano Indians that generally inhabited the Mojave River corridor and the broader Barstow region (Bean and Smith 1978). Perhaps the most significant difference between the Vanyume and Serrano is that the Vanyume enjoyed good trade relations with the Mojave and Chemehuevi—both enemies of the southerly Serrano (Bean and Smith 1978). These trade relations contributed to easier access to foods and other goods not available on the central Mojave Desert floor, such as acorns. Bean and Smith (1978) and Kroeber (1925) note that the Vanyume sometimes visited the southerly foothills in the San Gabriel Mountains to trade for acorns. Father Francisco Hermenegildo Garcés noted that he had been given acorn meal at a Vanyume village southwest of what is currently Barstow. This account seems to confirm the notion that the Vanyume were distinct from the Serrano based on trade relations and geography.

Most information on the Serrano relates to the more southern areas near 29 Palms and Victorville (see Bean and Smith 1978; Strong 1929), with less information available about the Vanyume. However, it is generally inferred that subsistence among the Vanyume was based on a typical Mojave Desert adaptation, similar to other groups such as the Chemehuevi. Staple foods included Mesquite, pinyon, acorns, yucca, cactus, small seeds, chia, and ricegrass, with other plants supplementing the diet when available. Small game, including reptiles, rodents, and birds were the primary game targeted, but larger-bodied antelope and mountain sheep were taken if encountered (Bean and Smith 1978). Subsistence technology was relatively standard and included bows and arrows, throwing sticks, traps and snares, deadfalls, millingstones and handstones, and mortars and pestles; although the daily economic significance of any one of these is not well understood. Communal hunting (deer and rabbit) and gathering (acorn and mesquite) events were sometimes organized on an annual basis; Bean and Smith (1978) reporting that community activities were organized during the annual mourning ceremony (see also Drucker 1937). The Vanyume/Serrano also had a relatively standard material culture consisting of cordage-based containers, mats, and baskets, undecorated brownware pottery (paddle and anvil method), with basketry providing supplemental containers of various kinds, winnowers, and as hoppers for portable stone mortars (Drucker 1937).

Vanyume settlement was centered on single families, with dwellings consisting of basic circular wood lattice structures covered with either brush or mats as available (Drucker 1937). Like the Chemehuevi, more substantial dwellings occurred at seasonal villages; including shade structures, sweat houses, and granaries (elevated acorn or seed/nut storage facilities).

4.3.4 Chemehuevi

The Chemehuevi are the southernmost group of the Southern Paiute having fissioned in the Las Vegas area at around the time of Spanish contact in the late 1700s (Fowler and Fowler 1971). Earle (2005) describes a dispute between Franciscan Missionary Francisco Garces and Spanish military Captain of Alta California, Fernando de Rivera y Moncada, over official policy regarding interaction (specifically trade and intercourse) with Mojave Desert Indians. Garces desired to facilitate trade as tool for missionization, and Rivera wanted to inhibit interaction, especially between Indian groups for fear of cross-group mobilization against the Spanish occupation. Garces understood well aboriginal sociopolitical interaction and was aware of where Indian habitations were on the landscape (Earle 2005). Key here is that Garces did not record Chemehuevi along the California side of the Colorado River, prompting Earle (2005) (and Kroeber (1925) before him) to speculate that the Chemehuevi began to settle in the region only after their political allies—the Kohuana—were driven eastward by the Mojave and Yuma Indians to the river (see also Fowler and Fowler 1971). Earle (2005) indicates that this settlement shift did not occur until after 1830. After this time, the Chemehuevi spread rapidly toward the western Mojave Desert. Kroeber (1925) supports this ascertation, noting that the area near Twentynine Palms was not traditional Chemehuevi territory, but was occupied by them only after feuding with the Mojave Indians in the 1860s (see Lechner and Hale 2009).

Chemehuevi subsistence varied across the Mojave Desert. Along the Colorado River, they practiced horticulture and crew corn, sunflower, melons, and legumes, also cultivating various other native plants (Kelly and Fowler 1986). The contribution of cultivated foods to Chemehuevi subsistence, and their investment in cultivation is questionable, however (Bean and Smith 1978), and it is more likely that such activities occurred as a buffer against shortfalls, or during times of conflict. It is also debatable as to the timespan that the Chemehuevi practiced horticulture—i.e., how far into prehistoric times such activities extended. By all accounts, non-riverine subsistence was similar to other Mojave Desert Indians, such as the Serrano, with typical upland and foothill areas providing pinyon nuts, Yucca, agave, berries, ricegrass, and cactus along with several small and medium-bodied animals (reptiles, rodents, and the occasional antelope and bighorn sheep) (Earle 2003). Desert floor foods commonly exploited when available include Mesquite, various seeded plants, reptiles, rodents, birds, and other small animals (Bean and Vane 2002). The Chemehuevi were known for their baskets and various other twined tools used for plant gathering and processing (i.e., seed winnowers, parching trays, water jugs and caps, cradles and the like) (Kelly and Fowler 1986; Kroeber 1925). Hunting among the Chemehuevi was typical of other desert groups, being focused on small game and reptiles, although larger antelope and mountain sheep would be pursued if encountered. Drucker (1937) reports that they used a variety of animal capture methods such as clubs, traps, nets, snares, sinew-backed bows, and stone tipped arrows. Little is reported about plant processing but it can be inferred from the intensive exploitation of mesquite, seeds, and other plant matter that millingstones, handstones, mortars and pestles were employed when necessary.

4.3.5 Kawaiisu

The Kawaiisu (also *Niwiwi*), who refer to themselves as *Nuooah*, occupied the Piute Mountains at the southern end of the Sierra Nevada Range and the northern part of the Tehachapi Mountains, as well as portions of the valley

floors (Garfinkel and Williams 2011; Zigmund 1986). As with other Native groups, there were desert and mountain populations of Kawaiisu (Garfinkel and Williams 2011; Earle 2004 and 2005; Underwood 2006; Zigmund 1986). Modern landscape place names record their presence and influence – the Tehachapi Mountains and Valley likely derive their name from the Kawaiisu term *tihicipi* (hard climb) (Garfinkel and Williams 2011). The Kawaiisu interacted peacefully with neighboring groups whose territory/resources overlapped their own. These included the Kitanemuk and the Panamint Shoshone with whom they intermarried, lived alongside, and also shared territory and spiritual beliefs, practices and practitioners with (Antelope Valley Indian Museum 2019; Garfinkel and Williams 2011; Stickel et al. 1980).

The Kawaiisu radiated outwards from small, permanent winter villages in search of resources. Freestanding granaries, bedrock milling locations and proximity to freshwater were consistent features of winter villages. Tomokahni (winter home) is a historic Kawaiisu village in the Tehachapi Mountains (California Department of Parks and Recreation 2019). Additional winter villages, such as Tehecita, have been identified in Cache Creek Canyon northeast of the modern town of Tehachapi.

During warmer months, the Kawaiisu formed small, mobile foraging groups of related individuals. These groups established temporary camps at high altitude mountain locations and low altitude desert locations in order to procure plant/animal resources. Likely temporary Kawaiisu occupations have been identified in the southern Panamint Valley and southern Death Valley, as well as southeast to Rogers Lake and the Mojave River near present-day Barstow (Earle 2004, 2005 and 2010; Underwood 2006; Zigmund 1986).

Like their neighbors, the Kawaiisu were hunters and gatherers reliant on an array of seasonal plant and animal resources. They exploited roughly 112 plant species, including Black Oak acorns (*Quercus kelloggii*), piñon nuts (both the *Pinus sabiniana* and *monophylla* varieties, depending on elevation), yucca (both Joshua tree *Yucca brevifolia* and Spanish Bayonet *Yucca whipplei* varieties), chia (*Salvia* spp.) and bunch grass (*Achnetherum* spp.) (Earle 2010; Zigmond 1986). Male hunting parties organized and sometimes teamed with neighboring Native groups to hunt pronghorn and bighorn sheep as well as deer. Fishing, snaring/hunting quail and chuckwalla and communal jack rabbit hunts also occurred.

4.3.6 Kitanemuk

Kitanemuk speakers occupied territory extending from the Tehachapi Mountains to the western Antelope Valley (California Language Archive 2019; Kroeber 1925). They interacted frequently and peacefully with the Kawaiisu as well as the Serrano and intermarriage was common (Earle 2010; Earle and Weiwall 2013). The Kitanemuk intermarried, but also fought, with the Yokuts (Earle 2010). They likely had good trade relations with most of their neighbors, including the Chumash and Tübatulabal, and may have been heavily involved with trade in the Antelope Valley.

The Kitanemuk were mountain people, with settlements clustered in the Tehachapi Mountains and San Joaquin Valley foothills (Blackburn and Bean 1978; Kroeber 1925; Sutton 1980). During cooler seasons or at least seasonally, the Kitanemuk likely migrated to the arid valley floors. During the Late Prehistoric Period, Kitanemuk settlements became permanent along the desert floor (Sutton 1980). The Kitanemuk village closest to the APE was *Pañūqavea/Šeševyəq*, located near modern-day Willow Springs. Kitanemuk place names for natural features surrounding the APE, such as Piute Ponds (*Tšəhtšavea*) and Soledad Mountain (*Paʔtqayvea*) persist to the present (Blumel et al. 2013).

Similar to nearby groups, the Kitanemuk were hunters and gatherers who searched outwards from small, permanent winter villages for resources. Their primary vegetable food sources included acorns, juniper berries, seeds, and yucca buds; small game such as rabbits, squirrels, antelope and deer were also eaten. During the historic period and perhaps before, they likely innovated a paddle and anvil ceramics tradition utilizing dung as a temperature regulator and cow bones (during the historic period only) as temper that survived for at least two centuries until 1900 (Earle and Weiwall 2013).

4.4 Historic Setting (Post-AD 1542)

The following summary provides an overall background to the historic Euro-American occupancy of lands in Antelope Valley and in the vicinity of project API.

4.4.1 Early Explorers

Unlike the coastal areas of California, the Mojave Desert was not intensively explored by the Spanish in early historic times, remaining beyond the limit of Hispanic settlement during the period of Mexican rule. The first visit to the region by the Spanish was made in 1772 by Pedro Fages, who was searching for deserters from the Spanish army (Fages 1775). In 1776, Father Francisco Hermenegildo Garcés traveled the course of the Mojave River across the desert and the mountains westward through the Tejon Pass. This was the first documented use of what was eventually called the Old Spanish Trail, an important transportation route between Southern California and the eastern United States. Other explorers made more regular visits to the Mojave Desert beginning in the mid-1820s. Early explorers included trappers Jedediah Smith and Joseph Walker. Kit Carson, a trapper on Jedediah Smith's 1828 expedition, later served as guide for John C. Frémont's exploratory expedition in 1844 that reached the Antelope Valley by way of the Old Spanish Trail.

4.4.2 The Coming of the Railroad

A number of federally funded geographic surveys to explore and map proposed routes for a transcontinental railroad were implemented in the Antelope Valley in the 1850s. These included surveys by Captain L. Sitgreaves in 1851, Lieutenant Amiel Whipple in 1853–1854, and Edward Fitzgerald Beale in 1857. In advance of issuing railroad grants, most of the Mojave Desert was surveyed by the Government Land Office between 1855 and 1857.

The arrival of the railroad was the catalyst that opened up the Antelope Valley to agricultural settlement and mining. The Southern Pacific Railroad completed its line from San Francisco to Los Angeles via the Antelope Valley in 1876. Train stations located along this route later became the nuclei of local settlement. In 1884, the Atchison, Topeka and Santa Fe Railway completed its line between Chicago and Needles. This line linked up with the Southern Pacific line at the community of Mojave. In 1885, the California Southern Railroad linked San Diego to Barstow. The completion of the railroad lines and associated infrastructure opened up the Mojave Desert to settlers from the east and from coastal areas of Southern California.

Railroads were granted odd-numbered sections within 20 miles on either side of the railroad right-of-way, and sale of these grant lands in the 1880s had a major impact on settlement of the region, resulting in a corridor of settlement parallel to the railroad (Earle 2004:283). The establishment of railroads linking the Midwest to Los Angeles in 1884 led to a Southern California land boom that included a dramatic increase in settlement in the Antelope Valley (Dumke 1944:17–58). The towns of Lancaster and Palmenthal (Palmdale), both located on railroad

grant land, were founded in 1884 and 1886, respectively (Earle 2004:284). The communities of Mojave, Rosamond, Lancaster, Tehachapi, Alpine Springs, Acton, and Ravenna originated as railroad stations, as did Gamba, Bissell, Fluhr, Yucca, Solon, Rich, Amargo, and Kramer (Earle 2004).

Aggressive publicity campaigns by railroad real estate agents sought to attract settlers to railroad grant lands from states east of the Mississippi and from northern Europe during the 1880s and 1890s. Several communities based on a "colony" model were established in the Valley, which led to "a fascinating mix of early planned community development, emigrant town-of-origin marketing, social and religious communitarianism, and the reworking of traditional agricultural practices" (Earle 1998:64–65). Between 1883 and 1895, at least 10 colonies were founded in the Antelope Valley, many along the southern edge of the valley, and it has been estimated that between 12,000 acres and 15,000 acres were taken up by individual colonists.

4.4.3 Homesteading

Under the federal Homestead Act (1862), settlers could acquire up to 160 acres of public land for a nominal filing charge under certain conditions. Prospective settlers were required to establish residency on the claim for a period of 5 years, build a house, and either cultivate crops on at least 20 acres or graze cattle on the land. By 1912, the residency requirement was reduced to 3 years, and settlers were allowed up to 5 months per year of absence from the land. Homestead patents required proof that the patentee had constructed a house measuring at least 10 × 10 feet with at least one (1) door and one (1) window, and that residency was maintained for at least 7 months per year over 3 consecutive years (Robinson 1979:168). The Desert Land Act (1875) was subsequently passed to encourage settling of desert areas for which the Homestead Act was poorly suited. Desert lands were defined as lands exclusive of timberlands and mineral lands that would not produce a crop without irrigation. Under this act, entry could be made on up to 640 acres, on the condition that an irrigation system was established within 2 years of entry. If it could be demonstrated that sufficient water flow for irrigation had been established, the patentee could receive title on payment of the minimum government price. In 1891, the number of acres available under this act was reduced to 360, and the time allowed for reclamation was extended to 4 years. Under an 1891 amendment, 3 dollars per acre had to be expended on irrigation, and one-eighth of the land had to be reclaimed within the allotted time before a patent could be issued (Robinson 1979:170).

Public land, obtained either through homesteading or through a desert land entry, was considerably cheaper than the purchase of railroad land, and many settlers in the Antelope Valley opted to patent land from the public domain. Homesteaders in the Antelope Valley prior to 1900 were attracted to the artesian belt in the vicinity of Lancaster, where subsurface water collected. Many of the artesian wells drilled by homesteaders in the artesian belt did not produce sufficient water flow for irrigation, and the soil was not productive due to high alkalinity. Somewhat more successful was dryland farming of grains, principally barley and winter wheat, in the western part of the valley. Particularly wet winters during the years 1883 to 1892 that resulted in large crop yields persuaded many new settlers to the Antelope Valley that dry farming could be successful (Earle 2004:286).

Drought conditions between 1896 and 1903 brought the burgeoning agricultural development of the Antelope Valley to an end. The severe drought caused many of the homesteads and private land holdings to be abandoned. Many of the colonies also collapsed, and colonists moved away. The population of the valley fell from a total of 1,500–1,600 in the 1890s to 930 in 1900 at the height of the drought (Earle 2004:287).

Following a number of wet years, agricultural development resumed, led by the return of cattle grazing. In addition, abandoned homesteads were returned to the public domain and were again available for homesteading. Technological innovations, including improved drilling methods and the availability of petroleum-distillate pumps, increased the profitability of well-and-pump irrigation. Smaller farms, no larger than 40 acres and devoted to the cultivation of alfalfa, were touted as the future of agricultural development in the valley (Earle 2004:287). In addition, the construction of the Los Angeles Aqueduct was a boon to the region, providing much-needed employment.

During the 1910s, the Antelope Valley experienced a second boom in homesteading due to a series of Homestead Act reforms. Of the 2,113 homestead patents issued in the Los Angeles portion of the Antelope Valley, 75% were issued after 1910 (Earle 2004:289). As noted above, the length of the residency requirement was shortened from 5 years to 3 years, speeding up the patenting process, and homesteaders could now leave their homesteads for up to 5 months of the year, thus allowing them to find outside employment. The Enlarged Homestead Act (1909) allowed for larger homesteads of up to 320 acres for dryland farming. The homesteading boom continued in the Antelope Valley through the 1920s and into the Depression years. Desert land entries were common in the Antelope Valley, as they did not have a residency requirement and were often seen as a stepping-stone to establishing a homestead claim. Up to 320 acres could be obtained under the Desert Land Act, but the entryman was required to irrigate 80 acres, or 25%, of the entry claim. Fraud was widespread with desert land entries, and they were frequently used to claim land on which a Homestead Entry was later submitted (Spinney et al. 2004:81). Irrigation also required an infusion of capital to which many homesteaders did not have access. Many desert land entrymen spent large portions of the year working elsewhere to earn the cash necessary to prove up their claim. Productivity varied from homestead to homestead, depending on soil alkalinity and availability of subsurface water. In spite of the many difficulties inherent in homesteading in this desert environment, many homesteaders succeeded in obtaining title to their land, although a significant proportion failed to do so. In the 1910s, 58% of homestead entries in the Antelope Valley area failed (Earle et al. 1998:175).

The completion of a paved road between the Antelope Valley and Los Angeles in 1921 provided a ready market for produce from the Antelope Valley in the rapidly growing metropolis. The proximity of Antelope Valley to Los Angeles fueled agricultural production through the 1920s. Poultry farming, dairy operations, and fruit production were combined with the cultivation of alfalfa in a more diverse agricultural economy (Earle 2004:291). With an increase in the availability of motor transport, the desert became a recreational area for city dwellers. Motor transport also allowed homesteaders to find employment to supplement their farming income. The Depression years saw a decline in farm production as the price of fruit, alfalfa, and chickens fell by one-half to two-thirds of their original price. During this period, bootlegging became a significant source of income in the valley. Despite the economic decline, the Antelope Valley attracted refugees from urban areas who squatted on vacant land. Homestead entries increased rapidly in the Depression years. The era of homesteading came to a close in 1935, when federal land was withdrawn from further public entry as a result in a shift in the government's focus from settlement of public land to preservation and conservation. While new entries were not permitted, those who had made entry prior to 1935 were allowed to complete the process. Agricultural production began its recovery by 1936 and experienced rapid expansion in the 1940s.

4.4.4 Mining

Mining has long played an important role in the economy of Antelope Valley since the discovery of copper, rich deposits of silver, and gold south of Kramer in 1884. A second mining boom occurred in 1894 after the discovery

of gold at Tropico Hill near Rosamond. Shortly thereafter, gold was also discovered at Soledad Mountain, Standard Mountain, and Rand Mountain. The last big gold rush occurred in the area in 1926, when the Herkelrath brothers discovered gold near Kramer Hills. This led to a rush in mining claims in the region. Districts were established at Kramer, Kramer Hills, Rosamond, Randsburg, Oro Grande, and El Paso. Gold mining practically ceased during World War II by order of the War Production Board. In the early 1940s, there were 1,500 mining claims within the boundaries of Muroc Army Air Field, but most of these were revoked when the U.S. Geological Survey ruled that they contained an insufficient quantity of minerals for extraction.

The mining of mud and clay for the extraction of bentonite, used in the refinement of petroleum products, was carried out in the Buckhorn, Rogers, and Rosamond dry lakebeds. In 1913, borate was discovered in the Kramer area. The town of Amargo (later renamed Boron) developed around the Pacific Coast Borax Company mine. The accidental discovery of oil north of Muroc in 1921 led to increased oil drilling in the Antelope Valley; however, oil drilling was largely abandoned in the valley by 1925. In general, mining operations provided an important alternative employment to homesteaders in Antelope Valley by allowing people to supplement their farming income during lean years. Without this source of employment, the rate of homestead abandonment would have been considerably higher during the 1920s and 1930s.

