



Environmental Studies Update



Project Description

The Centennial Corridor Project proposes to provide a continuous route from Interstate 5 to SR 58 east of SR 99.

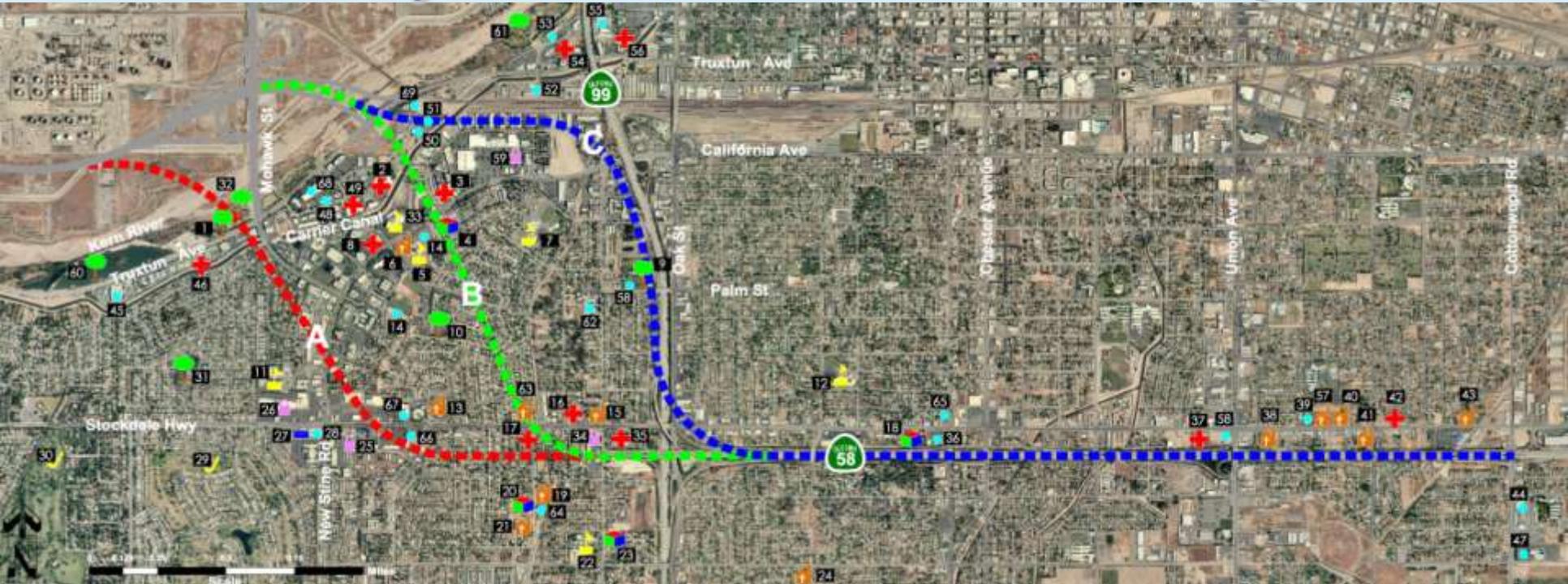


Project Description

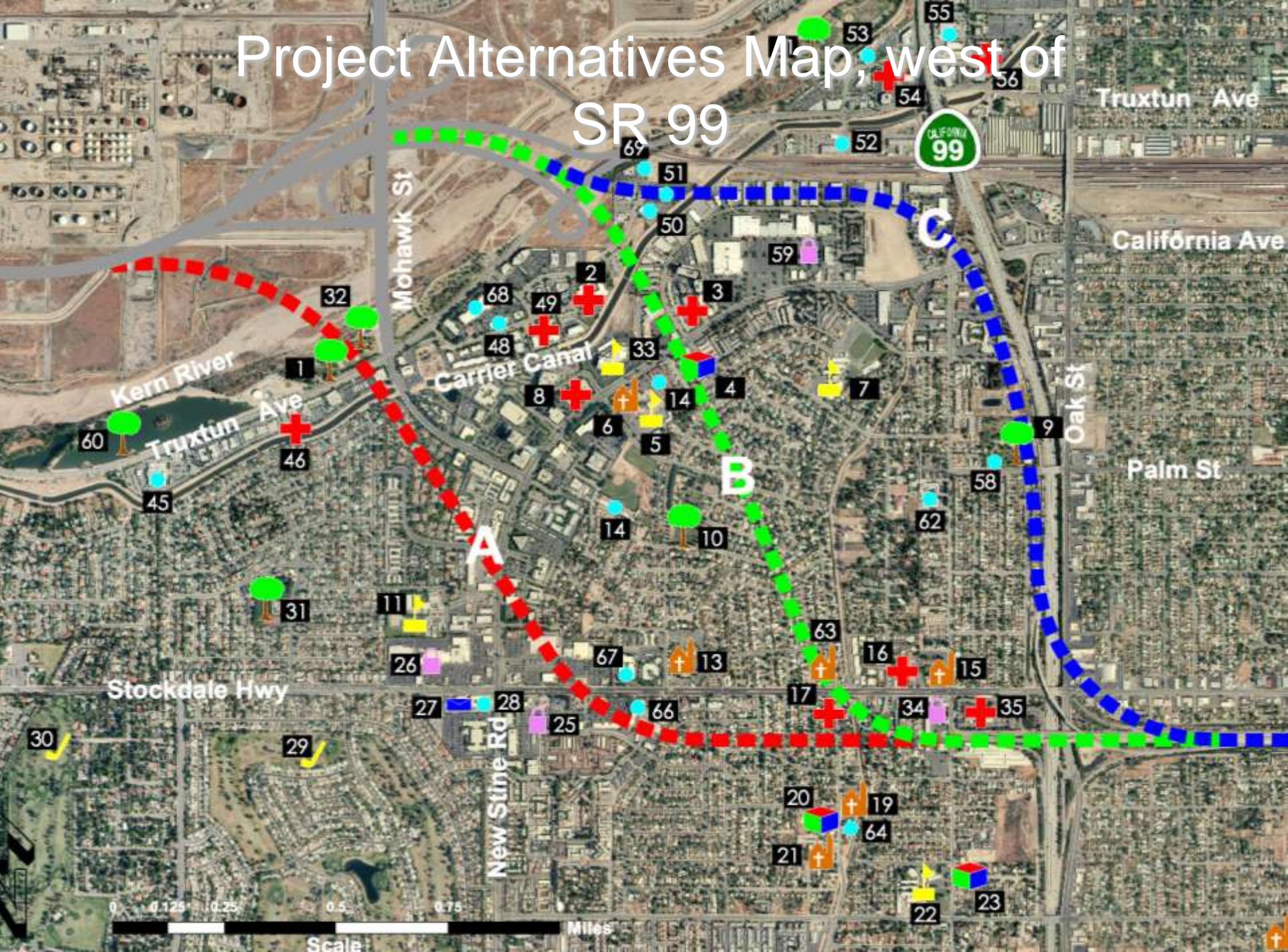
The Project consists of three segments:

- **Segment 1** Begins on State Route 58 at Cottonwood Road and develops a connection to the Westside Parkway. Alternative alignments have been developed east, west, and parallel to the State Route 99 corridor, as well as a Transportation System Management /Transportation Demand Management (TSM/TDM) alternative along the Rosedale Highway corridor, and a No Build Alternative
- **Segment 2** Encompasses the Westside Parkway from its eastern end in the vicinity of Mohawk Street, Truxtun Avenue and the Kern River to its western end in the vicinity of Stockdale Highway and Heath Road. The project will evaluate improvements for adoption into the State Highway System, as well as environmental impacts resulting from the connection to State Route 58/State Route 99/Interstate 5.
- **Segment 3** Extends from Heath Road west to Interstate 5. The project will update and revalidate studies prepared for the previous Tier 1 environmental document prepared for the State Route 58 Adoption Study.