5 Research Design

The objective of the evaluation portion of this project was to obtain information from archaeological sites that could be used to evaluate the resource's significance under CEQA. Current research is typically structured in a way that links anthropologically oriented research issues to the archaeological record. The following discussion embraces this strategy and identifies potential questions and appropriate archaeological evidence within a series of broad research themes. General issues pertinent to the assessment of the sites include determination of the extent and integrity of cultural deposits, age and probable affiliation, site function, and subsistence strategies.

5.1 Integrity

Delineation of the horizontal distribution and vertical depth of the site is necessary for an assessment of research potential. Of particular importance is the integrity of the deposits: whether or not features or surfaces are preserved and whether the potential exists for identifying, through analysis, horizontal and vertical spatial patterning in the evidence for past behavior.

Formation processes such as alluvial deposition, erosion, bioturbation, and modern disturbance can considerably affect the integrity and original character of archaeological sites. Here, attempts are made to identify and interpret the processes that formed the site, with particular attention given to the character of post- depositional processes and the extent to which they have affected the integrity of the archaeological deposits.

The recordation and analysis of surface artifacts at several sites were used to address the following issues:

- Does the horizontal and vertical extent of the archaeological record within the sites represent continuous or discrete occupations?
- Is it possible to discern depositional versus post-depositional processes that have contributed to the present condition of the archaeological record at any of the sites? In other words, what are the factors, both natural and anthropogenic, that have altered the position and condition of artifacts from the prehistoric and historic occupations of the sites?
- What kinds of features are potentially preserved at the sites (e.g., structures, hearths, earth ovens)? Are there features that are highly disrupted by postdepositional processes but that are still recognizable? Can these features be associated with particular functions?
- By examining spatial patterns in the horizontal distribution of artifacts, is it possible to discern areas that were associated with specific functions? Do patterns in the vertical distribution of artifacts tell us anything about changes in the function, materials exploited, or human activities at the sites through time?
- Is there evidence of overlapping dump episodes, such as multiple points of concentration or concentration of artifacts of a certain age?

5.2 Chronological Placement

Chronological issues are essential to any archaeological investigation, so several basic questions concerning the temporal data potential of evaluated sites pertain to the current study, including:

- Can the chronological placement of project sites be determined?
- What kinds of chronometric data can project sites provide? Of those obtained during survey, how well do they correlate in terms of the age estimates they provide (e.g., cans vs. bottles).
- Are there data indicating the presence of multiple occupation episodes at project sites?
- Do diagnostic artifacts appear to fit with temporal patterns recognized in the surrounding region? Are there any unique diagnostic items present?
- Can chronometric data from project sites help to refine dating schemes in the local region?

Potential chronometric evidence of the historic sites located within the project APE is primarily obtainable from artifacts with maker's marks, specific can or bottle manufacture styles, or coins. However, it is common for dates of manufacture for a particular artifact to be much broader than those for another artifact class, making a determination for age of consumption for any given class difficult, if not impossible. For this reason, the date of refuse disposal is more pertinent for refuse deposits that are not located at homesites; and this is usually determined by the early manufacture date on the youngest artifact for each dump event. Hale et al. (2010) document a widespread pattern of dumping items of mixed manufacture and consumption age as the result of homesite cleanup and off-site dumping. If refuse deposits are located at a homesite, assessing the age of consumption for historic artifacts is an approximation based on overlapping manufacture dates, taking into account the earliest and latest possible dates. Assemblages that cannot be securely placed chronologically would be less likely to possess a significant research potential. Of course, archival research can provide direct information on the date of construction and occupancy for historic homesites and lands used for agricultural, ranching, or mining.

5.3 Settlement and Site Function

Interpretation of the study sites depends upon an assessment of their places within the larger settlement-subsistence system of their occupants. Sites belonging to functional types that are relatively ubiquitous within the region would be less likely to be considered significant than unusual site types. Sites with evidence of multiple functions may possess richer information content than relatively simple sites; on the other hand, single-function sites may have a greater research potential than multiple-function sites if the residues from the various activities at the latter cannot be effectively differentiated.

Considering historic archaeological sites, the kinds of artifacts present, the activities they represent, and their overall proportions can give some indication of where refuse originated, and why it was abandoned at its place of discard. The main questions for historical archaeological sites are:

- What is the nature of refuse at historic sites? Are proportions of consumptive, household, industrial, and other artifacts substantial enough to derive context of origin(s)?
- Are any maker's marks on historic artifacts indicative of specific places of manufacture? Do they provide any information about where particular goods might have been purchased or otherwise obtained?

These kinds of questions are relevant for understanding the nature of historical occupation, including at homesites, agricultural facilities (i.e., field worker residential areas), and urban neighborhoods. Archival research helps bolster field data by documenting past historical landowners, lease holders, or residents, and by documenting historical changes in the local landscape. While it is virtually impossible to tie historic refuse deposits in some cases to specific homesites or businesses, it is possible to identify potential sources of refuse and make informed assumptions about its origin.

5.4 Subsistence

The issues related to subsistence orientation are interwoven with the previously discussed settlement organization, and this section complements the issues discussed previously.

The primary question to address at historic sites is:

- Are artifacts present that provide information on the kinds of foods consumed (i.e., food cans, glass bottles, etc.)?

The data necessary to address this issue is generally limited to the kinds of food containers and food processing items found at historical archaeological sites.

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6 Methods

This section describes the techniques employed to identify and evaluate archaeological resources within or directly adjacent to the project API. All methods exceed the Secretary of the Interior's Standards and Guidelines for archaeology, as do all project personnel for their respective roles.

6.1 Inventory

The inventory portion of this archaeological resources investigation consisted of a SCCIC records search of the project API and surrounding 1-mile radius; archival research; correspondence with the NAHC; informal tribal outreach; and an intensive-level pedestrian survey of the project API.

A California Historic Resources Information System records search encompassing the current project API and a 0.5-mile radius was performed by staff at the SCCIC, located on the campus of the California State University, Fullerton, in Fullerton, California on January 26 and 27, 2023. An update to this original records search to incorporate changes to the project footprint and to encompass a 1-mile radius was completed by Dudek archaeologist Brenda Rogers at the SCCIC on November 6, 2024. The purpose of the records search is to identify any previously recorded cultural resources that may be located in or adjacent to the project API and to identify previous studies in the project vicinity. In addition to a review of previously prepared DPR site forms and reports, the records search also included a review of historical maps of the project API, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility. Records search results are provided in Section 7.

Archival research consisted of reviewing historic topographic maps (Smith and Huang 2024), historic aerial photographs (Smith and Huang 2024), and U.S. Department of Agriculture soil survey maps (USDA 2025). No local archaeological societies or museums were identified or contacted during archival research efforts in support of the current study. Archival research results are provided in Section 7.

Dudek requested a NAHC search of the Sacred Lands File (SLF) for the project API and a 0.5-mile radius on January 13, 2023, and for the project API and a 1-mile radius on December 30, 2024. The SLF consists of a database of known Native American resources. These resources may not be included in the SCCIC database. The NAHC replied via email on January 27, 2023, and January 16, 2025, respectively, stating that the SLF search was completed with negative results. Along with the results of the SLF search, the NAHC provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. Informal tribal outreach letters were mailed on January 15 and 20, 2025 to all California Native American Tribal representatives included on the NAHC contact lists. Results of these efforts are provided in Section 7.

Dudek archaeologists Jessica Colston, Phillip Sharp-Garcia, and Shane McDonnell conducted an intensive-level archaeological resources pedestrian survey of a large portion of the project API on February 1 and 2, 2023. Dudek archaeologists Jessica Colston and Brenda Rogers re-surveyed many portions of the project API and conducted an intensive-level archaeological resources pedestrian survey of additional, newly incorporated portions of the project API from November 18 to 20, 2024. Jessica Colston and Roshanne Bakhtiary conducted an intensive-level archaeological resources pedestrian survey of the SCE-owned portions of the project API on February 25, 2025. In

total, the Archaeological Survey Area encompassed approximately 321 acres as delineated in Figure 3 (Archaeological Survey Area). Each pedestrian survey employed standard archaeological procedures and techniques consistent with the Secretary of the Interior's Standards and Guidelines for archaeology. When possible, 15-meter interval survey transects were conducted, oriented in north–south cardinal directions. Where visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials. Evidence for buried archaeological deposits was opportunistically sought through inspection of natural or artificial erosion/excavation exposures and the spoils from rodent burrows. Areas of the project that contained a greater than 30% slope were not surveyed due to safety concerns and their general lack of suitability for containing archaeological resources. Results of the pedestrian survey are provided in Section 7.

A Global Navigation Satellite System receiver with sub-meter accuracy along with an 11th Generation Apple iPad equipped with georeferenced PDF maps of the project API were used to verify the accuracy of the survey coverage and facilitate in-field recording.

A minimum density of three or more artifacts in a 25-meter (82-foot) squared area constituted an archaeological site, as with the presence of any feature (i.e., concrete foundation). Any separation of 50 meters (164 feet) squared or more between artifacts was considered justification for delineation of a site boundary. A temporary site number was assigned to all newly identified archaeological resources that met the definition of an archaeological site. Isolated finds consisting of fewer than three artifacts within a 25-meter squared area were recorded separately from sites, including the use of a different numbering scheme. Any previously recorded archaeological sites located within or directly adjacent to the project API were field checked and documented as appropriate. Additionally, a metal detector was used to perform cardinally oriented transects radiating out from the central portion of each site to determine the potential for buried deposits.

Location-specific photographs were taken using an 11th Generation Apple iPad equipped with 8 mega-pixel resolution. All field notes, photographs, and records related to the current study are on file at Dudek's Mission Viejo, California office. All resources were recorded in their entirety on DPR site forms, using the Instructions for Recording Historical Resources (OHP 1995).

6.2 Significance Evaluations

11 archaeological resources were identified within or directly adjacent to the project API during inventory efforts that required formal evaluation for listing on the CRHR and for significance under CEQA and local regulations. 10 of the archaeological resources are characterized as surficial historic-era refuse scatters, while ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The majority of these resources likely represent single dumping episodes as indicated by their localized concentration of mostly contemporaneous domestic refuse and food waste items. Through the use of remote sensing (metal detection), it has been determined that these resources are unlikely to contain associated subsurface archaeological deposits. Therefore, significance evaluations for all resources were conducted using data obtained from the recordation of artifacts identified on the ground surface. See Table 2 for a list of all archaeological resources subject to significance evaluations as part of the current study. Results of these efforts are provided in Section 8.

Table 2. Archaeological Resources Subject to Significance Evaluation

Resource ID	Resource Description	Buried Potential	Level of Effort for Evaluation
P-19-101014	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-02	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-PK-S-03	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-02	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-03	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-JC-S-04	Shallow depression containing historic refuse	Unlikely	Surface recordation
ABS-JC-S-05	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-BR-S-01	Historic-era refuse scatter	Unlikely	Surface recordation
ABS-RB-S-01	Historic-era refuse scatter	Unlikely	Surface recordation

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7 Results

This section presents the results of the SCCIC records search, archival research, correspondence with the NAHC, informal tribal outreach, and intensive-level pedestrian survey of the project API in support of the currently proposed project.

7.1 Records Search

7.1.1 Previously Conducted Cultural Resources Studies

The SCCIC records search identified 50 previous cultural resources studies that have been conducted within a 1-mile radius of the project API. Of these studies, 22 intersect with the project API (Table 3). These include 12 cultural resources inventories, six (6) archaeological resources inventories, one (1) archaeological and paleontological resources inventory, one (1) records search report, one (1) archaeological resources monitoring report, and one (1) evaluation report. Relevant reports are discussed in further detail below Table 3. Approximately 30% of the project API has been subject to past cultural resources investigations. See Appendix B for the complete SCCIC records search results and associated documentation.

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
LA-00680	1979	Barker, James P.	An Archaeological Sampling of the Proposed Allen-warner Valley Energy System, Western Transmission Line Corridors, Mojave Desert, Los Angeles and San Bernardino Counties, California and Clark County, Nevada
LA-00962	1980	Robinson, R. W.	Cultural Resources Investigation Re: Parcel Map No. 12240
LA-01585	1986	Weil, Edward B.	City of Los Angeles Department of Water and Power Vincent Substation Loop-in Project Cultural Resource Records Check and Field Survey Results
LA-03017	1994	Gibson, Robert O.	Results of Archaeological Records Check for the Mojave Alternatives of the Pacific Pipeline Project Los Angeles County, California
LA-03705	1969	Coleman, R.G., J. Jones, and T.F. King	An Archaeological Reconnaissance of Southern California Edison Company's Vincent Transmission, From Bakersfield to Glendale, California
LA-04008	1996	Unknown	Cultural Resources Investigation Pacific Pipeline Emidio Route
LA-07940	2005	Schmidt, June A.	DWO 6036-4800, AI #5-4834: 2005 Deteriorated Pole Replacement Project Pick B-1 and C-2; Bootlegger A-3, B-3, C-2, and C-3; Leona A-1; Titan C-3; Calli Valli D-1; Acrobat A-2; Target B-1; and Dennis 12 kV Distribution Lines, Los Angeles County

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
LA-08179	2006	Ahmet, Koral, Roger Mason and Sara Bholat	Cultural Resources Survey Report for Antelope Transmission Project: Segments 2 & 3, Los Angeles and Kern Counties
LA-09705	2007	Anonymous	Cultural Resources Inventory of the Southern California Edison Company Tehachapi Renewable Transmission Project, Kern, Los Angeles and San Bernardino Counties, California. ARR #05-01-01046
LA-09755	2009	Gust, Sherri, Veronica Harper, and Amy Glover	Supplemental Archaeological and Paleontological Resources Assessment, Sagebrush 220 kV Transmission Line Modification (Segment 2, Tehachapi Renewable Transmission Project), Los Angeles County, California
LA-10175	2009	Unknown	Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project
LA-10470	2010	Schmidt, James	Archaeological Monitoring Report - Southern California Edison Station Fire Emergency Transmission Line Road Maintenance Project, Angeles National Forest, Los Angeles County, California ARR #05-01-1154
LA-11869	2010	Holm, Lisa	Cultural Resources Survey for the M76-T5 Access Roads, Segment 5 Tehachapi Renewable Transmission Project, Los Angeles County, California
LA-11873	2010	Holm, Lisa	TRTP Cultural Resources Survey Report with Negative Findings, Segment 5 Removal of Conductor between Existing Antelope-Mesa 220 kV towers M76-T4 and M76-T5, Los Angeles County, California
LA-11987	2010	Schneider, Tsim	TRTP Negative Archaeological Survey Report, Tehachapi Renewable Transmission Project, Cultural Resources Survey Report with Negative Findings, Segment 9 Vincent Substation Expansion and Foreston Drive Realignment, Los Angeles County, California
LA-12527	2010	Panich, Lee, Stephanie Cimino, and John Holson	Supplemental Archaeological Survey Report #1, Tehachapi Renewable Transmission Project Segment 5, Los Angeles County, California
LA-12528	2010	Schneider, Tsim and John Holson	Supplemental Archaeological Survey Report #2, Tehachapi Renewable Transmission Project Segment 5, Los Angeles County, California
LA-12548	2010	Greenberg, Marc, Tsim Schneider, and John Holson	Supplemental Archaeological Survey Report Tehachapi Renewable Transmission Project Segment 6, Los Angeles County, California
LA-12807	2014	Tennesen, Kristin	Cultural Resources Survey for the Vincent Station Siding Extension and Second Platform Project, Acton, California, Los Angeles County
LA-12833	2013	Jackson, Thomas	Evaluation of National Register of Historic Places and California Register of Historical Resources Eligibility of Archaeological Site CA-LAN-2546, Southern California

Table 3. Previous Cultural Resource Studies that Intersect the Project API

Report ID	Year	Author	Title
Intersects Project API			
			Edison Company Tehachapi Renewable Transmission Project, Segment 6 Los Angeles County, California
LA-12838	2014	Greenberg, Marc	Segment 11C Supplemental Survey in Support of a Variance Request for Additional Pullouts and Spur Roads, Tehachapi Renewable Transmission Project, Los Angeles County, California
LA-12840	2014	Greenberg, Marc	Segment 11C Supplemental Survey for TEWS for Construct 03 Access Road, Tehachapi Renewable Transmission Project, Los Angeles County, California

Notes: TRTP = Tehachapi Renewable Transmission Project.

LA-12548

A supplemental archaeological survey report was prepared for the Tehachapi Renewable Transmission Project Segment 6 in 2011 by Pacific Legacy, Inc. This report was a supplement to an initial archaeological inventory for the Tehachapi Renewable Transmission Project and included a records search, literature review, pedestrian survey, and the documentation of previously identified archaeological resources and newly discovered archaeological resources that intersected with the Segment 6 project area. Overall, the pedestrian survey identified eight (8) previously recorded archaeological resources and another nine (9) newly discovered archaeological resources within the Segment 6 project area, one (1) of which was P-10-101014. Though P-19-101014 was originally recorded as part of this study, no further investigations were completed, including evaluating P-19-101014's eligibility for listing on the CRHR/NRHP. Overall, the Segment 6 study area overlaps with less than 5% of the currently proposed project API. Management recommendations for the project included the evaluation of all resources identified within the Segment 6 project area if avoidance was not feasible, as well as the implementation of inadvertent discovery protocols for archaeological resources and huma remains during project construction (Greenberg et al. 2011).

7.1.2 Previously Recorded Cultural Resources

The SCCIC records search identified three (3) previously recorded cultural resources within the project API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). An additional 28 previously recorded cultural resources were identified within a 1-mile radius of the project API (Table 4). These include 13 historic-era refuse scatters, four (4) prehistoric isolates, two (2) lithic and groundstone scatters, two (2) historic-era isolates, two (2) built environment structures, one (1) prehistoric hearth feature, one (1) prehistoric bedrock milling feature, one (1) collapsed wooden structure with an associated refuse scatter, the Angeles National Forest, and the Angeles Forest Highway.

P-19-002893 and P-19-101014 are described in further detail below Table 4. P-19-192581 and all other built environment resources recorded and evaluated as part of this project are addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek in 2025 (Ahmanson et al. 2025). See Appendix B for the complete SCCIC records search results and associated documentation, and Appendix C for a Cultural Resources

Overview Map that depicts all previously recorded and newly identified (as part of Dudek's inventory and evaluation efforts) cultural resources within a 1-mile radius of the proposed project.

Table 4. Previously Recorded Cultural Resources within 1 Mile of Project API

Primary Number	Trinomial	Age	Type	Description	Eligibility for CRHR/NRHP
Intersects Project API					
P-19-002893	CA-LAN-002893H	Historic	Site	Abandoned segment of the Southern Pacific Railroad	Recommended ineligible for NRHP
P-19-101014	—	Historic	Isolate	Can isolate	Categorically Ineligible for CRHR/NRHP
P-19-192581	—	Historic	Engineering structure	Antelope-Mesa 220 kV Transmission Line	Recommended ineligible for CRHR/NRHP
Outside of Project API					
P-19-002414	CA-LAN-002414	Prehistoric	Site	Lithic and groundstone scatter	Not evaluated
P-19-002415	CA-LAN-002415	Prehistoric	Site	Lithic and groundstone scatter	Not evaluated
P-19-002459*	CA-LAN-002459H	Historic	Site	San Gabriel Dam Construction Camp Bldg. FC143	Unknown
P-19-002546	CA-LAN-002546	Prehistoric	Site	Hearth feature	Recommended ineligible for CRHR/NRHP
P-19-002561	CA-LAN-002561H	Historic	Site	Refuse scatter	Unknown
P-19-002907	CA-LAN-002907H	Historic	Site	Refuse scatter	Unknown
P-19-002908	CA-LAN-002908H	Historic	Site	Refuse scatter	Unknown
P-19-003116	CA-LAN-003116H	Historic	Site	Borrow pits with associated refuse scatter	Unknown
P-19-003124	CA-LAN-003124	Prehistoric	Isolate	Lithic isolate	Categorically Ineligible for CRHR/NRHP
P-19-003308	CA-LAN-003308H	Historic	Site	Refuse scatter	Determined ineligible for NRHP
P-19-003458	CA-LAN-003458H	Historic	Site	Refuse scatter	Unknown
P-19-003536	CA-LAN-003536H	Historic	Site	Refuse scatter	Unknown
P-19-003729	CA-LAN-003729H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003730	CA-LAN-003730H	Historic	Site	Refuse scatter	Unknown

Table 4. Previously Recorded Cultural Resources within 1 Mile of Project API

Primary Number	Trinomial	Age	Type	Description	Eligibility for CRHR/NRHP
P-19-003731	CA-LAN-003731	Prehistoric	Site	Bedrock milling feature	Unknown
P-19-003732	CA-LAN-003732H	Historic	Site	Collapsed wooden structure with associated refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003733	CA-LAN-003733H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-003938	CA-LAN-003938H	Historic	Site	Refuse scatter	Determined ineligible for CRHR/NRHP
P-19-004335	CA-LAN-004335H	Historic	Site	Refuse scatter	Recommended ineligible for CRHR/NRHP
P-19-004470	CA-LAN-004470H	Historic	Site	Refuse scatter	Unknown
P-19-100576*	—	Historic	Isolate	Glass insulator	Categorically Ineligible for CRHR/NRHP
P-19-100758	—	Prehistoric	Isolate	Core fragment	Categorically Ineligible for CRHR/NRHP
P-19-101018	—	Historic	Isolate	Bottle fragment	Categorically Ineligible for CRHR/NRHP
P-19-101021	—	Prehistoric	Isolate	Metate fragment	Categorically Ineligible for CRHR/NRHP
P-19-101359	—	Prehistoric	Isolate	Obsidian biface fragment	Categorically Ineligible for CRHR/NRHP
P-19-186535	—	Historic	Plaque	Angeles National Forest	California Historical Landmark
P-19-186876	—	Historic	Engineering structure	SCE Eagle Rock-Pardee Transmission Line	Recommended ineligible for CRHR/NRHP
P-19-187713	—	Historic	Highway	Angeles Forest Highway	Recommended ineligible for CRHR/NRHP

* PDF not on file at SCCIC

P-19-002893

P-19-002893 is characterized as an abandoned segment of the Southern Pacific Railroad grade through Soledad Canyon. This resource was first recorded in 2000 by SWCA Environmental Consultants and recommended ineligible for listing on the NRHP. At time of recordation, P-19-002893 consisted of imported stone, several railroad ties in secondary context, two water culverts (one dated to 1937) and a cement signal stand. This resource was revisited in 2013 by HDR. HDR was able to revisit all previously identified components, however indicated that the original mapping by SWCA in 2000 appeared to be incorrect (Purcell 2000).

P-19-101014

P-19-101014 is characterized as an isolated can scatter consisting of a three-tab seam, church key opened, steel beer can, a crushed painted label oil can, and additional cans noted upslope adjacent to the SCE Vincent Substation. This resource was first recorded in 2011 by Pacific Legacy, Inc. in support of the Tehachapi Renewable Transmission Project (Greenberg and Schrader 2011). Isolates are categorically ineligible for listing on the CRHR and do not meet the criteria to be considered significant or unique archaeological resources under CEQA.

7.2 Archival Research

7.2.1 Review of Historic Topographic Maps

Table 5 provides a summary of the historic topographic map review conducted for the BESS facility. This table has been modified from the *Phase I Environmental Site Assessment: Prairie Song Reliability Project* prepared by Dudek in 2024 (Smith and Huang 2024: 19-20).

Table 5. Summary of Historic Topographic Maps

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1900	The project site is depicted as vacant, undeveloped land. An east–west-trending light-duty road and a wide wash are depicted through the center of the site.	The adjoining and surrounding areas are depicted as vacant, undeveloped land. A northeast–southwest trending railroad is depicted to the north. A few light-duty roads are depicted throughout the adjoining and surrounding area.
1934	The light-duty road and wide wash are no longer depicted on the site. A tank and a well are depicted on the site. Narrow washes are depicted in the southwest and northwest portions of the site. Unimproved roads are depicted in the northwestern and northeastern portions of the site. A structure is depicted along the eastern border of the site.	Two wells and a patrol station are depicted north of the site. East–west trending Highway 6 and Soledad Canyon are depicted north of the project site. Additional roadways and narrow washes are depicted throughout the surrounding area.
1939	The site is depicted similarly to the 1934 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1934 topographic map.

Table 5. Summary of Historic Topographic Maps

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1940	The tank and the well are no longer depicted on the site. The narrow wash in the southwestern portion is no longer depicted on the site.	The two wells are no longer depicted north of the project site. Additional structures are depicted on the surrounding properties to the north.
1947	The structure along the eastern border is now depicted outside of the site boundary. The remaining site is depicted similarly to the 1940 topographic map.	A structure is depicted on the eastern-adjoining property. The remaining adjoining and surrounding areas are depicted similarly to the 1940 topographic map.
1948	The site is unmapped.	Most of the adjoining and surrounding properties are unmapped.
1959	The site is depicted similarly to the 1947 topographic map.	Kentucky Springs Canyon is depicted on the adjoining and surrounding property to the north. Additional roadways and structures are scattered throughout the surrounding area.
1974, 1978	The site is depicted similarly to the 1959 topographic map.	Highway 6 has been expanded to have several on-/off-ramps connecting to the highway and is renamed Highway 14. A substation is now depicted northeast of the project site. Two structures are depicted on the southwestern adjoining property. Additional buildings and unimproved roads have appeared in the areas surrounding the project site.
1991, 1994	The site is depicted similarly to the 1974/1978 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1974/1978 topographic map.
1995	A structure is depicted in the western portion of the site. A roadway is depicted along the western border of the site.	Additional structures and roads are depicted in the areas surrounding the project site.
2012	Structures are no longer depicted on the topographic map.	Structures and power transmission lines are no longer depicted on the topographic map.
2015	The site is depicted similarly to the 2012 topographic map.	Changes to road layouts are depicted in areas surrounding the site.
2018	The site is depicted similarly to the 2015 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2015 topographic map.
2022	The site is depicted similarly to the 2018 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2018 topographic map.

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

7.2.2 Review of Historic Aerial Photographs

Table 6 summarizes the review of the historic aerials photographs that cover the BESS facility (Smith and Huang 2024: 17–18).

Table 6. Summary of Historic Aerial Photographs

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1928	The site appears largely undeveloped. An east–west-trending wide wash is observed in the northwest portion of the site. A narrow wash is observed in the southwestern corner of the site. Two roads are observed on the northern half of site. Vegetation that appears to be bushes and shrubs sparsely covers the entirety of the site.	Undeveloped land is observed on all adjoining and surrounding properties. A road and railroad are observed northwest of the site. A few narrow washes and dirt roads/trails are observed throughout the surrounding area. Vegetation that appears to be bushes and shrubs sparsely covers the adjoining and surrounding properties.
1940	The site appears similar to the 1928 aerial photograph.	The adjoining and surrounding areas appear similar to the 1928 aerial photograph.
1954	The site appears similar to the 1940 aerial photograph.	The adjoining and surrounding areas appear similar to the 1940 aerial photograph.
1968	A cleared area is observed in the western portion of the project site. A north–south-trending road is observed along a portion of the western border.	Rural residential/farming structures are observed on the western- and eastern-adjoining properties. Additional residential/farming structures are observed to the south. Additional roads appear throughout the adjoining and surrounding properties.
1974	The site appears similar to the 1968 aerial photograph.	The adjoining and surrounding areas appear similar to the 1968 aerial photograph.
1976	The site appears similar to the 1974 aerial photograph.	The adjoining and surrounding areas appear similar to the 1974 aerial photograph.
1983	A small, cleared area is observed along the eastern border of the site, associated with the eastern-adjoining structure. The site appears similar to the 1976 aerial photograph.	Additional residential/farming structures are observed adjoining the subject property to the northeast and west and also on the surrounding property to the south.
1989	A residential area is observed in the western portion of the site. A graded area associated with structures on the eastern adjoining property is observed along the eastern border.	The northeastern- and western-adjoining areas are further developed with additional structures and grading. The remaining adjoining and surrounding areas appear similar to the 1983 aerial photograph.
1994	A few additional roads are observed throughout the site.	Additional structures are observed on the western adjoining property. The remaining adjoining and surrounding areas appear similar to the 1989 aerial photograph.
2002	Additional structures are observed in the western portion of the site.	Additional development is observed on the eastern and western-adjoining properties. The remaining adjoining and surrounding areas appear similar to the 1994 aerial photograph.
2005	The site appears similar to the 2002 aerial photograph.	The adjoining and surrounding areas appear similar to the 2002 aerial photograph.
2009	Additional structures are observed in the western portion of the site. The remaining	The adjoining and surrounding areas appear similar to the 2005 aerial photograph.

Table 6. Summary of Historic Aerial Photographs

Date	BESS Facility (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
	site appears similar to the 2005 aerial photograph.	
2012	The site appears similar to the 2009 aerial photograph.	The adjoining and surrounding areas appear similar to the 2009 aerial photograph.
2016	The site appears similar to the 2012 aerial photograph.	The adjacent and surrounding areas appear similar to the 2012 aerial photograph.
2020	The site appears similar to the 2016 aerial photograph.	The adjacent and surrounding areas appear similar to the 2016 aerial photograph.
2023	The site appears similar to the 2020 aerial photograph.	The adjacent and surrounding areas appear similar to the 2020 aerial photograph

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

7.2.3 Review of Geomorphological Context

According to the U.S. Department of Agriculture Natural Resources Conservation Services, several soil types are mapped within the project API. Official U.S. Department of Agriculture soil descriptions for the soil types identified within the project API are provided below (USDA 2025).

- Hanford coarse sandy loam, 2% to 9% slopes, is present within 27% of the project API. Hanford coarse sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,390 feet to 4,200 feet amsl.
- Terrace escarpments are present within 24% of the project API and are characterized by their high percent of slope, which in general, are not suitable for sustaining buried archaeological deposits.
- Hanford coarse sandy loam, 0% to 2% slopes, is present within 17% of the project API. Hanford coarse sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,390 feet to 4,200 feet amsl.
- Greenfield sandy loam, 2% to 9% slopes, is present within 14% of the project API. Greenfield sandy loams generally occur in settings with alluvial fans and terraces deriving from granite and are found in areas with elevations ranging from 2,600 feet to 4,200 feet amsl.
- Hanford sandy loam, 2% to 9% slopes, is present within 17% of the project API. Hanford sandy loams generally occur in settings with alluvial fans deriving from granite and are found in areas with elevations ranging from 2,600 feet to 4,200 feet amsl.

The U.S. Department of Agriculture's soil types mapped within the project API demonstrate that alluvial soils are present, which have the potential to support the presence of buried archaeological resources. These soils are associated with the period of prehistoric human use, as well as represent ongoing processes of development that have potential to preserve cultural material in context, depending on area-specific topographical setting.

7.3 NAHC and Tribal Correspondence

Both of Dudek's NAHC SLF search requests yielded negative results for Native American cultural resources within a 0.5-mile and 1-mile radius of the project API. Along with the results of the SLF search, the NAHC provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. Informal tribal outreach letters were mailed on January 15 and 20, 2025 to all California Native American Tribal representatives included on the NAHC contact lists. These letters attempted to solicit additional information relating to Native American cultural resources that may be impacted by the project. Native American Tribal representatives were requested to define a general area where known resources intersect the project API. To date, Dudek has received three responses to this information request. These responses are paraphrased below:

> Raylene Borrego of the Yuhaaviatam of San Manuel Nation (formerly San Manuel Band of Mission Indians) responded on January 21, 2025. Ms. Borrego's response indicated that the project API is considered highly culturally sensitive to the Yuhaaviatam of San Manuel Nation (Yuhaaviatam), and that the Yuhaaviatam wish to engage with the CEC in Government-to-Government consultation pursuant to AB 52.
>
> Jill McCormick of the Quechan Tribe of the Fort Yuma Reservation responded on January 28, 2025. Ms. McCormick indicated that the Quechan Tribe of the Fort Yuma Reservation does not wish to comment on the project.
>
> Eunice Ambriz of the Yuhaaviatam responded on January 29, 2025. In her email, Ms. Ambriz requested Dudek provide a project map set in aerial view. Dudek responded to Ms. Ambriz on February 10, 2025, with the requested map set.

Dudek conducted a virtual follow-up meeting with the Yuhaaviatam for purposes of informal information gathering and tribal outreach efforts. The meeting took place on February 13, 2025. In attendance was Kristin Tuotso (Yuhaaviatam Tribal Archaeologist), Eunice Ambriz (Yuhaaviatam Cultural Resources Technician) and Roshanne Bakhtiary (Dudek Archaeologist). During the meeting, Dudek provided a review of the project API and the project design and discussed Dudek's inventory efforts to date, including the results of the SCCIC records search and NAHC SLF search. After a review of all available project documents, both Ms. Tuotso and Ms. Ambriz expressed interest in the project requiring mitigation measures for the inadvertent discovery of Native American cultural resources and human remains. The Yuhaaviatam also indicated that they intend to proceed with Government-to-Government AB 52 consultation with the CEC for the project. No additional information was provided during this meeting to support the presence of specific, geographically defined TCRs that could be affected by project-related construction or operation. See Appendix D for all NAHC documentation and tribal correspondence to date.

This correspondence was conducted for informational purposes only and does not constitute formal Government-to-Government consultation. In compliance with AB 52, the CEC, as lead agency, is responsible for conducting Government-to-Government consultation with tribal entities.

7.4 Pedestrian Survey

Dudek archaeologists Jessica Colston, Phillip Sharp-Garcia, Shane McDonnell, Brenda Rogers and Roshanne Bakhtiary conducted intensive-level archaeological resources pedestrian surveys of the project API in February 2023, November 2024, and February 2025. The Archaeological Survey Area encompassed the entire project API as well as all APNs identified within the project description as shown in Figure 3 (Archaeological Survey Area). This totaled approximately 321 acres. Ground surface visibility throughout the API ranged from poor to excellent. Poor ground surface visibility (0% to 25%) was observed throughout approximately 30% of the project API due to dense vegetation, and in some instances, the presence of road base (Exhibit 1). Fair (25% to 50%) to good (50% to 75%) ground surface visibility was observed within seasonal drainages, on terraces, and adjacent to the SCE Vincent Substation and accounted for approximately 50% of the project API (Exhibit 2). Excellent (75% to 100%) ground surface visibility was observed within unpaved access roads, transmission tower corridors, and alluvial washes and accounted for the remainder of the project API (20%) (Exhibit 3). Vegetation throughout the project API consisted of various species of invasive grasses, creosote (*Larrea tridentata*), juniper (*Juniperus* spp.), golden cholla (*Cylindropuntia echinocarpa*), chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos spp.),* coyote brush (*Baccharis pilularis*), scrub oak (*Quercus berberidifolia*), sage (*Saliva* spp.) and yucca (*Yucca* spp. or *Hesperoyucca* sp.). Throughout the project API there was evidence of modern dumping, vehicle overland travel, and other disturbances associated with the construction and operation of the SCE Vincent Substation and various residential properties. During these intensive-level pedestrian survey efforts, crews re-visited two previously recorded archaeological resources and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. DPR site forms were prepared for all resources and will be submitted to the SCCIC of the California Historic Resources Information System at California State University, Fullerton. The DPR site forms are included in Confidential Appendix E.

7.4.1 Previously Recorded Resources

P-19-002893

P-19-002893, an abandoned segment of the Southern Pacific Railroad, was revisited by Dudek archaeologists in February 2023 and November 2024. While the original mapping of P-19-002893 by SWCA places the segment within the project API, 2013 mapping by HDR places the segment outside of the project API.

Dudek's survey efforts to re-locate the resource concur with HDR's updated mapping of P-19-002893 as existing outside the project API (Purcell 2000). Metal detecting efforts conducted in 2024 also failed to identify any buried metal components of the railroad segment within or directly adjacent to the project API (negative scan). No additional efforts to record and/or evaluate this resource were conducted as part of the current study.

P-19-101014

P-19-101014, originally recorded as a can scatter isolate, was revisited by Dudek archaeologists in February 2025. Dudek relocated both previously recorded artifacts (one [1] church key opened steel beer can, and one [1] crushed yellow church key opened SAE 20 motor oil can) and recorded two additional internal side seam cans measuring 4.75 inches in height by 3 inches in diameter within the immediate vicinity. P-19-101014 measures approximately 5 meters north/south (N/S) by 5 meters east/west (E/W).

P-19-101014 is located at the base of a very steep activity eroding terrace escarpment with slopes ranging from 45° to 60° and is adjacent to the proposed gen-tie corridor. Upslope from the resource is a dirt access road. Metal detecting efforts conducted in 2025 failed to identify any buried metallic components within and adjacent to the newly recorded boundaries of P-19-101014 (negative scan).

7.4.2 Newly Identified Resources

ABS-PK-S-01

Dudek recorded ABS-PK-S-01 in February 2023 and revisited the resource in November 2024. ABS-PK-S-01 is characterized as a sparse historic-era refuse scatter consisting of a concentration of seven (7) solder top cans, three (3) miscellaneous food cans, church key opened, two (2) friction seal cans, two (2) screw top rectangular oil cans, one (1) coffee can, and one (1) large metal drum measuring approximately 22.5 inches in length by 18 inches in diameter (Concentration 1). Outside of this concentration and scattered throughout the vicinity are an additional five (5) miscellaneous bi-metal beverage cans, two (2) 1-gallon screw top rectangular oil cans, two (2) friction side seam 16-ounce condensed milk cans, one (1) bi-metal coffee can, one (1) bi-metal pull tab can, one (1) screw cap, one (1) colorless Owen's Illinois diamond marked glass bottle base, one (1) battery terminal, one (1) hole-in-top side crimped can, one (1) potted meat can, and one (1) amber Owen's Illinois marked bottle base. ABS-PK-S-01 measures approximately 35 meters (N/S) by 72 meters (E/W).

ABS-PK-S-01 is located on an actively eroding terrace escarpment with slopes ranging from 10° 30°, is directly south of a residential property, and is located within the proposed BESS facility footprint. There are multiple ephemeral drainages running across the extent of the resource in a general N/S axis. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-01 (negative scan).

ABS-PK-S-02

Dudek recorded ABS-PK-S-02 in February 2023 and revisited the resource in November 2024. ABS-PK-S-02 is characterized as a sparse and diffuse historic-era refuse scatter consisting of three (3) solder dot cans, two (2) amber glass vases, three (3) colorless glass bases (no marks), one (1) colorless glass bottle base marked "NW", one (1) colorless glass insulator fragment marked "Armstrong's T.W.", and multiple piles of shattered modern glass. ABS-PK-S-02 measures approximately 57 meters (N/S) by 50 meters (E/W).

ABS-PK-S-02 is located on an actively eroding terrace escarpment with slopes ranging from 10° to 20° and is directly east of a seasonal drainage, west of an informal dirt roadway, and south of a residential property. ABS-PK-S-02 is located within the proposed BESS facility footprint. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-02 (negative scan).

ABS-PK-S-03

Dudek recorded ABS-PK-S-03 in February 2023 and revisited the resource in November 2024. ABS-PK-S-03 is characterized as a historic-era refuse scatter consisting of three concentrations. Concentration 1 contains 20 food and beverage cans. Concentration 2 contains 21 indeterminate metallic constituents, and 100+ colorless glass and porcelain ceramic cup fragments. Concentration 3 contains over 100+ food and beverage cans (including

several solder dot cans), 13 ceramic porcelain teacup fragments, 12 whiteware fragments, two (2) potted meat cans, one (1) aqua Coca-Cola bottle base, and one (1) shoe sole. Outside of these concentrations, the following artifacts were observed throughout the vicinity: 23 miscellaneous food cans, church key opened, 12 sanitary seal food cans, machine opened, 11 solder top cans, 10 sanitary seal food cans, knife opened, nine (9) bi-metal beverage cans, three (3) potted meat tins, key wind, one (1) colorless RC Cola bottle, three (3) aqua Coca-Cola bottle fragments, three (3) paint cans, and one (1) tobacco flip lid container. ABS-PK-S-03 measures approximately 185 meters (N/S) and 165 meters (E/W).