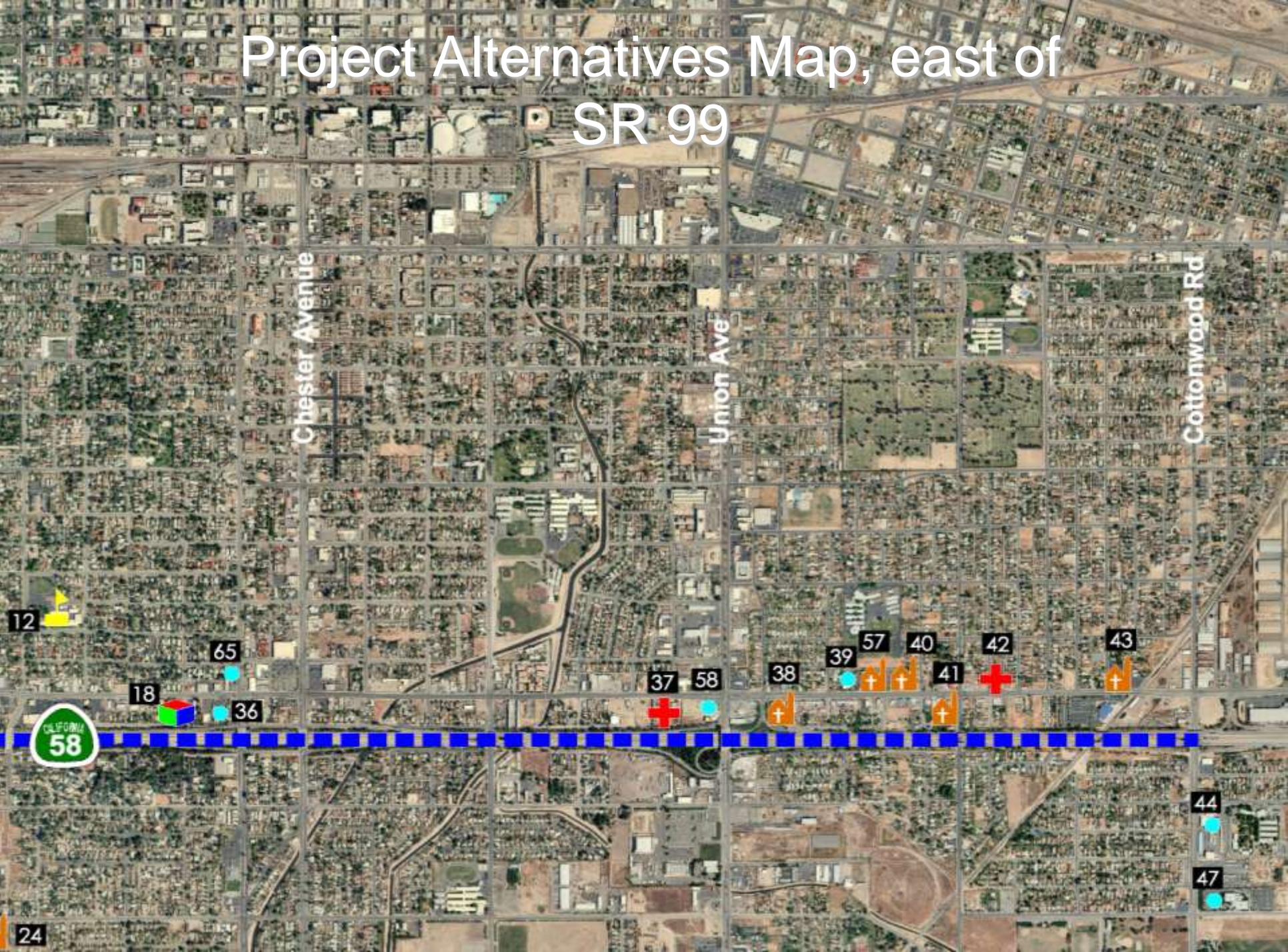
Project Alternatives Map



Project Alternatives Map, west of SR 99



Project Alternatives Map, east of SR 99





Project Purpose

- Provide continuity for SR 58 in Kern County
- Improve operations and safety
- Improve local east-west circulation
- Reduce regional and commercial commute time
- Increase interregional and international trade
- Promote economic growth



Centennial Corridor Air Quality Info

Potential Sensitive Receivers

Generally, people that are more susceptible to air quality are young children, the elderly, and people with immune deficiencies. Therefore, land uses, such as schools, daycare facilities, hospitals, elderly care facilities, and other areas that are occupied by people susceptible to air quality pollutants are considered sensitive air quality receptors. The following land uses were located within 500 feet of the proposed project alternatives and were identified as potential sensitive receptors.

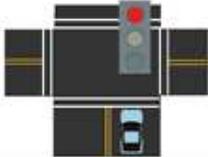
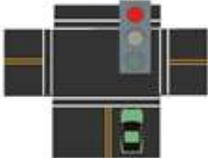
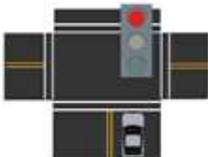
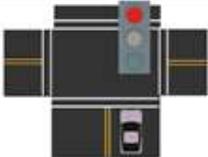
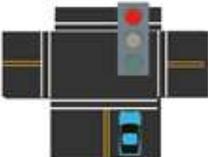
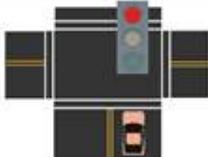