ABS-PK-S-03 is located on an actively eroding terrace escarpment with slopes ranging from 20° to 30°, is east of a residential property, and is located within the proposed BESS facility footprint. Disturbances noted include evidence of vehicle overland travel and active downslope erosion. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-PK-S-03 (negative scan).

ABS-JC-S-01

Dudek recorded ABS-JC-S-01 in February 2023 and revisited the resource in November 2024. ABS-JC-S-01 is characterized as a historic-era refuse scatter consisting of two concentrations. Concentration 1 consists of 200+ sanitary seal, side-crimp cans, knife-opened, 50+ 10-ounce milk cans, 40+ cone top cans, four (4) carbon canisters with perforated sides, two (2) 1-gallon screw top rectangular oil cans, and two (2) aqua Coca-Cola bottles. Concentration 2 consists of 50+ solder top cans, eight (8) friction seal cans, one (1) friction seal paint can, one (1) cooking oil can, and one (1) bailing wire string. Outside of the concentrations there were an additional four (4) solder top cans. ABS-JC-S-01 measures 62 meters (N/S) by 62 meters (E/W).

ABS-JC-S-01 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. There are multiple ephemeral drainages running across the extent of the resource in a general E/W axis. Metal detecting efforts conducted in 2024 failed to identify any buried metal components within and adjacent to the recorded boundaries of ABS-JC-S-01 (negative scan).

ABS-JC-S-02

Dudek recorded ABS-JC-S-02 in February 2023 and revisited the resource in November 2024. ABS-JC-S-02 is characterized as a historic-era refuse scatter consisting of one concentration amongst a more diffuse scatter of refuse. Concentration 1 consists of 14 solder top cans, one (1) church key opened can, one (1) ceramic white ware fragment, one (1) colorless glass fragment, and one (1) mason jar rim. Outside of the concentration, there are an additional 30+ sanitary seal food cans, 30+ solder top cans, 20+ beverage cans, church key opened, and 1 lard pail. ABS-JC-S-02 measures 25 meters (N/S) by 74 meters (E/W).

ABS-JC-S-02 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. A deep seasonal drainage is noted to the west of the resource. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-02 (negative scan).

ABS-JC-S-03

Dudek recorded ABS-JC-S-03 in February 2023 and revisited the resource in November 2024. ABS-JC-S-03 is characterized as a historic-era refuse scatter consisting of two concentrations. Concentration 1 consists of seven (7) sanitary seal food cans, machine opened, three (3) beverage cans, church key opened, and one (1) friction lid quart paint can. Concentration 2 (recorded in 2024) consists of 53 solder top food cans, machine opened, 14 8-ounce juice cans, eight (8) potted meat tins, three (3) friction closure cans measuring 4.75 inches in height by 4 inches in diameter, two (2) potted meat cans, friction closure, key wind, one (1) oil can measuring 6 inches in height by 1.5 inches in width by 3.75 inches in depth, one (1) seasoning shaker lid, one (1) cast iron pipe drain end fragment, one (1) packing flat strap band measuring 2 inches wide by 10 feet long, and one (1) friction close quart coffee can. Non-metallic artifacts in Concentration 2 include 50+ colorless glass fragments, two (2) mason jar glass quart rims, three (3) colorless pint mason jar rims, two (2) green ceramic plate fragments, and one (1) complete metal screw top glass jar marked “Glass Containers Corporation”. Outside these concentrations were an additional three (6) solder top cans and one (1) quarter paint can. ABS-JC-S-03 measures 27 meters (N/S) by 36 meters (E/W).

ABS-JC-S-03 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and within the proposed BESS facility. 2024 efforts to revisit the resource noted that many artifacts appeared to have been subject to post-depositional wind and water erosion from date of original recordation in 2023. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-03 (negative scan).

ABS-JC-S-04

Dudek recorded ABS-JC-S-04 in February 2023 and revisited the resource in November 2024. ABS-JC-S-04 is characterized as a shallow depression containing historic-era refuse. The depression measures 12 feet (N/S) by 10 feet (E/W) and has a depth of approximately 18 inches. Artifacts within the depression consist of 30+ solder top cans, two (2) paint pails, two (2) solder top potted meat cans, knife opened, and one (1) amber glass beer bottle (in 20+ fragments).

ABS-JC-S-04 is located on a mostly flat terrace directly adjacent to several informal dirt roadways and within the proposed BESS facility. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-04 (negative scan).

ABS-JC-S-05

Dudek recorded ABS-JC-S-05 in February 2023 and revisited the resource in November 2024. ABS-JC-S-05 is characterized as a historic-era refuse scatter consisting of 74 miscellaneous sanitary seal food cans, 37 friction seal side crimped cans, 31 bi-metal beverage cans, 16 solder top cans, church key opened, two (2) paint pails, two (2) potted meat tins, knife opened, two (2) potted meat cans, key wind, one (1) pesticide fogger can, one (1) coffee can lid, and one (1) aqua Coca-Cola bottle. ABS-JC-S-05 measures 90 meters (N/S) by 40 meters (E/W).

ABS-JC-S-05 is located on an eroding terrace escarpment with slopes ranging from 30° to 40° and is adjacent to the proposed gen-tie corridor. The downslope movement of artifacts between 2023 and 2024 indicate that ABS-JC-S-05 is actively eroding into the lower lying wash to the northeast. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-JC-S-05 (negative scan).

ABS-BR-S-01

Dudek recorded ABS-BR-S-01 in November 2024. ABS-BR-S-01 is characterized as a historic-era refuse scatter consisting of 23 whiteware fragments, four (4) porcelain fragments, melted glass (24 aqua, 10 colorless, 3 amethyst, 1 olive denoted as Concentration 1), one (1) fuel can, one (1) sanitary seal food can, one (1) rectangular spice lid, one (1) metal spring, and a decorated flat metal implement in three (3) pieces. The site also contains a concrete and granite slab fragment. This slab fragment measures 29 inches (N/S) by 15 inches (E/W) with a height of 6.5-in. ABS-BR-S-01 measures 22 meters (N/S) by 40 meters (E/W).

ABS-BR-S-01 is located on an eroding terrace escarpment with slopes ranging from 10° to 30° and is adjacent to the proposed gen-tie corridor. Metal detecting efforts conducted in 2024 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-BR-S-01 (negative scan).

ABS-RB-S-01

Dudek recorded ABS-RB-S-01 in February 2025. ABS-RB-S-01 is characterized as a diffuse historic-era refuse scatter consisting of 50+ internal side seam steel beer cans, church key opened, six (6) 1-gallon paint pails, three (3) rectangular metal cooking oil jugs, three (3) potted meat cans, two (2) miscellaneous food cans, machine opened, one (1) partially buried corrugated metal bucket, one (1) crushed one-gallon paint pail, one (1) roof vent, one (1) solder dot can, a wooden mattress frame with metal box springs, and other large indeterminate metallic constituents. ABS-RB-S-01 measures 30 meters (N/S) by 55 meters (E/W).

ABS-RB-S-01 is located within an eroding terrace escarpment with slopes ranging from 30° to 40°, is adjacent to the proposed gen-tie corridor, and located directly west of the southern tip of the SCE Vincent Substation. The diffuse nature of the refuse scatter indicates that it has been subject to post-depositional wind and water erosion. Metal detecting efforts conducted in 2025 failed to identify any buried metallic components within and adjacent to the recorded boundaries of ABS-RB-S-01 (negative scan).

Exhibit 1. Example of poor ground surface visibility, view facing west.



Exhibit 2. Example of fair/good ground surface visibility, view facing north.



Exhibit 3. Example of excellent ground surface visibility, view facing southeast.



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8 Significance Evaluation Findings

This section summarizes the results of the significance evaluations conducted for the 11 archaeological resources identified within or directly adjacent to the project API (Table 7).

Table 7. Results of Archaeological Significance Evaluations

Resource ID	Resource Description	Eligibility Recommendation
P-19-101014	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-02	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-PK-S-03	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-02	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-03	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-04	Shallow depression containing historic refuse	6Z found ineligible for CRHR through survey evaluation
ABS-JC-S-05	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-BR-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation
ABS-RB-S-01	Historic-era refuse scatter	6Z found ineligible for CRHR through survey evaluation

8.1 Previously Recorded Resources

Resource P-19-101014 Evaluation

P-19-101014 is characterized as a sparce historic-era refuse scatter adjacent to a steep terrace escarpment and upslope of a dirt road. The identified SAE 20 motor oil can indicates that the primary period of deposition for the recorded component of P-19-101014 is likely dated to the mid-twentieth century (Lambton County Museums 2021). Artifacts associated with P-19-101014 were observed in a dispersed pattern within an eroding terrace escarpment, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with P-19-101014 were observed.

It is unlikely that P-19-101014 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, P-19-101014 is not associated with the lives of persons important in our past (Criterion 2). P-19-101014 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, P-19-101014 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of P-19-101014. As such, P-19-101014 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends P-19-101014 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

8.2 Newly Identified Resources

Resource ABS-PK-S-01 Evaluation

ABS-PK-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The identified food and beverage refuse indicate that the primary period of deposition for the recorded component of ABS-PK-S-01 is post-1940 (Brewery Collectables Club of America n.d.; Lockhart and Hoenig 2015). Artifacts associated with ABS-PK-S-01 were observed in a dispersed pattern within an eroding terrace escarpment and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-PK-S-01 were observed.

It is unlikely that ABS-PK-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-01. As such, ABS-PK-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

Resource ABS-PK-S-02 Evaluation

ABS-PK-S-02 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The insulator fragment together with the solder dot cans indicate that the primary period of deposition for the recorded component of ABS-PK-S-02 is the early/mid-twentieth century (BLM 2015; Merritt 2014). Artifacts associated with ABS-PK-S-02 were observed in a dispersed pattern within an eroding terrace escarpment, suggesting that the resource is in a secondary context. Modern debris identified throughout the general vicinity also indicate ABS-PK-S-02 has been subject to multiple, more recent, dumping episodes. No evidence of subsurface deposits associated with ABS-PK-S-02 were observed.

It is unlikely that ABS-PK-S-02 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-02 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-02 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-02 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-02. As such, ABS-PK-S-02 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-02 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

Resource ABS-PK-S-03 Evaluation

ABS-PK-S-03 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The vast quantity of solder dot cans dispersed throughout the site indicate that the primary period of deposition for the recorded component of ABS-PK-S-03 is the early/mid-twentieth century (BLM 2015; Merritt 2014). The RC Cola bottle further indicates a secondary period of deposition in the mid-/late twentieth century (Lockhart 2010). Artifacts associated with ABS-PK-S-03 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of modern anthropogenic displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-PK-S-03 were observed.

It is unlikely that ABS-PK-S-03 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-PK-S-03 is not associated with the lives of persons important in our past (Criterion 2). ABS-PK-S-03 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-PK-S-03 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-PK-S-03. As such, ABS-PK-S-03 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-PK-S-03 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-01

ABS-JC-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The solder top cans together with the cone top cans indicate that the primary period of deposition for the recorded component of ABS-JC-S-01 is the mid-twentieth century (BLM 2015; Maxwell 1993). Artifacts associated with ABS-JC-S-01 were observed in a dispersed pattern within an eroding terrace escarpment and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-01 were observed.

It is unlikely that ABS-JC-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-01. As such, ABS-JC-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-02

ABS-JC-S-02 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-02 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-02 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-02 were observed.

It is unlikely that ABS-JC-S-02 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-02 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-02 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-02 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-02. As such, ABS-JC-S-02 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-02 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-03

ABS-JC-S-03 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-03 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-03 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-03 were observed.

It is unlikely that ABS-JC-S-03 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-03 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-03 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-03 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-03. As such, ABS-JC-S-03 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-03 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-04

ABS-JC-S-04 is characterized as a large shallow depression containing historic-era refuse. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component

of ABS-JC-S-04 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Though no evidence of subsurface deposits associated with ABS-JC-S-04 were observed, the inspection of observable material on the ground surface was sufficient to gain a representative sample of associated use and chronological data for purposes of a significance determination.

It is unlikely that ABS-JC-S-04 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-04 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-04 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-04 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-04. As such, ABS-JC-S-04 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-04 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-JC-S-05

ABS-JC-S-05 is characterized as a historic-era refuse scatter containing mostly domestic consumables. The relatively large proportion of solder top cans identified indicate that the primary period of deposition for the recorded component of ABS-JC-S-05 is the late-nineteenth/early-twentieth centuries (BLM 2015; Merritt 2014). Artifacts associated with ABS-JC-S-05 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-JC-S-05 were observed.

It is unlikely that ABS-JC-S-05 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-JC-S-05 is not associated with the lives of persons important in our past (Criterion 2). ABS-JC-S-05 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-JC-S-05 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-JC-S-05. As such, ABS-JC-S-05 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-JC-S-05 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-BR-S-01

ABS-BR-S-01 is characterized as a historic-era refuse scatter containing mostly ceramics and glass. Though the majority of the deposit is non-diagnostic, the presence of a single sanitary seal food can indicates the period of deposition for the recorded component of ABS-BR-S-01 is likely post-1900 (Merritt 2014). Artifacts associated with ABS-BR-S-01 were observed in a dispersed pattern within an eroding terrace and exhibit evidence of erosional displacement, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-BR-S-01 were observed.

It is unlikely that ABS-BR-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-BR-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-BR-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-BR-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-BR-S-01. As such, ABS-BR-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-BR-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

ABS-RB-S-01

ABS-RB-S-01 is characterized as a historic-era refuse scatter containing mostly domestic consumables. Though the majority of the deposit is non-diagnostic, the presence of a single solder dot can indicates the period of deposition for the recorded component of ABS-RB-S-01 is likely the early/mid-twentieth century (BLM 2015; Merritt 2014). Artifacts associated with ABS-RB-S-01 were observed in a dispersed pattern within an eroding terrace, suggesting that the resource is in a secondary context. No evidence of subsurface deposits associated with ABS-RB-S-01 were observed.

It is unlikely that ABS-RB-S-01 is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage (Criterion 1). Additionally, ABS-RB-S-01 is not associated with the lives of persons important in our past (Criterion 2). ABS-RB-S-01 does not contain components of individual distinction, and historic-era refuse scatters of this type are ubiquitous throughout California. Therefore, it does not embody the distinctive characteristics of a type, period, method of construction, or represent the work of an important creative individual, or possesses high artistic values (Criterion 3). Additionally, ABS-RB-S-01 does not contain a significant archaeological deposit that can be excavated. Therefore, it is unlikely that additional significant information could be gathered from further investigation of ABS-RB-S-01. As such, ABS-RB-S-01 does not have the potential to provide information important to the history of the state or region (Criterion 4). In conclusion, Dudek recommends ABS-RB-S-01 as ineligible for listing on the CRHR and not a significant or unique archaeological resource under CEQA.

9 Summary and Management Considerations

Dudek's archaeological resources inventory and evaluation in support of the project suggests there is a moderate potential for the inadvertent discovery of subsurface archaeological resources during project implementation. Dudek conducted a records search of the project API and surrounding 1-mile radius at the SCCIC. The records search identified three previously recorded cultural resources that intersect with the API: P-19-002893 (abandoned Southern Pacific Railway segment), P-19-101014 (can isolate), and P-19-192581 (Antelope-Mesa 220 kV Transmission Line). P-19-002893 and P-19-101014 are addressed in this study, while P-19-192581 is addressed in the *Built Environment Inventory and Evaluation Report* prepared by Dudek for the project in 2025 (Ahmanson et al. 2025).

A NAHC SLF search was also conducted for the project in 2023 and 2025, and results were negative for Native American cultural resources within 1 mile of the project API. Additionally, a review of historic topographic maps and aerial photographs indicate the project API has remained largely undeveloped throughout the twentieth and twenty-first centuries.

Several Dudek archaeologists conducted intensive-level archaeological resources pedestrian surveys of the project API in 2023, 2024, and 2025. During these survey efforts, crews relocated one previously recorded archaeological resource (P-19-101014) and recorded an additional 10 newly identified archaeological resources within or directly adjacent to the project API. P-19-002893 was identified as being outside of the project API and thus was not subject to evaluation efforts as part of the current study.

P-19-101014, ABS-PK-S-01, ABS-PK-S-02, ABS-PK-S-03, ABS-JC-S-01, ABS-JC-S-02, ABS-JC-S-03, ABS-JC-S-04, ABS-JC-S-05, ABS-BR-S-01, and ABS-RB-S-01 were evaluated as part of the current study. Dudek recommends that all 11 archaeological resources are not eligible for listing on the CRHR and do not meet the criteria to be considered significant or unique archaeological resources under CEQA.

Based on the quantity of archaeological resources identified within a 1-mile radius of the project API, the geoarchaeological suitability of the API for supporting the presence of buried archaeological resources, and in consideration of the lack of past disturbances within the majority of the project API, there is a moderate potential for the inadvertent discovery of unanticipated archaeological resources during initial project-related ground disturbance.

9.1 Assessment of Effects and Recommendations

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect (adverse effect) on the environment and the cultural resource itself. A substantial adverse change in the significance of a historical resource (CRHR eligible resource) would be constituted by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

A total of 11 archaeological resources were identified within the API during Dudek's inventory efforts for the project. Through significance evaluations as part of the current study, Dudek determined that all 11 resources do not meet

the criteria to be considered historical resources or significant or unique archaeological resources under CEQA and are recommended ineligible for listing on the CRHR. Though the project will not have any direct or indirect impacts on known significant archaeological resources, there is potential for the project to impact previously unanticipated archaeological resources during initial project-related ground disturbance.

TCRs, while often also cultural resources, do represent a separate resource class under CEQA. Potential impacts (direct and indirect) to TCRs, as defined by CEQA, should be determined by the CEC based on Government-to-Government consultation or through other tribal engagement efforts. Dudek has not received any responses to date from contacted Tribes that supports the presence of specific, geographically defined TCRs that could be affected by project-related construction or operation. Based on present information, the proposed project will not present impacts to resources of Native American value or association, including potential TCRs.

Compliance with Mitigation Measures **MM-CUL-1**, **MM-CUL-2, and MM-CUL-3** outlined below, would reduce potential impacts to previously unanticipated cultural resources and human remains during project implementation. To the extent feasible, these measures are also inclusive of TCR considerations.

MM-CUL-1 Worker's Environmental Awareness Program. Prior to the initiation of ground-disturbing work, construction crews shall be made aware of the potential to encounter cultural resources and the requirement for cultural monitors to be present during these activities. This may occur as part of a Worker Environmental Awareness Program (WEAP). Topics addressed should include definitions and characteristics of cultural resources and Tribal Cultural Resources (TCRs), regulatory requirements and penalties for intentionally disturbing cultural resources, and protocols to be taken in the event of an inadvertent discovery.

MM-CUL-2 Cultural Resources Management and Inadvertent Discovery Program. It is recommended that a Cultural Resources Management and Inadvertent Discovery Plan (CRMIDP) be prepared and subject to lead agency review prior to initiation of construction. This should detail, at a minimum, requirements for archaeological and Native American monitoring (as applicable); roles and responsibilities; inadvertent discovery, management, and communication protocols; and daily and post-construction reporting. The CRMIDP should be prepared by a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, and implemented upon approval by the CEC. Archaeological monitors shall be present part-time (and as defined by the CRIDMP) during initial ground-disturbing activities to monitor rough and finish grading, excavation, and other ground-disturbing activities in the native soils. Archaeological monitoring may be adjusted (increase, decreased, or discontinued) at the recommendation of the qualified archaeologist and based on inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. Although recommended, the requirement to include a Native American monitor should be determined by the CEC through consultation and review of the present report findings. If it is determined that Native American monitoring is required during ground-disturbing activities, an archaeological monitor shall also be present to support and coordinate with Native American efforts.

If cultural materials are discovered during initial disturbances associated with site preparation, grading, or excavation, the construction contractor shall divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and

significance of the find. The area of avoidance shall be assumed to be a minimum of 50 feet around the find, however, may be adjusted to support construction needs by the qualified archaeologist in coordination with the construction team so long as protection of the discovery can be ensured. If determined necessary by the qualified archaeologist for the protection of this area, it shall be delineated by a temporary physical exclusionary boundary using staking and survey tape or other similar materials. The CRMIDP shall address protocols for TCRs, integrating management strategies informed through the process of Government-to-Government consultation. In the event that a potential inadvertent cultural resources discovery may meet the definition of a TCR, the lead agency or identified representative should management strategies stipulated by approved mitigation and outlined in the CRMIDP. Non-cultural project personnel shall not handle, collect or move any archaeological materials or human remains and associated materials. To the extent feasible, project activities shall avoid these deposits. Where avoidance is not feasible, the archaeological deposits shall be evaluated for their eligibility for listing on the California Register of Historical Resources (CRHR). If the deposits are not eligible, regulations provide that avoidance is not necessary. If the deposits are eligible, adverse effects to the identified resource must be avoided, or such effects must be mitigated. Mitigation strategies are dependent on the nature of the resource, and can include, but are not necessarily limited to: preservation in place, excavation of the deposit in accordance with a data recovery plan (see California Code of Regulations [CCR] Title 4(3) Section 5126.4(b)(3)(C)) and standard archaeological field methods and procedures; laboratory and technical analyses of recovered archaeological materials; production of a report detailing the methods, findings, and significance of the archaeological site and associated materials; curation of archaeological materials at an appropriate facility for future research and/or display; an interpretive display of recovered archaeological materials at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials. The CEC, or designee, shall be responsible for reviewing management plans and any reports produced by the archaeologist to determine the appropriateness and adequacy of the findings and recommendations.

Daily monitoring logs should be completed by onsite archaeological monitors (and Native American monitors, if present). Within 90 days following completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency for review. The intent of this report should be to document compliance with approved mitigation. This report should include the results of the cultural resources monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices should include monitoring logs and documentation relating to any newly identified or updated cultural resources.

MM-CUL-3 Treatment of Human Remains. In accordance with Section 7050.5 of the California Health and Safety Code and the requirements of the California Code of Regulations (CCR) Section 15064.5(e), if human remains are encountered during site disturbance, grading, or other construction activities on the project site, the construction contractor shall halt work within 50 feet of the discovery; all work within 50 feet of the discovery shall be redirected and the Los Angeles County Medical Examiner (County Coroner) notified immediately. This exclusionary buffer may be adjusted based on project needs, while also ensuring the protection of this area and regulatory compliance, at the

recommendation of a qualified archaeologist. If determined necessary by the qualified archaeologist for the protection of this area, it shall be delineated by a temporary physical exclusionary boundary using staking and survey tape or other similar materials. No further disturbance shall occur in areas likely to contain human remains until the County Coroner has made a determination with regard to if the find is human in origin pursuant to Public Resources Code Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which will determine and notify the Most Likely Descendant (MLD). With the permission of the CEC and land owner, the MLD may inspect the site of the discovery. The MLD shall make recommendations or preferences for treatment within 48 hours of being granted access to the site. Public Resources Code Section 5097.98 includes reasonable options for treatment that may be requested by the MLD. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the CEC, in coordination with the landowner, shall consult with the MLD identified by the NAHC to develop an agreement for the treatment and disposition of the remains.

Upon completion of the assessment, the consulting archaeologist shall prepare a report documenting the methods and results and provide recommendations regarding the treatment of the human remains and any associated cultural materials, as appropriate, and in coordination with the recommendations of the MLD. The report shall be submitted to the CEC, or designee, and the South Central Coastal Information Center. The CEC, or designee, shall be responsible for reviewing any reports produced by the archaeologist to determine the appropriateness and adequacy of the findings and recommendations. See Table 8 for a list of the Project's agency contacts for Cultural Resources.

Table 8. Agency Contacts for Cultural Resources

Issue	Agency	Contact
Native American Tribal Cultural Resources, Traditional Cultural Properties, Most Likely Descendent Designation	Native American Heritage Commission	1550 Harbord Blvd, Suite 100 West Sacramento, California 95691 916.373.3710
Local Regulatory Requirements	Los Angeles County Planning	335A East Avenue K-6 Lancaster, California 93535 213.974.6411
Human Remains	Los Angeles County Medical Examiner	1104 N Mission Road Los Angeles, California 90033 323.343.0711

10 References

Ahmanson, K., C. Cancilla, and P. Ambacher. 2025. Built Environment Inventory and Evaluation Report, Prairie Song Reliability Project, Los Angeles County, California. On File at Dudek.

Amsden, C.A. 1937. "The Lake Mohave Artifacts." In The Archaeology of Pleistocene Lake Mohave, by E.W. Campbell, 51–95. Southwest Museum Papers No. 11. Los Angeles.

Antelope Valley Indian Museum. 2019. Kawaiisu. Accessed July 2019. http://www.avim.parks.ca.gov/people/ph_kawaiisu.shtml

Antevs, E. 1953. "The Postpluvial or Neothermal." University of California Archaeological Survey Reports 22:9-23. Berkeley.

Basgall, M.E. 1993. "Early Holocene Prehistory of the North-Central Mojave Desert." PhD dissertation, Department of Anthropology, University of California, Davis.

Basgall, M.E. 2000. "The Structure of Archeological Landscapes in the North-Central Mojave Desert." In Archeological Passages, edited by J.S. Schneider, R.M. Yohe II, and J.K. Gardner, 123–138. Western Center for Archeology and Paleontology Publications in Archeology No. 1.

Basgall, M.E., and M.A. Giambastiani. 2000. An Archaeological Evaluation of 13 Locations in the Deadman Lake Basin, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report submitted to U.S. Army Corps of Engineers, Sacramento.

Basgall, M.E., and M.C. Hall. 1991. "Relationships between Fluted and Stemmed Points in the Mojave Desert." Current Research in the Pleistocene 8:61–64.

Basgall, M.E., and M.C. Hall. 1992. For Irwin Archaeology: Emerging Perspectives on Mojave Desert Prehistory. Society for California Archaeology Newsletter 26(5): 1-7.

Basgall, M.E., and D.M. Jurich. 2006. Archeological Investigations at Nine Prehistoric Sites in the Emerson Lake Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report on file at Natural Resources and Environmental Affairs, Marine Corps Air Ground Combat Center, Twentynine Palms, California.

Basgall, M.E., and S.A. Overly. 2004. Prehistoric Archaeology of the Rosamond Lake Basin, Phase II Cultural Resource Evaluations at 41 Sites in Management Region 2, Edwards Air Force Base, California. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base, California.

Bean, L.J., and C.R. Smith. 1978. Serrano. In California, edited by R. F. Heizer, pp. 570-574. Handbook of North American Indians, Vol. 8, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Bean, L.J., and S.B. Vane. 2003. *The Native American Ethnography and Ethnohistory of Joshua Tree National Park: An Overview. Cultural Systems Re*search, Inc. Prepared for U.S. Forest Service.

Bedwell, S.F. 1973. Fort Rock Basin: Prehistory and Environment. University of Oregon Press, Eugene.

Blackburn, T.C., and L.J. Bean. 1978. "Kitanemuk." In Handbook of North American Indians, Volume 8: California, edited by R.F. Heizer, 564–569. Washington, DC: Smithsonian Institution.

BLM (Bureau of Land Management). 2015. Historic Identification Guide. Accessed April 2025. https://www.ntc.blm.gov/krc/system/files?file=legacy/uploads/22015/HistoricArtifactIDGuide.pdf

Blumel, W., R. Cunningham, E. Chandler, and E. Denniston. 2013. Cultural Resources Inventory for the Oro Verde Solar Project, Near the City of Mojave, and Within Management Region 1, Edwards Air Force Base, Kern County, California. Prepared by ECORP Consulting, Inc., Redlands, California. Prepared for Sun Edison, San Francisco, California.

Brewery Collectibles Club of America. N.d. Berr Can History. Accessed April 2025. https://bcca.com/page/beer-can-history

Byrd, B.F., D.M. Pallette, and C. Serr. 1994. Prehistoric Settlement along Rogers Dry Lake, Western Mojave Desert, California. Brian F. Mooney Associates Anthropological Technical Series No. 2. San Diego.

California Department of Parks and Recreation. 2019. The Kawaiisu Culture. Accessed July 2019. https://www.parks.ca.gov/?page_id=24579

California Language Archives. 2019. Kawaiisu. Accessed 2019. http://cla.berkeley.edu/languages/kawaiisu.php

Campbell, E.W.C., and W.H. Campbell. 1935. The Pinto Basin Site: An Ancient Aboriginal Camping Ground in the California Desert. Southwest Museum Papers No. 9. Los Angeles.

Clewlow, C.W., Jr. 1968. "Surface Archeology of the Black Rock Desert, Nevada." University of California Archeological Survey Reports 73(1): 1–94.

County of Los Angeles. 2015a. Los Angeles County General Plan. Accessed April 2025. https://planning.lacounty.gov/long-range-planning/general-plan/

County of Los Angeles. 2015b. Los Angeles County Code of Ordinances. Accessed April 2025. https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances

Davis, E.L. (editor). 1978. The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country. Los Angeles County Museum of Natural History Science Series 29.

Davis, E.L., and C. Panlaqui. 1978. "Stone Tools, the Action Units." In The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country, edited by E.L. Davis, 30–73. Natural History Museum of Los Angeles County Science Series No. 29.

Drucker, P. 1937. *Culture Element Distributions: V, Southern California*. University of California Anthropological Records 1(1). University of California Press, Berkeley.

Dumke, G.S. 1944. The Boom of the Eighties in Southern California. San Marino, California: The Huntington Library.

Earle, D.D. 1998. Muroc Community Inventory, Edwards AFB, Kern County, California. Submitted to the Air Force Flight Test Center, Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Earle, D.D. 2003. *Ethnohistorical and Ethnographic Overview and Cultural Affiliation Study of the Fort Irwin Region and the Central Mojave Desert*. Prepared for TRC Solutions, Inc. Salt Lake City, Utah.

Earle, D.D. 2004. "Desert Frontier Settlement and Land Use in the Antelope Valley Region, 1850–1950." In The Human Journey and Ancient Life in California's Deserts. Proceedings from the 2001 Millennium Conference, edited by M.W. Allen and J. Reed. Maturango Museum Publication No. 15.

Earle, D.D. 2005. The Mojave River and the Central Mojave Desert: Native Settlement, Travel, and Exchange in the Eighteenth and Nineteenth Centuries. *Journal of California and Great Basin Anthropology* 25(1), 1-38.

Earle, D.D. 2010. Fray Joaquín Pascaul Nuez's Account of the Mojave River Expedition of 1819. *Journal of California and Great Basin Anthropology* 30(2):184-192.

Earle, D.D., B.L. Boyer, R.A. Bryson, R.U. Bryson, M.M. Campbell, J.J. Johannesmeyer, K.A. Lark, C.J. Parker, M.D. Pittman, L.M. Ramirez, M.R. Ronning, and J. Underwood. 1997. "Overview of Prehistoric Cultural Resources." In Cultural Resources Management Plan for Edwards AFB, California, Vol. 1. On file at Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Earle, D.D., K. Lark, C. Parker, M. Ronning, and J. Underwood. 1998. Cultural Resources Overview and Management Plan for Edwards AFB, California. Volume 2: Overview of Historic Cultural Resources. Computer Sciences Corporation. Submitted to the Air Force Flight Test Center, Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Fages, P. 1775. A Historical, Political, and Natural Description of California. Translated by Herbert Ingram Priestly, 1937. University of California Press, Berkeley.

Fowler, C.S., and D.D. Fowler. 1971. Notes on the History of the Southern Paiutes and Western Shoshonis. *Utah Historical Quarterly* 39(2):95-113. Salt Lake City, Utah.

Gardner, J. 2007. The Potential Impact of the Medieval Climatic Anomaly on Human Populations in the Mojave Desert. Coyote Press Archives of Great Basin Prehistory, Number 7. Mojave, California.

Garfinkel, A.P. and H. Williams. 2011. Handbook of the Kawaiisu. *Bakersfield: Wa-hi sina'avi Publications*.

Giambastiani, M.A., and M.E. Basgall. 2000. Phase II Cultural Resource Evaluation for Sites CA-KER-4773/H and CA-KER-2016 in the Bissell Basin, Edwards Air Force Base, California. Prepared for Department of the Army Corps of Engineers, Sacramento.

Giambastiani, M., M. Hale, M. Richards, and S. Shelley. 2008. Draft Report Phase II Cultural Resource Evaluations at 47 Archaeological Sites on the East and Northeast Shores of Rogers Lake, Management Region 3, Edwards Air Force Base, Kern and Los Angeles Counties, California.

Glennan, W.S. 1970. Preliminary Investigations into the Subsistence and Settlement Patterns in the Antelope Valley between 3,500 and 5,000 B.P. Manuscript on file, Department of Anthropology, Antelope Valley College, Lancaster, California.

Glennan, W.S. 1971. A Glimpse at the Prehistory of Antelope Valley: Archaeological Investigations at the Sweetser Site (KER-302). Manuscript on file, Kern-Antelope Historical Society, Rosamond, California.

Grayson, D.K. 1993. The Desert's Past: A Natural Prehistory of the Great Basin. Washington, DC: Smithsonian Institution Press.

Greenburg, M., T.D. Schneider, and J. Holson. 2011. Supplemental Archaeological Survey Report, Tehachapi Renewable Transmission Project Segment 6, Los Angeles County, California. Prepared for Southern California Edison by Pacific Legacy, Inc. Report on file at the South Central Coastal Information Center at California State University, Fullerton.

Greenberg, M., and L. Schrader. 2011. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-101014. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Hale, M., M. Giambastiani, J. Daniels, and M. Dalope. 2010. Final Report Phase II Cultural Resource Evaluations at 85 Archaeological Sites in Management Areas 2B, 2C, 3F, 3H, 3I, AND 4B, Edwards Air Force Base, Kern and Los Angeles Counties, California. Prepared for Richard Bark, JT3 LLC, Subcontract Number 1A10000101.

Hall, M.C. 2000. Archeological Survey of 2472 Acres in Adjacent Portions of Lava, Lead Mountain, and Cleghorn Pass Training Areas, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Heizer, R.F. 1966. Languages, *Territories, and Names of California Indian Tribes.* University of California Press, Berkeley.

Horne, M.C., and D.P. McDougall. 2005. A Phase II Evaluation of 25 Prehistoric Archaeological Sites Located in Management Area 3, Edwards Air Force Base, California. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base.

Hunt, C.B. 1960. Archaeology of the Death Valley Salt Pan. University of Utah Anthropological Papers 47. Salt Lake City.

Johnson, J.R., and D.D. Earle. 1990. Tataviam Geography and Ethnohistory. *Journal of California and Great Basin Anthropology* 12(2):191-214.

Kelly, I.T., and C. S. Fowler. 1986. Southern Paiute. In *Great Basin*, edited by W. L. d'Azevedo, pp. 368-397. Handbook of North American Indians, Vol. 11, W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

King, C., and T.C. Blackburn. 1978. Tataviam. In *California*, edited by Robert F. Heizer, pp. 535-537. *Handbook of North American Indians*, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Kroeber, A.L. 1925. "Handbook of the Indians of California." Bureau of American Ethnology Bulletin 78. Washington.

Lambton County Museums. 2021. History of the Oil Can. Accessed April 2025. https://www.lambtonmuseums.ca/en/lambton-county-archives/history-of-the-oil-can.aspx

Lechner, T., and M. Hale. 2009. *Cultural Resources Inventory of Approximately 6,200 Acres in the Johnson Valley Acquisition Area, San Bernardino County, California*. Report submitted to Jim Shearer of the Bureau of Land Management, Barstow Field Office, and Dr. Marie Cottrell, NREA, Marine Corps Air Ground Combat Training Center, Twentynine Palms, California.

Lockhart, B. 2010. Bottles on the Border: The History and Bottles of the Soft Drink Industry in El Paso, Texas, 1881-2000. Society of Historical Archaeology Online Article. Accessed April 2025. https://sha.org/bottle/pdffiles/EPChap10a.pdf

Lockhart, B., and R. Hoenig 2015. The Bewildering array of Owens' Illinonis Glass Co. Logos and Codes. Society of Historical Archaeology Online Article. Accessed April 2025. https://sha.org/bottle/pdffiles/OwensIll_BLockhart.pdf

Loechl, S.K., T. Britt, W. Meyer, R.R. Sands, A. Smith, J.L. Webster, and L.A. Whalley. 2002. *(Draft) Integrated Cultural Resources Management Plan for Edwards Air Force Base, California*. Prepared by JT3/CH2M Hill for Department of the Air Force, Base Historic Preservation Office, Edwards Air Force Base, California.

Maxwell, D. 1993. Beer Cans: A guide for the Archaeologist. Historical Archaeology 27(1): 95-113.

Mehringer, P.J., Jr. 1986. "Prehistoric Environments." In Handbook of North American Indians, Vol. 11: Great Basin, edited by W.L. d'Azevedo, 31–50. Washington, DC: Smithsonian Institution.

Merritt, C. W. 2014. Historic Artifact Guide. Utah State Division of State History. Accessed April 2025. https://ushpo.utah.gov/wp-content/uploads/2018/08/ARCH_HistoricArtifactsGuide.pdf

Mithun, Marianne. 1999. *The Languages of Native North America.* Cambridge University Press, Cambridge, United Kingdom.

Moratto, M.J. 1984. California Archaeology. Orlando: Academic Press.

Norwood, R.H. 1987. "Prehistoric Archaeology at Edwards Air Force Base, California." In Prehistory of the Antelope Valley: An Overview, edited by R.W. Robinson, 91–106.

OHP (Office of Historic Preservation). 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

Pendleton, L.S.A. 1979. "Lithic Technology in Early Nevada Assemblages." Master's thesis, California State University, Long Beach.

Pritchard-Parker, M., H. Wells, H.R. Puckett, and D.R. Cooper. 1999. Phase II Cultural Resource Evaluation of Five Archaeological Sites in the Rogers Lake North Management Area, Edwards AFB, Kern County, California.

Prepared by Earth Tech for the Environmental Management Directorate, Base Historic Preservation Office, Edwards Air Force Base, California.

Purcell, D.E. 2000. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-002893. Updated in 2014 by K. Tennessen. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Rhode, D., and N. Lancaster. 1996. Past Environments of Edwards Air Force Base, California: Geological and Paleoecological Evidence. Report on file, Environmental Management Office, Conservation Branch, Edwards Air Force Base, California.

Robinson, W.W. 1979. Land in California. University of California Press, Berkeley.

Sander, J.K., and C.D. Cotterman. 2003. California Department of Parks and Recreation 523 (Series 1/95) Form for P-19-187713. DPR on file at the South Central Coastal Information Center at California State University, Fullerton.

Smith, S., and M. Huang. 2024. Phase I Environmental Site Assessment: Prairie Song Reliability Project, Acton, Los Angeles County, California. On File at Dudek.

Spinney, H.E., L. Fryman, S. Ashkar, S. Schneyder-Case, C. Walker, H.R. Puckett, and F.E. Budinger Jr. 2004. Cultural Resource Evaluation of Historic Period Homesites on Edwards Air Force Base, Kern and Los Angeles Counties, California. 3 vols. Tetra Tech, Inc. Submitted to U.S. Army Corps of Engineers, Sacramento District.

Stickel, E.G., L.J. Weinman-Roberts, R. Berger, and P. Hopa. 1980. An Overview of the Cultural Resources of the Western Mojave Desert. Cultural Resources Publications, Anthropology-History. Desert Planning Program, Bureau of Land Management, Riverside, California

Strong, W.D. 1929. *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology No. 26.

Sutton, M.Q. 1980. “Some Aspects of Kitanemuk Prehistory.” Journal of California and Great Basin Anthropology 2(2): 214–225.

Sutton, M.Q. 1988. “An Introduction to the Archaeology of the Western Mojave Desert, California.” Coyote Press Archives of California Prehistory 14.

Sutton, M.Q. 1996. “The Current Status of Archaeological Research in the Mojave Desert.” Journal of California and Great Basin Anthropology 18(2): 221–257.