Centennial Corridor Air Quality Info

Alternative	Sensitive Receiver
Alternative A	Child Haven Pre-School Day Care
	Care Planning & Education for the Elderly & Their Families
	Continuum Care Management
	Suter Penelope S OD: Vision Rehab Post Stroke Head Trauma
	Pacific Health Education Center
Alternative B	Child Haven Pre-School Day Care
	Stockdale Christian School
	Little Red School House
	Bakersfield Family Medical Center
	Healthsouth Bakersfield Rehab Hospital
Alternative C	Darlyn's Darlings

LEVELS OF SERVICE

for Intersections with Traffic Signals

Level of Service	Delay per Vehicle (seconds)
A	 ≤10
B	 11-20
C	 21-35
D	 36-55
E	 56-80
F	 >80

Factors Affecting LOS of Signalized Intersections

Traffic Signal Conditions:

- Signal Coordination
- Cycle Length
- Protected left turn
- Timing
- Pre-timed or traffic activated signal
- Etc.

Geometric Conditions:

- Left- and right-turn lanes
- Number of lanes
- Etc.

Traffic Conditions:

- Percent of truck traffic
- Number of pedestrians
- Etc.



Centennial Corridor Air Quality Info

The following intersections were identified as areas where potential CO hot spots could occur:

Intersection	AM/PM LOS
Truxtun Avenue and Coffee Road	F/E
Stockdale Highway and Real Road	D/F
Stockdale Highway and California Avenue	D/D
Mohawk Street and California Avenue	C/E
Stockdale Highway and Oak Street	C/D
Mohawk Street and Truxtun Avenue	D/D
Real Road and Ming Avenue	C/E
Wible Road and Ming Avenue	F/E



Centennial Corridor Air Quality Info

Ambient Air Quality

Regional air quality is monitored locally by the San Joaquin Valley Air Pollution Control District (SJVAPCD) in conjunction with the California Air Resources Board (CARB). These two agencies operate a network of approximately nine air quality monitoring stations throughout the Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD) relies on one or more monitoring stations to document local air pollutant concentration levels. Two air quality monitoring locations are located within the City of Bakersfield, the addresses of the monitoring stations are shown below:

1128 Golden State Highway, Bakersfield

5558 California Ave, Bakersfield

The Environmental Protection Agency (EPA) determines regional air quality status based on data collected from permanent monitoring stations. An area is classified as "attainment" if the primary National Ambient Air Quality Standards (NAAQS) have been achieved and "non-attainment" if the National Ambient Air Quality Standards (NAAQS) are not achieved.



Centennial Corridor Air Quality Info

The air quality status of the project area is summarized below:

Pollutant	Federal Conformity	State Conformity
8-hour Ozone (O ₃)	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Maintenance Area*	Attainment
Particulate Matter (PM ₁₀)	Maintenance Area	Non-Attainment
Particulate Matter (PM _{2.5})	Non-Attainment	Non-Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment

* Maintenance the community used to be non-attainment but has had no violations in the last three years of the Federal and/or State standard for that pollutant(s).



Centennial Corridor Air Quality Information

Prepare a Health Risk Assessment

Evaluates long-term effects of the project on human health



Noise

Ambient noise measurements

- Conducted in January 2010
- 44 short-term sites
 - Two 20-minute measurements per site
 - Traffic counts were made during the measurements
- 5 long-term sites
 - 24-hour measurement per site



Community Impact Assessment Process

Environmental laws require consideration of the social and economic impacts of projects during the preparation of environmental documents. To satisfy these requirements a community impact assessment is conducted to determine how a proposed project will affect people, institutions, neighborhoods, communities, and organizations, as well as social economic systems. A wide variety of social economic considerations fall under the umbrella of the community impact assessment and may include:

- Relocations
 - Community stability and cohesion
 - Land use and growth
 - Environmental justice
 - Employment and tax base changes
 - Public service impacts



Community Impact Assessment

Approximately 16,000 neighborhood surveys (English and Spanish) were mailed to residents in eight designated neighborhoods:

- Downtown
- East Bakersfield
- Oleander-Sunset
- Riveria-Westchester
- Southeast Bakersfield
- Southwest Bakersfield
- Stockdale-Greens_Quailwood
- West Park



Community Impact Assessment

Approximately 1,000 surveys were returned

Primary mobility and safety issues that were reported in the surveys include:

- Flooding
- Traffic noise
- Traffic congestion
- Speeding
- Lack of sidewalks/pedestrian crossings
- Pavement deterioration
- Air quality
- Accessibility



What is 4(f)?