Tadlock, W.L. 1966. “Certain Crescentic Stone Objects as Time Markers in the Western United States.” American Antiquity 31:662–675.

Tuohy, D.R. 1974. “A Comparative Study of Late Paleo-Indian Manifestations in the Western Great Basin.” In A Collection of Papers on Great Basin Archaeology, edited by R. Elston and L. Sabini, 90–116. Nevada Archaeological Survey Research Paper 5.

Underwood, J. 2006. Discovering the Desert Kawaiisu. In *A Festschrift Honoring the Cntributions of California Archaeologist Jay von Werlhof,* edited by Russell L. Kaldenberg, pp. 179-192. Maturango Museum Publication Number 20. Maturango Press, Ridgecrest, California.

USDA (U.S. Department of Agriculture). 2025. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey. Accessed April 2025. https://websoilsurvey.sc.egov.usda.gov/

Wardle, H.N. 1913. "Stone Implements of Surgery from San Miguel Island, California." American Anthropologist 15(4): 656–660.

Warren, C.N. 1984. "The Desert Region." In California Archaeology, by M.J. Moratto, 339–430. Orlando: Academic Press.

Warren, C.N., and R.H. Crabtree. 1986. "Prehistory of the Southwestern Area." In Handbook of the North American Indians, Vol. 11: Great Basin, edited by W.L. d'Azevedo, 183–193. Washington, DC: Smithsonian Institution.

Waters, M.R. 1988. "Geomorphology of Drinkwater Basin." In The Late Holocene Archaeology of Drinkwater Basin, Fort Irwin, San Bernardino County, California, by M.E. Basgall, M.C. Hall, and W.R. Hildebrandt, 24–33. Report submitted to U.S. Army Corps of Engineers, Los Angeles.

Waters, M.R. 1991. "The Geomorphology of Nelson Basin and Adjacent Areas." In The Archaeology of Nelson Basin and Adjacent Areas, Fort Irwin, San Bernardino County, California, by M.E. Basgall, 15–20. Submitted to U.S. Army Corps of Engineers, Los Angeles.

WRCC (Weather Regional Climate Center). 2025. Regional Climate for Acton, California. Access April 2025. https://wrcc.dri.edu

Willig, J.A. 1988. "Paleo-Archaic Adaptations and Lakeside Settlement Patterns in the Northern Alkali Basin, Oregon." In Early Human Occupation in Far Western North America: The Clovis-Archaic Interface, edited by J.A. Willig, C.M. Aikens, and J.L. Fagan, 417–482. Nevada State Museum Anthropological Papers 21.

Willig, J.A. 1990. "Western Clovis Occupation at the Dietz Site, North Alkali Lake Basin, Oregon." Current Research in the Pleistocene 7:52–56.

Willig, J.A., and M. Aikens. 1988. "The Clovis-Archaic Interface in Far Western North America." In Early Human Occupation in Far Western North America: The Clovis-Archaic Interface, edited by J.A. Willig, C.M. Aikens, and J.L. Fagan, 1–40. Nevada State Museum Anthropological Papers 21.

Yohe, R. 1992. "A Reevaluation of Western Great Basin Cultural Chronology and Evidence for the Timing of the Introduction of the Bow and Arrow to Eastern California Based on New Excavations at the Rose Spring Site (CA-INY-372)." PhD dissertation, University of California, Riverside.

Yohe, R. 1998. "The Introduction of the Bow and Arrow and Lithic Resource Use at Rose Spring (CA-INY-372)." Journal of California and Great Basin Anthropology 20(1): 26–52.

Zigmond, M.L. 1986. Kawaiisu. In Handbook of North American Indians, Vol. 11, Great Basin, edited by Warren L. d'Azevedo, pp. 398-411. Washington: Smithsonian Institution.

Appendix A

Key Personnel Resumes

Roshanne S. Bakhtiary, MA

ARCHAEOLOGIST

Roshanne Bakhtiary (*she/her*) is an archaeologist with 13 years' professional experience in cultural resources management, archaeological research, and regulatory compliance in California and the Great Basin. She also has extensive knowledge in hunter-gatherer archaeology, Mission period archaeology, and California prehistory and ethnography. Previously, Roshanne has held positions as an archaeologist, osteologist, cultural training lead, project manager, and principal investigator for various projects throughout California. In these roles, she has co-authored technical reports, led fieldwork operations, produced geographic information system (GIS) based analyses, facilitated Native American coordination and outreach, conducted records searches, managed National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliance projects, and evaluated archaeological resources for the National Register of Historic Places under the National Historic Preservation Act Section 106 (Section 106) and the California Register of Historical Resources (CRHR) under CEQA. She also excels in communicating and consulting with various private sector clients and public agencies, negotiating budgets for projects, implementing technology-based fieldwork solutions, managing laboratory operations, conducting artifact analysis, and preparing archaeological collections for curation.



Education

University of California, Davis, PhD, Evolutionary Anthropology, In Progress

MA, Evolutionary Anthropology, 2016

California Polytechnic State University, San Luis Obispo, BS, Anthropology and Geography, 2013

Relevant Previous Experience

State Water Project, California Department of Water Resources, Los Angeles County, California. Ms. Bakhtiary served as the cultural lead on the South Central Coastal Information Center (SCCIC) and Eastern Information Center (EIC) records search collation and digitization efforts in support of the California Department of Water Resources (DWR) State Water Project (SWP). She led a team of archaeologists and GIS analysts through a series of data entry and digitization tasks that aided in the development of a state-wide buried site sensitivity model to assist DWR in their cultural resources management strategies in support of the SWP. (06/24–Present)

Adelanto-Rinaldi Line 1 Upgrade Project, Los Angeles Department of Water and Power, Los Angeles County, California. As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, Native American Heritage Commission (NAHC) outreach efforts, archaeological survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for the Adelanto-Rinaldi Line 1 Upgrade Project. She also assisted in the preparation of the Cultural and Tribal Cultural Resources (TCR) CEQA document sections for the project. Considerations included compliance under CEQA. (01/24–06/24)

Belcaro Sand Canyon Project, Santa Clarita, California. As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for the Belcaro Sand Canyon Project. As part of this effort, she evaluated three historic-era archaeological resources for inclusion in the NRHP and CRHR. Considerations included compliance under CEQA. (03/24–Present)

Santa Clarita Commerce Center Project, Santa Clarita, California. Ms. Bakhtiary served as the cultural compliance lead for a private developer on an infrastructure project in Santa Clarita, California. She prepared a cultural resources monitoring plan and worker environmental awareness program, coordinated archaeological and paleontological monitoring efforts, and worked with construction crews and the client on scheduling and compliance needs. She also assisted in the preparation of a final monitoring report. Considerations included compliance under CEQA and the City of Santa Clarita. (03/24–10/24)

Cal Poly Pomona Master Plan Update Project, Cal Poly Pomona, Pomona, California. As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for the Cal Poly Pomona Master Plan Update Project. She also assisted in Native American consultation efforts pursuant to Assembly Bill (AB) 52. Considerations included compliance under CEQA. (02/24–Present)

The Huntington Library Scholar's Grove Housing Project, The Huntington Library, San Marino, California. As principal investigator, Ms. Bakhtiary coordinated the records search, cultural resources survey, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological and built environment resources for the Scholar's Grove Housing Project. As part of this effort, she evaluated five historic-era built environment resources for inclusion in the NRHP and CRHR. Considerations included compliance under CEQA and the City of San Marino's rules and regulations outlined for the Huntington Library. (01/24–10/24)

North Coast Inceptor Reach 5 Replacement Project, City of Laguna Beach, Laguna Beach, California. As principal archaeological investigator, Ms. Bakhtiary coordinated the records search, NAHC outreach efforts, archaeological survey, extended phase I testing effort, the preparation of a technical report, and provided management and compliance recommendations relating to archaeological resources for the North Coast Inceptor reach 5 Replacement Project. She also assisted in Native American consultation efforts pursuant to AB 52 and in the preparation of the Cultural and TCR CEQA document sections. Considerations included compliance under CEQA. (02/24–Present)

U.S. Department of Housing and Urban Development Projects, Couty of Orange, Orange County, California. Ms. Bakhtiary served as a principal archaeological investigator for more than 5 County of Orange U.S. Department of Housing and Urban Development projects throughout Orange County. She coordinated the records searches, the preparation of technical reports, managed California State Historic Preservation Officer concurrence and communication efforts, and provided management and compliance recommendations relating to archaeological resources. Considerations included compliance under CEQA and Section 106 of the NHPA. (05/23–Present)

Drought Resiliency NEPA-Compliant Assessments for Cultural Resources, Western Municipal Water District, Riverside and San Bernardino Counties, California. As principal archaeological investigator, Ms. Bakhtiary coordinated records searches, NAHC outreach efforts, archaeological surveys, the preparation of technical reports, and provided management and compliance recommendations relating to archaeological resources for three residential water infrastructure projects. (08/23–04/24)

On-Call Program, Southern California Edison, Los Angeles, California. Ms. Bakhtiary served as a cultural lead for Southern California Edison's Non-Master Special Use Permit Public Lands infrastructure replacement projects throughout Southern California including on lands administered by the Bureau of Land Management, California Department of Parks and Recreation, Bureau of Indian Affairs, Bureau of Reclamation, DWR, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and National Parks Service. She was responsible for completing archaeological desktop reviews, coordinating with public agencies, applying for permits, conducting site surveys, documenting newly recorded cultural resources, and authoring CEQA and Section 106-compliant technical reports. (03/22–03/23)

Jessica Colston

ASSOCIATE ARCHAEOLOGIST, PALEONTOLOGICAL TECHNICIAN

Jessica Colston is an archaeological and paleontological field monitor and technician with 17 years' experience. Ms. Colston has extensive field experience including identification and comparative analysis of faunal assemblages, both past and present. Ms. Colston's research interests include zooarchaeology of Pacific coast hunter-gatherers, including examination of trauma and pathology and bone tool production. Ms. Colston's faunal identification focus is continuously informed by research in paleontology of the southwest.



Education

University of California, Santa Cruz
BA, Anthropology (Archaeology emphasis), 2009

Certifications

CPR/First Aid

Archeological Technician Certificate, 2007

Certificate of Completion Paleontology, 2024

Driver's License, Class M1

Professional Affiliations

Lambda Alpha National Honors Society

Society for American Archaeology

Society for California Archaeology

Anza-Borrego Paleontological Society

Project Experience

Preserve at River Bend, City of Pala, California. Responsible for leading a crew on a Phase I survey in an archaeologically sensitive area adjacent to tribal reservation land and sacred landscape. Results of the survey were positive and the reporting included previous work for evaluation and tribal coordination.

Lone Oak Monitoring, CWC Lone Oak 24 LLC, San Diego, California. Coordinated daily archaeological and Native American monitoring for a residential development in an archaeologically sensitive area adjacent to jurisdictional waterways. Authored the Negative Monitoring report at the conclusion of the mass grading component of the project.

Hotel del Coronado North Parking Garage, HDC South Beach Development LLC, Coronado, California. Responsible for monitoring into paleontological sensitive soils, and responsible for the recovery of any fossiliferous materials.

Costco Project, La Mesa, California. Drafted the Negative Survey Letter for the development of an adjacent commercial lot for Costco Gas station installation.

Archaeological Significance Evaluation, Confidential Client, San Diego, California. Served as archaeological technician and report writer for evaluation excavations on previously recorded sites within the project's area of potential effect. Responsibilities included identification and documentation of archaeological features, artifacts and cultural soils. Report writing included the interpretation of the excavation results, both in terms of the artefactual assemblage and the sediments observed throughout the project area.

16970 Sunset Boulevard Cultural, Crest Real Estate, Los Angeles, California. Identified and documented archaeological and historical features on historic property.

235 North La Luna, Thomas and Kelly Adams, Ojai, California. Serving as archaeological technician. Responsible for excavation, documentation and collection of archaeological materials during phase II shovel testing.

Newland Sierra Project, Newland Sierra LLC, San Diego, California. Catalogued and performed data entry for collection previously housed with Palomar College.

Del Mar Beach Resort, Del Mar Beach Resort Investors LLC, San Diego County, California. Excavated, identified, and recorded archaeological materials recovered during phase II testing on site. Vertebrate and invertebrate analysis was performed in lab.

Highland Mesa Development II, Highland Mesa Development II Corp., Escondido, California. Served as archaeological technician. Monitored cultural resources during construction development for residential use.

The Yokohl Ranch Company Environmental Impact Report, Tulare County, California. Catalogued and sorted records of artifacts and features collected by project for analysis.

Villa Storia Affordable Housing Project, Villa Storia CIC LP, City of Oceanside, California. Served as archaeological technician. Identified and recorded cultural resources in the project area, which included on-site coordination with Native American monitors and subconsultants.

Twin Oaks Valley Road Residential Project, Pacific Real Estate Services, City of San Marcos, California. Wrote Negative Monitoring Report.

Villa Storia Monitoring, Beazer Homes Holding Corporation, City of Oceanside, California. Served as archaeological technician. Monitored ground disturbance in native soils adjacent to the Mission San Luis Rey during construction activities. This involved identification of ceramics, faunal bone, and historic ranching artifacts and impacts. Coordination with multiple subconsultants and Native American Monitors was also required.

Discovery Village South, City of San Marcos, California. Served as archaeological technician. Responsible for identification of historic and prehistoric cultural resources during survey of undeveloped project area.

973 K Street, SimonCRE Alpha III LLC, City of San Miguel, California. Served as archaeological technician. Responsible for pre-construction survey of lot purposed for commercial development. Responsible for coordination with the Native American monitors and evaluation of surface deposits of cultural materials. Proximity to the San Miguel Mission indicated likely subsurface deposits. Responsible for the preparation of Negative Findings Letter.

Bay Crossing Water Transmission Mains, City of Newport Beach, California. Co-authored phase I report for the remediation of transmission lines in Newport Bay. Reporting included language for mitigation measure recommendations tailored to the coastal environment of the project.

Bellefield Solar Energy, Bellefield Energy LLC, City of Mojave, California. Served as archaeological technician for phase II testing for evaluation excavations on newly and previously recorded sites within the project's area of potential effect. Responsibilities included identification and documentation of archaeological features, artifacts and cultural soils.

Botanical Surveys, Confidential Client, San Diego County, California. Responsible for co-authorship of the work plan and impact assessment plan for a confidential solar project. Preparation of these documents included the supplemental creation of an archaeological district, under SHPO guidelines. Faunal osteological identification/assessments contributed the work plan by proactively 'clearing' archaeological sites where any osteological material was previously recorded that was not clearly identified as non-human.

Adam Giacinto

ARCHAEOLOGIST

Adam Giacinto is an archaeologist with more than 19 years' experience preparing cultural resource studies and environmental documents, and managing archaeological survey, evaluation, and data recovery-level investigations. His research interests include prehistoric hunter-gatherer cultures and contemporary conceptions of heritage as represented within the regulations. He has gained practical experience in archaeological and ethnographic field methods while conducting research in the Southwest US, Mexico, and Eastern Europe. He brings experience implementing and managing all scales of projects and is experienced in compliance requirements for local, state, and federal regulatory contexts. He specializes in sensitivity modeling and cultural resources compliance projects, managing monitoring for large-scale transportation and energy projects.



Education

San Diego State University
MA, Anthropology, 2011

Santa Rosa Junior College
AA, Anthropology, 2004

Sonoma State University
BA, Anthropology/ Linguistics, 2006

Professional Affiliations

Register of Professional Archaeologists

Society for California Archaeology American Anthropological Association Institute of Archaeomythology

American Anthropological Association

Selected Project Experience

Tribal Cultural Resources (TCR) Studies, City of Los Angeles Planning Area.
Mr. Giacinto has acted as principal investigator on more than 35 TCR studies throughout the City of Los Angeles planning area. The goal of these investigations is to review the archaeological, historical, academic, and ethnographic record for potential TCR information, then ground contemporary AB 52 consultation information in this context while providing recommendations related to reasonable approaches for management. (2015–Present)

Archaeological/ Zanja Madre Studies, City of Los Angeles Planning Area.
Mr. Giacinto has acted as principal investigator on more than 15 archaeological studies within the Los Angeles Down Town area focused on assessing the potential presence of the "Zanja Madre", a water conveyance system that was developed as a system of ditches in the early 1800s and continued into use through the early 1900s. These projects include reviewing South Central Coastal Information Center (SCCIC) records search information, Native American Heritage Commission (NAHC) Sacred Lands File (SLF) information, a review of in-house Dudek data and references, Sanborn Fire Maps, historical topographic and aerial information and, at times, the application of ground penetrating radar (GPR). GPR has been used on 6 projects to date with the intent of identifying buried portions of the Zanja Madre. The most pertinent of these include the following projects. (2017–Present)

- 6th and Alameda Project, Private Developer, Downtown Los Angeles, California (2017–2019)
- South Park Towers, Private Developer, Downtown Los Angeles, California (2017–2019)
- Palmetto Project, Private Developer, Downtown Los Angeles, California (2017–2019)
- Buena Vista Project, China Town, Los Angeles, California (2019–ongoing)

- Santa Ana Watershed Project Authority Reach 5 Project, Riverside County, California. As principal investigator, Mr. Giacinto managed provided recommendations to SAWP for a monitoring approach that would satisfy both State Water Board and Pechanga tribe interests. Project included archaeological monitoring of areas along Temescal Canyon Road and met compliance under CEQA and Section 106 of the NHPA.

Santa Margarita Hidden Ridge Project, Orange County, California. As principal investigator, Mr. Giacinto managed the survey, SCCIC archival searches, tribal correspondence, and reported management recommendations for a cultural resources inventory. The proposed intersection two NRHP-listed resources and a NRHP-listed archaeological district. Mr. Giacinto developed and managed testing efforts to appropriately define significant deposits and prepared a monitoring plan. Considerations included compliance under CEQA and Section 106 of the NHPA, and project was successfully permitted.

Orange Coast College Initial Study (IS), Coast Community College District, Orange, California. As principal archaeological investigator, Mr. Giacinto coordinated records search, NAHC and Native American consultation, archaeological survey, preparation of a technical report, and provided management and compliance recommendations relating to cultural resources on three Orange County College campuses.

Pure Water Plan Constraints Study and PEIR, City of San Diego, California. As principal investigator and field director, Mr. Giacinto managed preparation of a constraints study for the Pure Water Project. Work involved a records search of over 100 mile linear miles of San Diego. Site record information from more than 1,236 cultural resources was processed, coded, and integrated within a geospatial sensitivity model to identify archaeological and built environment constraints throughout the proposed alignment. Maps were then generated using generalized grid units to provide a visual model of relative archaeological resource sensitivity while maintaining the appropriate level of confidentiality for public dissemination to assist in planning.

California High Speed Rail, Fresno-Bakersfield, California. As principal investigator, oversees, implements, and reports upon cultural inventory, evaluation, data recovery and compliance efforts under Section 106 of the NHPA, Federal Rail Authority, CEQA, and local Guidelines for Fresno to Bakersfield section. Oversight of Native American monitors, built environment specialists and archaeologists, management of cultural monitoring implementation and site treatment, client reporting, meetings and report preparation. Implementation of mitigation included exploratory archaeological investigations at multiple NAHC-eligible resources.

Operations and Maintenance On-Call, Department of Water Resources. As primary Dudek archaeological and tribal resources consultant, Mr Giacinto manages cultural resources projects for DWR. These include the Cultural Resources Inventory for the B.F. Sisk Dam Safety of Dams Modification Project, Delta Dams Raise Project (three reservoirs), MP 230 Project, and Upper Feather River Projects (three dam locations) and preparation of a Programmatic Agreement for Cultural resources for DWR. Mr Giacinto is familiar with the DWR Tribal Engagement and AB 52 processes. (2019–ongoing)

McCoy Solar Energy Project and Blythe Solar Power Project, Blythe, California. As principal investigator, Mr. Giacinto supervised, implemented, and reported upon compliance efforts for construction of more than 4000 acres of solar work under Section 106 of the NHPA, BLM Guidelines, CEQA, California Energy Commission, and County of Riverside Guidelines. Mr. Giacinto was the lead multiple formal trainings with monitors and council members from the Colorado River Indian Tribes regarding federal and state regulations relating to human remains, County and BLM guiding documents, identification of cultural material, and the multiple understandings of “cultural resources”. History (NIAH), Mexicali, Mexico. (2014–ongoing)

Micah Hale, PhD, RPA

SENIOR ARCHAEOLOGIST

Micah Hale is Dudek's cultural resources practice manager and lead principal investigator, with technical expertise as a lithic and groundstone analyst, invertebrate analyst, and in ground penetrating radar. Over the course of his 23-year career, Dr. Hale has served as a principal investigator in the public and private sector for all levels of archaeological investigation, as a public outreach coordinator and as an assistant professor at the University of California (UC), Davis. As Dudek's cultural resources practice manager, he currently functions as a principal investigator in project oversight including proposals, research designs, fieldwork, artifact analysis, and report authorship.



Education

University of California, Davis
PhD, Anthropology, 2009
BS, Anthropology, 1996
California State University, Sacramento
MA, Anthropology, 2001

Certifications

Register of Professional Archaeologists (RPA)

Professional Affiliations

Antelope Valley Archaeological Society
San Diego Archaeological Society
Society for American Archaeology
Society for California Archaeology

Project Experience

Development

Phase II Archaeological Data Recovery for the Newland Homes Sierra Project, San Diego County, California. As project manager and principal investigator, supervising data recovery investigations at two significant prehistoric archaeological sites and historic archival research of a homestead in support of the Newland Sierra Environmental Impact Report (EIR). (2013–Present)

Phase I Archaeological Inventory and Phase II Archaeological Evaluation for the Yokohl Ranch Project, Tulare County, California. As project manager and principal investigator, supervised completion of 12,000 acre survey and archaeological evaluation of 85 prehistoric and historical archaeological sites in support of the Yokohl Ranch EIR. (2012–2013)

Phase I Inventory and Phase II Cultural Resources Evaluation for the Star Ranch Project, RBF Consulting, San Diego County, California. As project manager and principal investigator, supervised CEQA inventory and evaluation for private development. (2011)

Phase II Archaeological Evaluation of Two Prehistoric Sites, Torrey Pines Glider Port, San Diego County, California. As project manager and principal investigator, supervised CEQA evaluation of two prehistoric archaeological sites for the Torrey Pines City Park General Development Plan. (2012)

Data Recovery of One Prehistoric Site for the Rhodes Property, Sea Breeze Properties, San Diego County, California. As project manager and principal investigator, supervised CEQA compliant data recovery of a large prehistoric site for a residential development.

Archaeological Survey of the Paramount Mine Exploratory Drilling Project, Essex Environmental, Mono County, Nevada. As principal investigator and field director, conducted archaeological survey for mining exploration and prepared the technical report. (2006)

Phase I Inventory of 1,544 Acres and Phase II Evaluation of Archaeological Sites along the Western and Northwestern Boundaries, Edwards Air Force Base, Kern County, California. As field director, supervised a Phase I inventory of 1,544 acres. Recorded 30 new archaeological sites, more than a dozen "sub-modern" refuse dumps, and a variety of isolate finds. Notable sites include several early Holocene lithic scatters (Lake Mojave-, Silver Lake-, and Pinto-age deposits), a rhyolite lithic quarry, and a complex of historic dumps associated with homesteading activities around Lone Butte. (2005)

Archaeological Survey of the La Mesa Meadows Residential Development Project, Helix Environmental, San Diego County, California. As principal investigator, conducted a survey of a proposed residential development in San Diego County. (2005)

Pankey Ranch Testing, Pardee Homes, Northern San Diego County, California. As field director, supervised excavation of shovel test pits to delineate the boundaries of site CA-SDI-682, the prehistoric village of Tom-Kav. Managed field personnel, conducted excavation, and wrote portions of technical report. (2004)

Oceanside Hilton EIR, Dudek Associates, Oceanside, San Diego County, California. As principal investigator and field director, conducted a survey of the proposed Hilton Hotel at the eastern end of Buena Vista Lagoon in Carlsbad and prepared portions of technical report for an EIR. (2004)

Data Recovery of Locus O, Star Canyon Development, Agua Caliente Band of Cahuilla Indians, Palm Springs, Riverside County, California. As field director, supervised field crews for data recovery mitigation of an archaeological deposit and human remains near Tahquitz Canyon. Coordinated with Native American representatives and prepared portions of the technical report. (2004)

Linda Vista Survey, City of San Marcos Planning Department, San Diego County, California. As field director, conducted a Phase I cultural resource inventory of the proposed road realignment in San Marcos. Prepared technical reports and made recommendations for additional work to be done within the project area. (2003)

Archaeological Monitoring for Williams Communications Fiber-Optic Line, Jones and Stokes Associates, San Luis Obispo and Bakersfield, Kern and San Luis Obispo Counties, California. As resource monitor/Native American coordinator, conducted archaeological monitoring for a fiber-optic cable installation project that spanned 180 miles from San Luis Obispo to Bakersfield. Identified and protected archaeological resources in the project area in compliance with state and federal regulations. Managed Native American monitors and coordinated daily work with construction and environmental staff to facilitate project completion. (2001)

Subsurface Survey of a Proposed Bicycle Path Along the Columbia River Slough in Northwest Portland, City of Portland, Multnomah County, Oregon. As field archaeologist, conducted auger testing in a variable north-to-south transect at 30-meter intervals, and unit mapping. (2000)

Phase II Test Excavations, AT&T, Portland, Multnomah County, Oregon, and Vancouver, Clark County, Washington. This project determined the presence and condition of any cultural resources in the project areas that were situated on the northern and southern sides of the Columbia River in Washington and Oregon. (1999)

AT&T Cable Removal Project, Jones and Stokes Associates, Taft to Los Angeles, Kern and Los Angeles Counties, California. As field archaeologist, conducted a survey to determine archaeological impact by the removal of a lead-lined subsurface cable. (1998)

Shane McDonnell

ARCHAEOLOGICAL/PALEONTOLOGICAL FIELD TECHNICIAN

Shane McDonnell (*he/him*) is an archaeological and paleontological field technician with experience as a construction field monitor, monitoring construction in Southern California on various projects including residential, commercial, and renewable energy. He has worked individually and with larger crews on monitoring efforts and assisting with keeping clients in compliance. He is skilled in excavating with specialized equipment.

Education

University of Wyoming
BS, Anthropology, 2021

Certifications

San Diego City Certified Archaeological Monitor

Project Experience

Development

Village 8 East, HomeFed Corporation, Chula Vista, California. Served as an archaeological and paleontological monitor for mass grading and excavating associated with a Master Plan development keeping the client in compliance under a programmatic environmental impact report (EIR).

Amazon Logistics Facility "Otay Enrico," Otay Enrico LLC, Otay Mesa, California. Served as a paleontological monitor for drilling, excavations, and grading associated with building an Amazon Logistics facility within the Otay Formation.

Panera Bread, Manna Development Group, San Marcos, California. Served as an archaeological monitor for construction activities associated with building a new commercial Panera Bread business near San Marcos Creek.

Skylark Murai, Lennar Corporation, San Marcos, California. Served as an archaeological monitor for mass grading and grubbing activities associated with the building of a new home development in San Marcos.

Brightline Survey and Excavation, Victorville to Hesperia, California. San 6 Discovery. Served as an archaeological field technician participating in surveys and excavations along the Interstate (I) 15 corridor from Victorville to Hesperia for the future construction of a high-speed rail system.

Discovery SAN 6 Industrial Project. Served as an archeological/paleontological monitor for mass grading and excavations associated with building an Amazon Logistics facility within the Otay Formation.

Solana Highlands. Served as an archaeological/paleontological monitor for mass grading and excavations associated with residential housing development in Solana Beach, CA.

North River Farms. Served as an archaeological/paleontological monitor for mass grading and excavations associated with residential housing development in Oceanside, CA.

Energy

Drew Solar, Swinterton, Calexico, California. Served as a paleo lab technician, assisting with processing recovered mudstone geological formation fossiliferous sediments, drying, organizing, and labeling in the lab for sorting and curation.

Sandrini Solar, Rosendin, Fresno, California. Served as a paleontological monitor for construction activities associated with building a solar farm.

Arlington Solar Energy Center, NextEra, Blythe, California. Served as an archaeological and paleontological monitor for construction activities associated with building a solar farm and battery energy storage systems on Bureau of Land Management land.

Survey 13836, Confidential Client, Calipatria, California. As a dual paleontologist and archaeologist, worked with a crew of 5 to 9 people to survey 4,000 acres of active farmland for cultural resources associated with a new solar farm development. Documented concrete canals and transmission lines for the built environment/historic architecture team.

Municipal

San Marcos Creek, City of San Marcos, California. Served as an archaeological monitor for ground-disturbing activities associated with removal of invasive plant species, rerouting utilities, redevelopment of surface streets, and building bridges to rework the San Marcos Creek to avoid flooding of roads and make into a wetland for the proliferation of biological species.

Specialized Training

- Advanced Archaeology Field School, University of Wyoming, Guernsey, Wyoming. Excavated, mapped, and surveyed archaeological artifacts in situ at the Hell Gap Paleoindian Site in Southeastern Wyoming using water screening, EDMwin software, and a total station. Cleaned and cataloged discovered artifacts, such as bison vertebrae/cranium and stone tools from sediment (10,000–12,000 years old), based on taxonomic properties to be analyzed for a collaborative technical report.

Brenda Lee Rogers

ARCHAEOLOGIST

Brenda Lee Rogers (*she/her*) is a professional archaeologist with 34 years' archaeological experience in the United States. Since 1991, she has conducted field and laboratory studies of archaeological sites in Arizona, California, Delaware, Illinois, Nevada, New Jersey, New York, and Pennsylvania. She has supervised large field crews of archaeologists and provided training in excavation strategies, map drafting, artifact illustrations, site tours, press relations, and processing artifacts. Brenda also has considerable experience proofreading and organizing paperwork and editing and cowriting reports. She has also been involved in teaching students of all ages about archaeology. Brenda has served as an archaeological site steward in California off and on since 2009.



Education

Bard College
BA, Anthropology, 1990

Professional Affiliations

Society of California Archaeology

Ventura County Archaeological Society

Certifications

Occupational Safety and Health Administration (OSHA) 40-hour HAZWOPER)

Selected Project Experience

Gabriel Energy Storage -TO No. 13, Aypa Power Development LLC, Irwindale, California. Served as archaeologist. Conducted in-person research at South Central Coastal Information Center, which involved accessing confidential records and transferring information to hand-drawn topographical maps as well as copying and uploading records. Conducted pedestrian survey, wrote survey report. Co-authored archaeological report. (2025)

Atlas Main (X and XI) Solar Project, Hanwha Q CELLS USA Corp, Salome, Arizona. Served as archaeological monitor. Assisted with monitor coordination and communication between client and project manager. Worked with client to protect archaeologically sensitive areas and monitored geotechnical ground testing. Recorded archaeological finds and worked closely with Native American monitors to protect the cultural resources. Documented all work through photographs and completion of monitoring logs. Edited and uploaded daily field logs. (2025)

Atlas Main (V and VI) Solar Project, Hanwha Q CELLS USA Corp, Salome, Arizona. Served as archaeological monitor. Monitored large-scale vegetation removal and grading. Recorded archaeological finds and worked closely with Native American monitors to protect the cultural resources. Assisted biologists with ground survey for impacted animal burrows. Documented all work through photographs and completion of monitoring logs. Edited and uploaded daily field logs. (2025)

Luthra Solar Project, New Leaf Energy Inc., Riverside, California. Served as field archaeologist. Conducted pedestrian survey of project site and prepared a written report. Coordinated efforts with other field personnel. (2025)

Pacific Gas and Electric Vegetation Management, Arcadis US Inc., Point Reyes, California. Served as archaeological monitor. Completed pre-work archaeological surveys and monitored vegetation management, while ensuring sensitive areas were protected. Documented all work through photographs and completion of monitoring logs. (2024)

Painter Battery Energy Storage System Cultural Resources Extended Phase I, Jupiter Power LLC, Carpinteria, California. Served as crew lead and field archaeologist. Planned testing strategy and excavated augers and test units to recover subsurface remains. Recorded field notes and documented efforts with photographs and field map application. Assisted with preparation of data for the report. (2024)

3803 W. Mission Blvd CEQA 15183 Exemption, City of Pomona, Los Angeles, California. Served as archaeologist. Conducted in-person research at South Central Coastal Information Center, which involved accessing confidential records and transferring information to hand-drawn topographical maps as well as copying and uploading records. Conducted a field survey of project area, documented with photographs. Prepared a written report and submitted a photo log. (2024)

Ocean Meadows Cultural Services, Ocean Meadows Investors, Goleta, California. Served as archaeological monitor. Monitored ground disturbance during construction work on site. Monitored grading and drilling activities. Documented work with photographs and prepared a daily written report. Reviewed and edited all monitoring logs and prepared a monitoring report. (2024)

Phelan 20 Acres, Cambria 60 Partners LLC, Hesperia, California. Served as field archaeologist. Completed pedestrian survey of project area. Completed photo documentation and prepared a survey report. Conducted in-person research at South Central Coastal Information Center, which involved accessing confidential records and transferring information to hand-drawn topographical maps as well as copying and uploading records. Assisted in report preparation. (2023)

North Cat Canyon Oil Field, Santa Barbara County Council Resources Inventory, Langan Engineering and Environmental Services LLC, Orcutt, California. Served as archaeologist. Co-authored Phase I Archaeological Survey Report. (2023)

Desert Valley Hospital Emergency Department Project, Prime Healthcare, Victorville, California. Served as archaeologist. Co-authored Cultural Resources Technical Report. Conducted in-person research at South Central Coastal Information Center, which involved accessing confidential records and transferring information to hand-drawn topographical maps and copying and uploading records. Completed pedestrian survey of project site and prepared a written report. (2023)

Thousand Oaks Los Robles Cancer Center, City of Thousand Oaks, California. Served as field archaeologist. Completed pedestrian survey of project site and prepared a written report. Conducted in-person research at South Central Coastal Information Center, which involved accessing confidential records and transferring information to hand-drawn topographical maps as well as copying and uploading records. Assisted in report preparation. (2023)

Queen of the Valley Hospital, West Covina, California. Served as archaeological monitor. Conducted construction monitoring of trenching for infrastructure. Documented work with photographs and written report. (2021–2022)

Kellogg Crossing Self-Storge, Goleta, California. Served as archaeological monitor. Conducted construction monitoring of all ground disturbance. Documented work with photographs and prepared daily written reports. (2022)

Trails at Lyons Canyon, NUWI-Lyons Canyon LLC, Los Angeles, California. Served as archaeologist. Co-authored Cultural Resources Technical Report. (2022)

Philip Sharp-Garcia

ARCHAEOLOGIST AND PALEONTOLOGICAL FIELD TECHNICIAN

Philip Sharp-Garcia (*FIL-ip sharp GAR-see-a*) is a field archaeologist with 17 years' experience in compliance monitoring, surveying, and data recovery. Mr. Sharp-Garcia is trained to identify artifacts, features, and flora in the Southern California desert. They also have experience as an acoustic monitor, air quality monitor, biological monitor, compliance monitor, and paleontological monitor.

Education

San Bernardino Valley College, GIS courses, 2011

San Diego State University BA, Anthropology, 2007

Imperial Valley College AA, Anthropology, 2003

Certifications

AED/CPR/First Aid, 2023

Wilderness First Aid Certification, 2022

40-hour HAZWOPER, 2018

CPR/First Aid, 2017

Quino Butterfly Exam, 2016

Desert Tortoise Council Workshop, 2015

Visual Emissions Examination, 2013

Section 106 Certification, 2012

Flat Tail Horned Lizard Certification, 2012

Recycled Water Site Supervisor Training, 2011

Project Experience

Trails at Carmel Mountain Ranch, Lennar Homes of California, Inc, City of Poway, California. Served as lead archaeological monitor. Responsible for monitoring for archaeological resources during ground disturbing activities, reviewed daily logs, compiled monthly monitor log summaries, scheduled other monitors, and wrote the final report.

San Marcos Boulevard at Discovery, City of San Marcos, California. Served as archaeological monitor on a stormwater drainage pipe installation and road improvement project. Responsible for monitoring for archaeological resources during ground disturbing activities, dug and screened soil, and mapped discoveries in the field using an iPad/iPhone.

HomeFedV8E, HomeFed Corporation, City of Chula Vista, California. Served as a paleontological field technician. Responsible for monitoring for paleontological resources during ground disturbing activities.

Trilogy at the Polo Club, Shea Homes, City of Indio, California. Served as a paleontological field technician. Responsible for monitoring for paleontological resources during ground disturbing activities. Coordinated with Native American tribal cultural consultants.

Villa Storia Monitoring, Beazer Homes Holding Corporation, City of Oceanside, California. Served as archaeological technician. Responsible for monitoring ground disturbance in native soils adjacent to the Mission San Luis Rey during construction activities. Identified ceramics, paleontological soil samples, and historic ranching artifacts and impacts. Coordinated with multiple subconsultants and Native American monitors.

Confidential Solar Energy Center, Confidential Energy Client, Riverside County, California. Served as both an archaeological field technician and paleontological field technician. Responsible for cultural and paleontological resources construction monitoring during construction of 900 acres of solar fields and 20 linear miles of transmission corridor. Coordinated with multiple subconsultants and Native American tribal cultural consultants.

Bureau of Land Management Monitoring, Confidential Energy Client, San Diego County, California. Served as third-party lead archaeological inspector. Responsible for training other Dudek third-party archaeological and environmental inspectors, verifying compliance of construction with Bureau of Land Management (BLM) and county permits and Conditions of Approval. Coordinated with multiple subconsultants.

Confidential Solar Energy Project, Confidential Energy Client, City of Blythe, California. Served as lead archaeological monitor for compliance with BLM and California Energy Commission guidelines and regulatory conditions. Coordinated archaeological and Native American tribal cultural consultants throughout the nearly 900-acre project area. Completed archaeological survey, data recovery, and daily monitoring work. Reviewed daily reporting logs from all archaeological and Native American tribal cultural consultants prior to submittal to BLM and California Energy Commission leads and Memorandum of Agreement/Programmatic Agreement consulting parties. Tasked with ensuring general compliance among construction personnel and environmental monitors with biological, stormwater, noise, dust, and other environmental work conditions.

Confidential Solar Energy Project, Confidential Energy Client, San Luis Obispo County, California. Responsible for ensuring that multiple on-site ground disturbing activities had appropriate archaeological and paleontological monitoring coverage, as well as scheduling and recording archaeological and paleontological materials discovered while monitoring. Orchestrated and coordinated with multiple subconsultants, Native American tribal cultural consultants, archaeological field technicians, and paleontological monitors. Responsible for final identification and assessment of archaeological and paleontological resources.

Confidential Solar Energy Project, Confidential Energy Client, Riverside County, California. Served as lead archaeological monitor for compliance with BLM and Riverside County guidelines and regulatory conditions. Completed incidental oversight and compliance implementation as client representative and intermediary with third-party archaeologists throughout more than 1,800 acres of solar field and 20 linear miles of transmission corridor. Completed archaeological survey, artifact collection, and daily monitoring work. Reviewed daily reporting logs from all archaeological and tribal cultural consultants working under client contract prior to submittal to BLM and Memorandum of Agreement consulting parties. Tasked with ensuring general compliance among construction personnel and environmental monitors with biological, stormwater, noise, dust, and other environmental work conditions.

Confidential Wind Energy Project, Confidential Energy Client, Santa Barbara County, California. Served as an archaeological field technician and dug and screened shovel test pits. Used an iPad to digitally document discoveries in the field.

Confidential Solar Energy Project, Confidential Energy Client, Pinal County, Arizonia. Served as an archaeologist I on a Dudek survey of BLM land in Arizona for a potential solar farm. Drove four-wheel drive vehicles in the field, surveyed 900 acres of flat land, used a GPS receiver and an iPad/iPhone to create maps, and took photos.