4(f) refers to the original section with the Department of Transportation Act of 1966

The Law is codified in:

49 USC 303 and 23 USC 138966

It is implemented through regulations found at”
23 CFR 771.135



4(f) applies to:

- ❑ Publicly owned parks
- ❑ Recreational areas
- ❑ Wildlife and water fowl refuges
- ❑ National wild and scenic rivers
- ❑ All historic sites eligible for the National Register of Historic Places



When does it apply?

Section 4(f) applies to all projects that receive funding from or require approval by an agency of the United States Department of Transportation, including the Federal Highway Administration.



What is required?

Identify potential 4(f) properties

All possible planning to minimize harm



In what ways can a 4(f) resource be impacted?

By either:

- ❑ Direct use, when land is permanently incorporated into transportation facility, or...
- ❑ When there is a temporary occupancy, or...
- ❑ Proximity of the project interferes with the intended purpose of the 4(f) resource



Section 4(f)

6 public parks and recreational areas located within 1/2-mile of the alternatives

- Kern River Parkway
- Saunders Park
- Centennial Park
- Yokuts Park
- Jastro Park
- Beach Park



Section 4(f)

Section 4(f) Resources within study area of each alternative:

- **Alternative A – 3 properties**
- **Alternative B - 4 properties**
- **Alternative C – 4 properties**

Directly impacted Section 4(f) resources –
Kern River Parkway (Alternatives A-C)
Saunders Park (Alternative C).



Hazardous Waste

The parcels that are within or adjacent to the project area were evaluated by reviewing various historical and current databases and regulatory agency files, and conducting a physical reconnaissance.

Parcels were ranked as follows:

Rank 1: Parcels within the project area that are known to be contaminated with hazardous wastes or substances;

Rank 2: Parcels within the project area that are suspected of being contaminated with hazardous wastes or substances;

Rank 3: Parcels that have the potential to be contaminated with hazardous wastes or substances within the project area or that have the potential to impact the proposed project area due to known or suspected hazardous wastes or substances located on the parcel;

NR: Parcels with no significant potential for the presence of hazardous waste or substances that would impact the proposed project area.



Hazardous Waste

Alternative A consists of 355 parcels. The following describes the parcel rankings for Alternative A:

- ❑ No parcels in Alternative A were ranked as 1.
- ❑ Eight parcels in Alternative A were ranked as 2.
- ❑ Six parcels in Alternative A were ranked as 3.
- ❑ The remainder of the Alternative A parcels were ranked NR, with a low potential to impact the project area.



Hazardous Waste

Alternative B consists of 304 parcels. The following describes the parcel rankings for Alternative B:

- ❑ No parcels in Alternative B were ranked as 1.
- ❑ Seven parcels in Alternative B were ranked as 2.
- ❑ Two parcels in Alternative B were ranked as 3.
- ❑ The rest of the Alternative B parcels were ranked NR, with a low potential to impact the project area.



Hazardous Waste

Alternative C consists of a total of 226 parcels. The following describes the parcel rankings for Alternative C:

- ❑ No parcels in Alternative C were ranked as 1;
- ❑ Twelve parcels in Alternative C were ranked as 2.
- ❑ Nineteen Alternative C parcels were ranked 3.

The rest of Alternative C parcels were ranked NR, with a low potential to impact the project area.



Visual

Visual Impact Levels:

- **Low** - Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.
- **Moderate** - Moderate adverse change to the visual resource with moderate viewer response. Impact can be mitigated within five years using conventional practices.
- **Moderately High** - Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response. Extraordinary mitigation practices may be required.
- **High** - A high level of adverse change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts.



Visual

Alternative A – Three moderately high impacts and one low impact

Alternative B - Four moderately high impacts, two moderate impacts and one low impact

Alternative C – Three moderately high impacts, one moderate impact and two low impacts



Floodplains

The Kern River 100-year and 500-year floodplains occur within the project area for all segments of the Centennial Corridor project.

Alternative A – 11.1 acres of 100-year floodplain and 2.3 acres of 500-year floodplain within right-of-way.

Alternative B – 4.0 acres of 100-year floodplain and 13.4 acres of 500-year floodplain within right-of-way.

Alternative C – 3.7 acres of 100-year floodplain and 13.6 acres of 500-year floodplain within right-of-way.