Camp Wilson Infrastructure Upgrades, RQ Berg JV, City of Twentynine Palms, California. Served as lead archaeological monitor for compliance with base regulatory conditions. Coordinated archaeological monitoring of the project area and completed the archaeological survey, site recordation, and daily monitoring work. Reviewed daily reporting logs from archaeological monitors prior to base leads. Tasked with ensuring general compliance and interfacing with base field personnel.

Appendix B

(Confidential) SCCIC Records Search Results

Appendix C

(Confidential) Cultural Resources Overview Map

Appendix D
NAHC and Tribal Correspondence

All occurrences of the Project's former name have been redacted. Red text boxes containing the current Project name have been used to indicate replacements, while black boxes have been applied where redaction was necessary without substitution.

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Dudek No. 14419.02

County: Los Angeles

USGS Quadrangle

Name: Pacifico Mountain & Acton

Township: 5N Range: 12W Section(s): 22, 23, 26, 27, 28, 29, 32, 33, 34, and 35

Company/Firm/Agency:

Dudek

Contact Person: Jessica Colston

Street Address: 605 Third Street

City: Encinitas, CA Zip: 92024

Phone: (760) 815-6642 Extension:

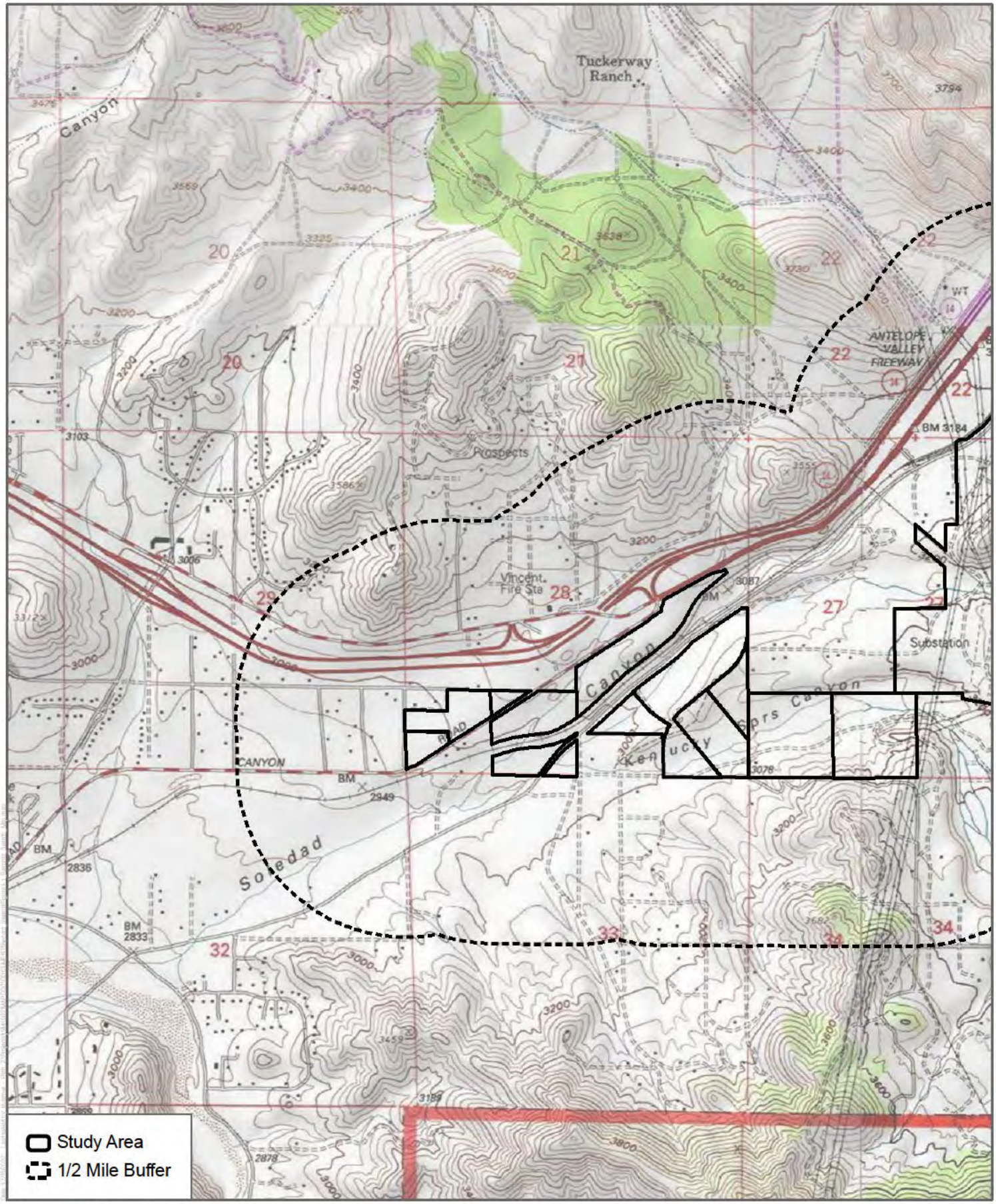
Fax:

Email: jcolston@dudek.com

Project Description:

The project will entail developments adjacent to HWY-14.

☑ Project Location Map is attached



SOURCE: USGS 7.5-Minute Series Pacifico Mountain, Acton Quadrangles
Township 5N; Range 12W; Sections 22,26,27,28

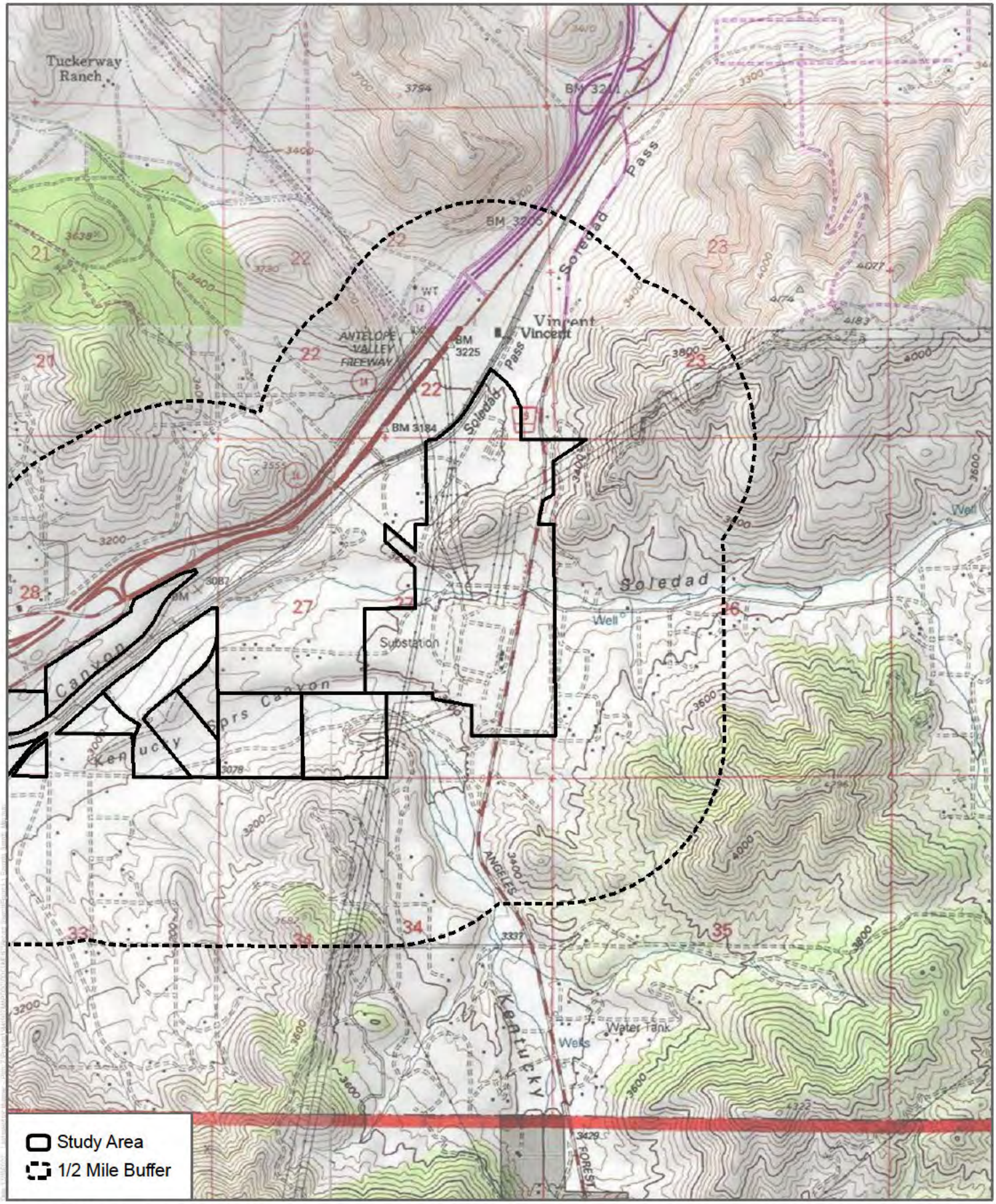
DUDEK

0 1,000 2,000 Feet
0 285 570 Meters
1:24,000

FIGURE 1-1

Records Search

Prairie Song Reliability Project



SOURCE: USGS 7.5-Minute Series Pacifico Mountain, Acton Quadrangles
Township 5N; Range 12W; Sections 22,26,27,28

DUDEK

0 1,000 2,000 Feet
0 285 570 Meters
1:24,000

FIGURE 1-2

Records Search

Prairie Song Reliability Project

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Raymond C.
Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 27, 2023

Jessica Colston
Dudek

Via Email to: jcolston@dudek.com

Re: [redacted] Dudek No. 14419.02 Project, Los Angeles County

Dear Ms. Colston:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Los Angeles County
1/27/2023

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega, Tribal President
1019 Second Street, Suite 1 — Tataviam
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
thcp@tataviam-nsn.us

Morongo Band of Mission Indians
Ann Brierty, THPO
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk, Vanyume, Tataviam
Newhall, CA, 91322
Phone: (503) 539 - 0933
Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Serrano Nation of Mission Indians
Mark Cochrane, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

Serrano Nation of Mission Indians
Wayne Walker, Co-Chairperson
P. O. Box 343 — Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Angeleno – Dudek No. 14419.02 Project, Los Angeles County.

Roshanne Bakhtiary

From: Roshanne Bakhtiary
Sent: Monday, December 30, 2024 8:49 AM
To: NAHC@NAHC
Subject: DUDEK [redacted] PN 13594.09 SLF Search Request
Attachments: DUDEK_13594.09[redacted]SLF.pdf

Dear NAHC,

Please find attached to this email the NAHC Sacred Lands File Search request with project location map for the [redacted] (Dudek #13594.09) located in unincorporated Los Angeles County, California. Dudek is requesting an NAHC Sacred Lands File Search for any sacred sites, tribal cultural resources, and other places of Native American community value that may fall within a one-mile radius of the proposed project location.

Please let me know if you have any questions regarding this project. You can email the results to me at: rbakhtiary@dudek.com.

Thank you,

Roshanne Bakhtiary
Archaeologist
DUDEK

O: 949 373 8307 **C:** 760 557 0998
dudek.com



Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Prairie Song Reliability Project

County: Los Angeles

USGS Quadrangle Name: Ritter Ridge, Palmdale, Acton, Pacifico Mountain

Township: 5N **Range:** 12W **Section(s):** 12, 22, 23, 26, 28, 29, 32, 33, 34, 35

Company/Firm/Agency: Dudek

Street Address: 605 3rd Street

City: Encinitas, CA **Zip:** 92024

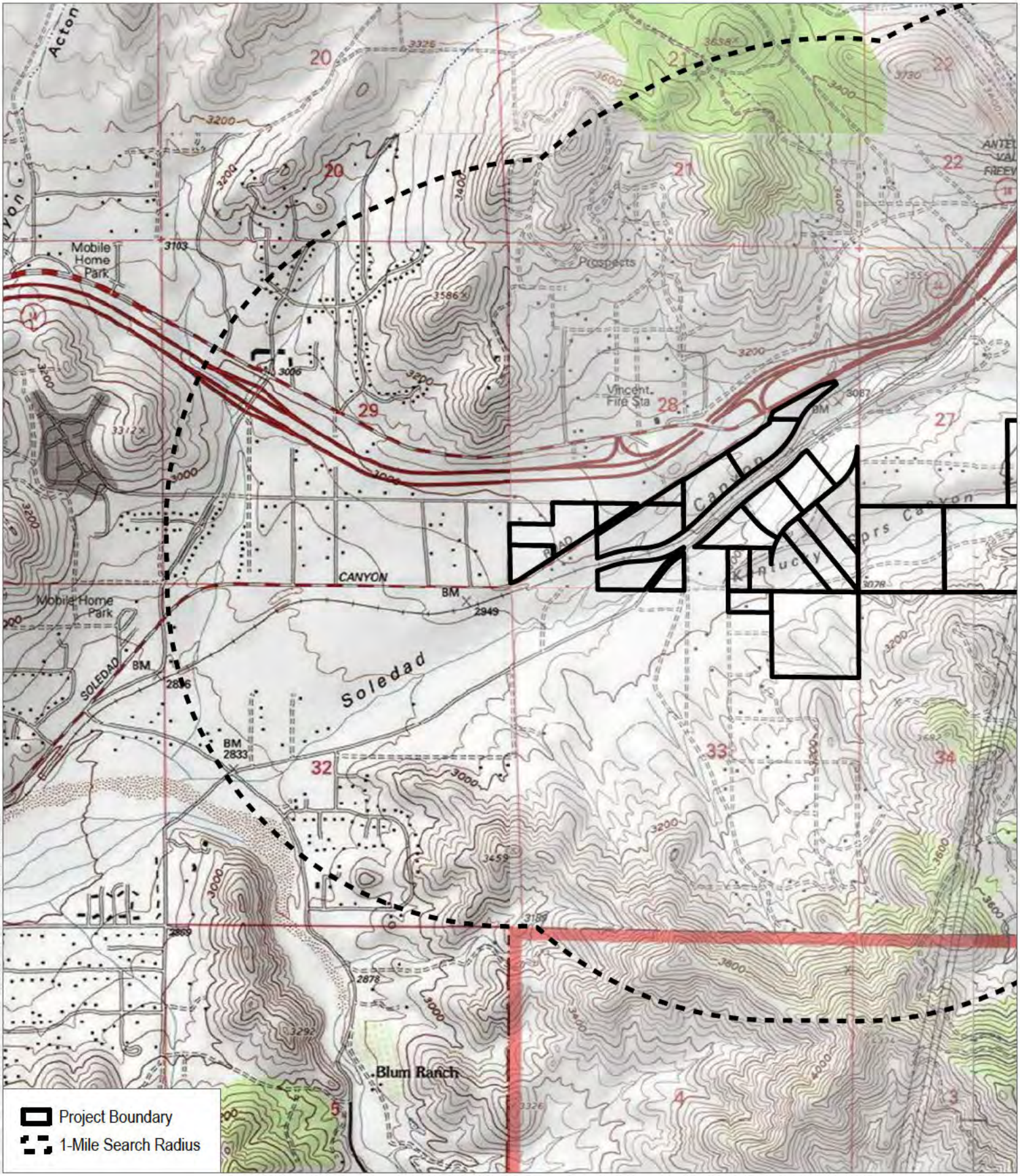
Phone: (760) 557-0998

Fax:

Email: rbakhtiary@dudek.com

Project Description:

The project involves the construction and operation of an up to 1,150-megawatt battery energy storage system located on approximately 83.5 acres of land.



SOURCE: USGS 7.5-Minute Series Ritter Ridge, Palmdale, Acton, Pacifico Mountain Quadrangles

Township 5N| Range 12W| Section 21, 22, 23, 26, 28, 29, 32, 33, 34, 35

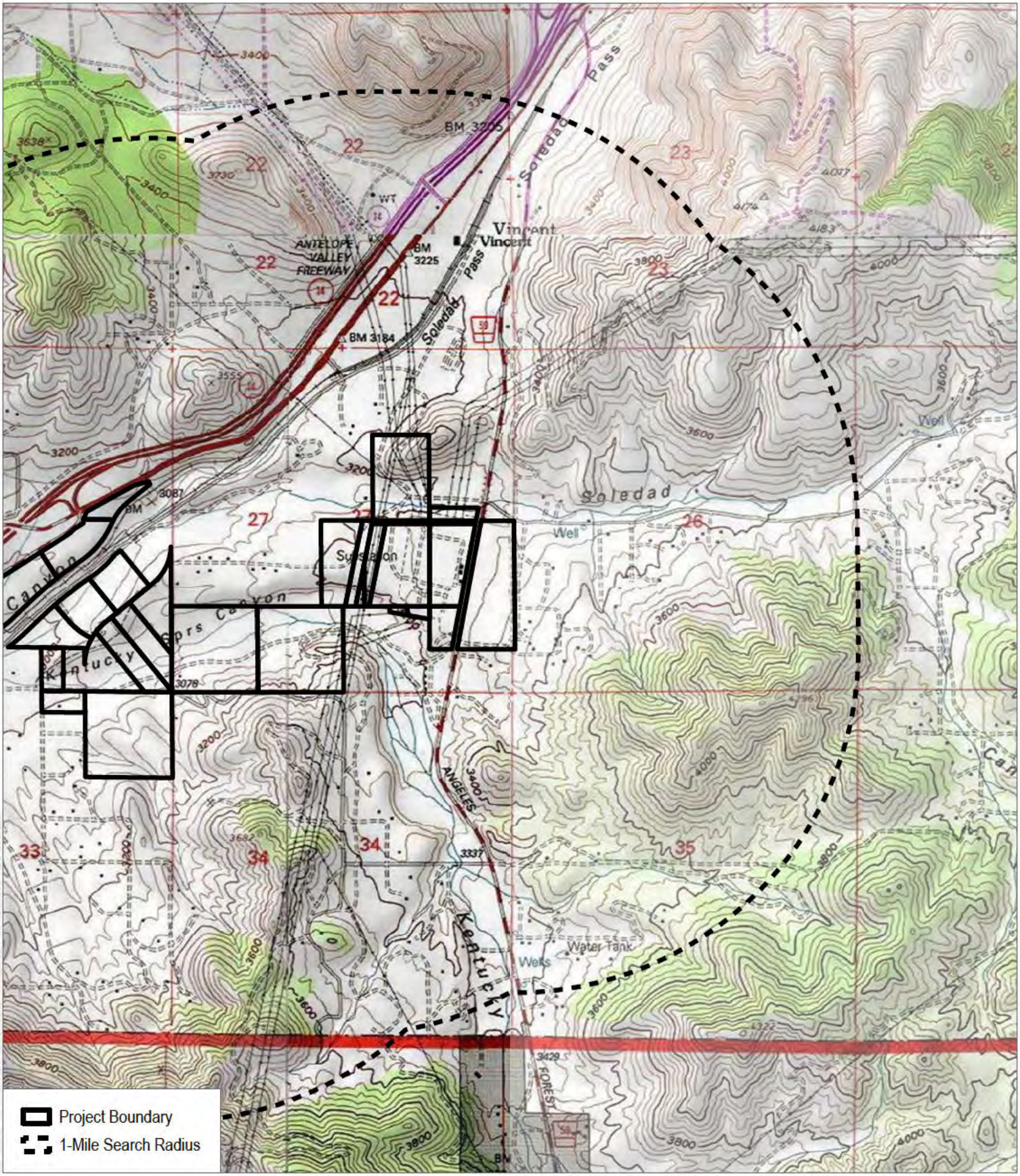
DUDEK

0 1,000 2,000 Feet 0 300 600 Meters 1:24,000

FIGURE 1-1

Records Search

Prairie Song Reliability Project



SOURCE: USGS 7.5-Minute Series Ritter Ridge, Palmdale, Acton, Pacifico Mountain Quadrangles
Township 5N| Range 12W| Section 21, 22, 23, 26, 28, 29, 32, 33, 34, 35

DUDEK

0 1,000 2,000 Feet 0 300 600 Meters 1:24,000

FIGURE 1-2

Records Search

Prairie Song Reliability Project