Water Quality

Water Quality Impact	Alternative A	Alternative B	Alternative C
Soil Erosion	Short-Term	Short-Term	Short-Term
Vegetation Cover	Short-Term	Short-Term	Short-Term
Drainage or Runoff Patterns	Short-Term	Short-Term	Short-Term
Storm Water Runoff Contamination	Short-Term and Long-Term	Short-Term and Long-Term	Short-Term and Long-Term
Surface Water Contamination	Short-Term and Long-Term	Short-Term and Long-Term	Short-Term and Long-Term
Surface Water Disturbance	Short-Term 65.6 acres	Short-Term 54.5 acres	Short-Term 66.6 acres
Contaminated Soil Disturbance*	Short-Term	Short-Term	Short-Term
Groundwater Supplies	Short-Term	Short-Term	Short-Term
Ground Water Recharge	Long-Term	Long-Term	Long-Term
Ground Water Quality	Long-Term	Long-Term	Long-Term

*Contaminated soil includes known, suspected, or potentially contaminated soils.

Short-Term: Potential for short-term impacts during construction exists.

Long-term: Potential for long-term impacts due to the project exists.



PALEONTOLOGY

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. Examples include the Antiquities Act of 1906 and the Federal-Aid Highway Act of 1956. Under California law, paleontological resources are protected by the California Environmental Quality Act.

Geological Map



EXPLANATION

- 1-A Segment 1 - Alternative A
- 1-B Segment 1 - Alternative B
- 1-C Segment 1 - Alternative C
- 1-D Segment 1 - Alternative D
- 2 Segment 2
- 3 Segment 3

- Qsc Recent River and Major Stream Channel Deposits of the Great Valley
- Qb Recent Basin Deposits of the Great Valley
- Qf Recent Alluvial Fan Deposits of the Great Valley
- Qc Pleistocene Nonmarine Sedimentary Deposits
- geologic contact



centennial-geology.cdr



Biological Study Area

Kern River **Biological Study Area – 2,793 Acres**

(Project Impact Area Plus 500 ft Buffer – to analyze direct and indirect impacts)

- Mapped as Riparian Woodland and Unvegetated Wash/Canal
- Provides habitat for wildlife including the San Joaquin kit fox
- Provides regional movement corridor



Biological Study Area

Undeveloped lands interspersed with development (canals, oil refineries, vacant lots)

- Mapped as Non-native Grassland, Unvegetated Wash/Canal, Disturbed, Detention Basin
- Provides habitat for wildlife including San Joaquin kit fox and burrowing owl
- Canals provide local movement for San Joaquin kit fox (would not be impacted)

Agriculture (would not be impacted)

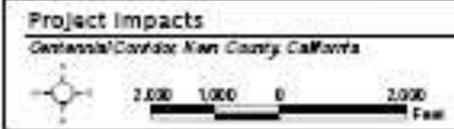
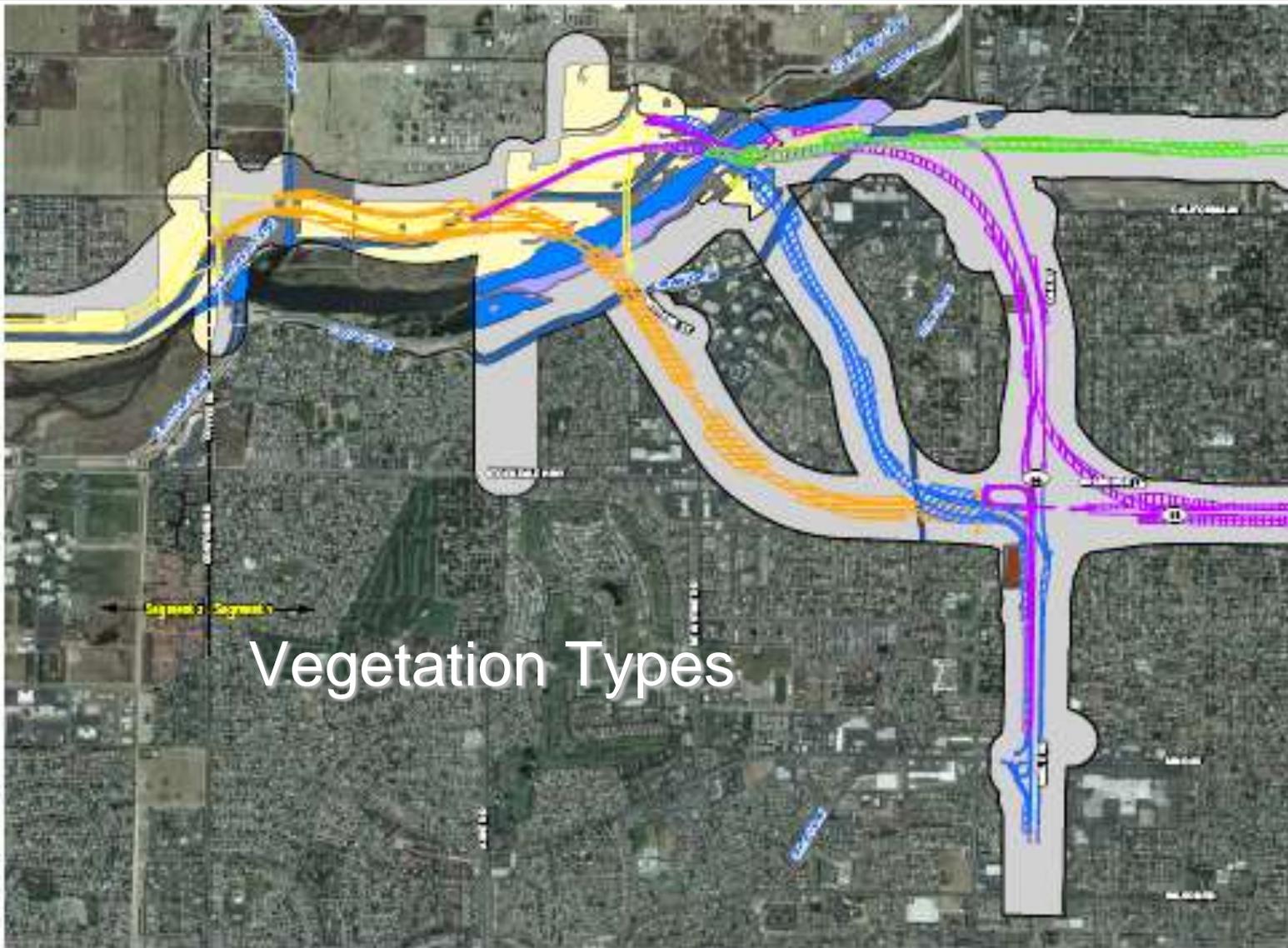
Disturbed Valley Saltbush Scrub (would not be impacted)



Special Status Species – Segment 1

Special Status Plant Surveys were conducted in 2008 and 2009

- Ferris' goldfields were observed in a flood control basin
 - Two populations with a total of 3,500 individuals
 - Both populations impacted by Alternative A
 - Both avoided by Alternatives B, and C
- Will attempt to avoid populations; otherwise mitigation will be required.





Special Status Species – Segment 1

Burrowing Owl Surveys were conducted in 2008

- Suitable habitat and burrows were observed
- No owls were observed during focused surveys
- Pre-construction survey required as an avoidance and minimization measure
 - Protection of active burrows during the nesting season



Special Status Species – Segment 1

Swainson's Hawk Surveys were conducted in
2009

- Potentially suitable nesting habitat occurs along the Kern River
- No Swainson's hawks observed during focused surveys
- Pre-construction survey required as an avoidance and minimization measure
 - Protection of active nests during the nesting season



Special Status Species – Segment 1

San Joaquin Kit Fox Surveys were conducted in 2008

- Observed along the Kern River in grasslands near Mohawk Street
- Pre-construction survey required as an avoidance and minimization measure
 - Protection of active burrows during the breeding season
- Payment of Metropolitan Bakersfield Habitat Conservation Plan Fee (Fee per acre of undeveloped open space impacted)
 - Alternative A would impact 65.96 acres
 - Alternative B would impact 32.46 acres
 - Alternative C would impact 30.89 acres

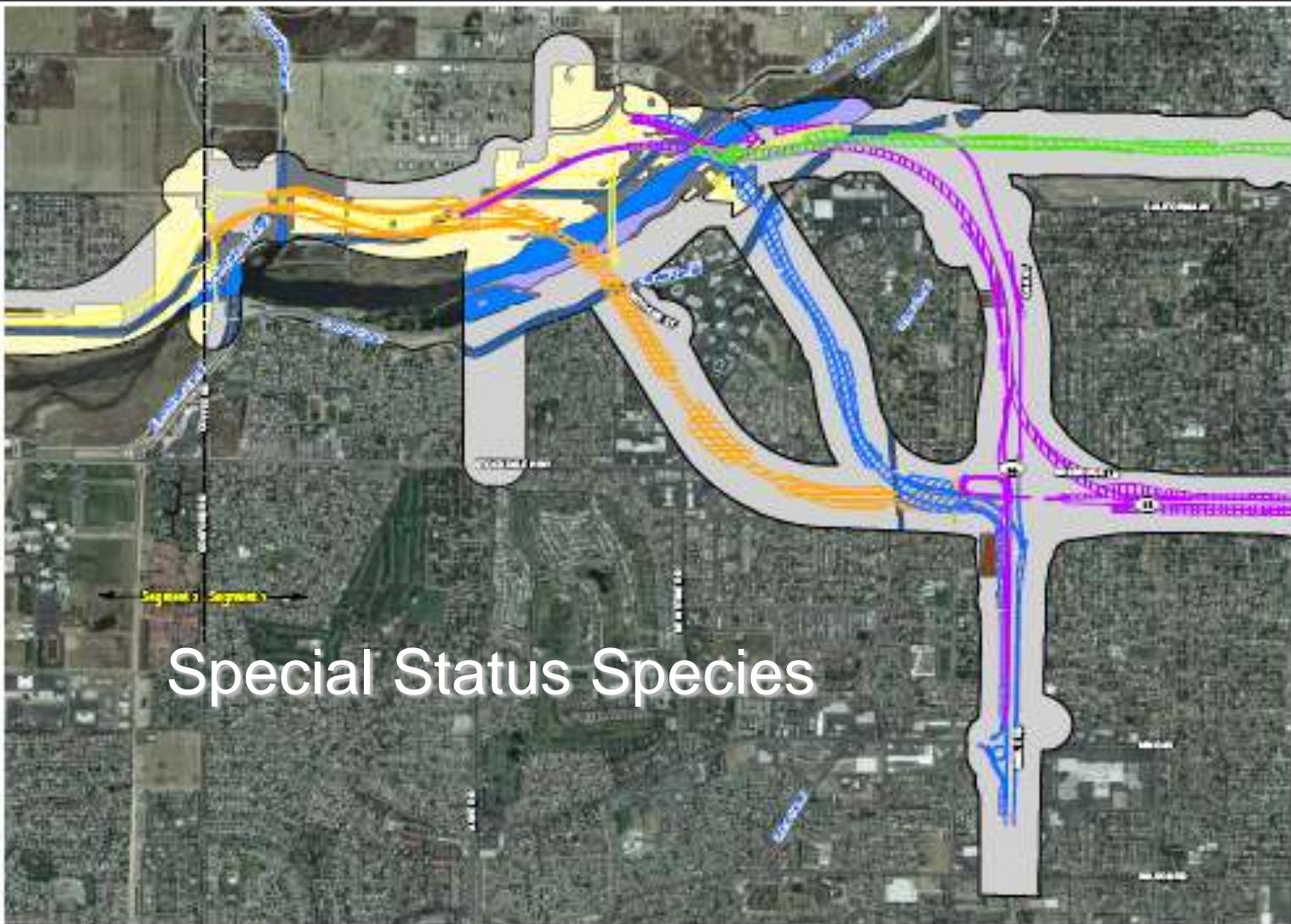


Special Status Species – Segment 1

- **TRIP Mitigation Strategy**
 - Preserves movement along canals throughout the City
 - Creates Artificial Dens in City Sumps
 - Sump Maintenance Plan revised to incorporate protective measures (e.g., timing maintenance outside breeding season)
 - Long-term monitoring of kit fox population in the City



- Biological Study Area
- Segment 1 - Alternative A
- Segment 1 - Alternative B
- Segment 1 - Alternative C
- Segment 1 - Alternative D
- Segment 2
- Segment 3
- Vegetation Types and Other Areas**
- Non-native Grassland
- Disturbed Valley Scrub
- Riparian Woodland
- Developed/Ornamental
- Agriculture
- Unvegetated Wash/Canal
- Disturbed
- Detention Basin



Special Status Species

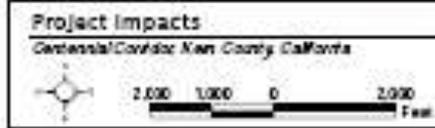


Figure 7B





Jurisdictional Resources

There are no wetlands in the Biological Study Area

Waters of the U.S. (Permits required by USACE* and RWQCB**)

- Alternative A would impact 4.55 acres
- Alternative B would impact 2.96 acres
- Alternative C would impact 3.65 acres
- Mitigated through preparation of a Jurisdiction Resources Mitigation Plan

Waters of the State (Permits required by CDFG***)

- Alternative A would impact 7.79 acres
- Alternative B would impact 4.11 acres
- Alternative C would impact 5.07 acres
- Mitigated through preparation of a Jurisdiction Resources Mitigation Plan

*United States Army Corps of Engineers **Regional Water Quality Control Board

***California Department of Fish & Game



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Show will begin again
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