Grove Avenue Corridor Project

SAN BERNARDINO COUNTY, CALIFORNIA
DISTRICT 8 – SBD – Ontario
FPN HPLUL-5092(039)/ Project ID: 0815000220

Appendices to the

Draft Environmental Impact Report/ Environmental Assessment

Prepared by the

State of California Department of Transportation
and
City of Ontario

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

August 2019

Appendix A Section 4(f) Evaluation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (U.S.C.) 327.

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List of Appendices

List of Tables

List of Figures

Acronyms and Abbreviations

APE	Area of Potential Effects
ASR	Archaeological Survey Report
Caltrans	California Department of Transportation
CFR	*Code of Federal Regulations*
City	City of Ontario
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EIR	Environmental Impact Report
FTA	Federal Transit Administration
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
HPSR	Historic Property Survey Report
HRER	Historical Resources Evaluation Report
I-10	Interstate 10
LOS	Level of Service
LWCF	Land and Water Conservation Fund
NRHP	National Register of Historic Places
PA	Programmatic Agreement
ROW	right-of-way
SHPO	State Historic Preservation Officer
TCE	temporary construction easement
U.S.C.	United States Code
USDOT	United States Department of Transportation

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Chapter 1 Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (U.S.C.) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreational lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation project . . . requiring the use of publicly owned land of a public park, recreational area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, State, or local officials having jurisdiction over the park, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The project includes all possible planning to minimize harm to the park, recreational area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) requires consultation with the United States Department of the Interior (DOI) and, as appropriate, the United States Department of Agriculture, and the Department of Housing and Urban Development in developing transportation projects that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

The proposed project is a transportation project that may receive federal funding and/or discretionary approvals through the U.S. Department of Transportation (USDOT) (i.e., Federal Highway Administration [FHWA]); therefore, documentation of compliance with Section 4(f) is required.

The FHWA Section 4(f) Checklist, Attachment B – Park, Recreational Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f), revised September 2003, represents their recommended "best practices" for compliance with Section 4(f) requirements. Attachment B of the Section 4(f) Checklist indicates that all archaeological and historical sites within the Section 106 Area of Potential Effects (APE) and all public parks, recreational facilities, and wildlife refuges within approximately 0.5 mile of any of the project alternatives should be

included in the evaluation. The entire FHWA Section 4(f) Checklist is provided as Appendix A.[12]

This Section 4(f) analysis provides an overview of parks, recreational facilities, wildlife refuges, and historic properties found within 0.5 mile of the proposed project in accordance with the requirements of Section 4(f).

To determine whether Section 4(f) applies to a federal transportation project, two prerequisites are considered: (1) the project must involve a resource that is protected under the provisions of Section 4(f), and (2) there must be a use of that resource. Resources subject to Section 4(f) consideration include publicly owned lands that are considered part of a public park; or a recreational area of national, state, or local significance, whether publicly or privately owned.

1.1 Project Description

One No Build Alternative and one Build Alternative are being considered for the Grove Avenue Corridor Project. The Build Alternative proposes local street improvements along Grove Avenue and improvements at the Grove Avenue/Holt Boulevard intersection. The Build Alternative is bound on the north by 4th Street and on the south by State Street/Airport Drive.

1.2 Purpose and Need

1.2.1 Purpose of Project

The purpose of the proposed Grove Avenue Corridor Project is to accomplish the following objectives:

- To alleviate existing and anticipated future congestion along Grove Avenue between 4th Street and Airport Drive;
- To improve traffic operations and mobility to and from Ontario International Airport, existing and future cargo hub facilities near Grove Avenue and Holt Boulevard, and other planned uses; and
- To provide route continuity along Grove Avenue to conform with the City of Ontario General Plan Circulation Element, which identifies Grove Avenue as a six-lane principal arterial.

[12] Federal Highway Administration. 1997 (revised September 2003). Section 4(f) Checklist.

1.2.2 Need for the Project

Improvements to Grove Avenue are needed to accommodate recent and projected growth in passenger and goods/trucks movement associated with Ontario International Airport and changes in land use since Grove Avenue was originally constructed.

Based on traffic projections and the existing and planned land uses in the vicinity, the existing Grove Avenue facility is forecast to operate at unsatisfactory level of service (LOS) at three intersections within the project limits by 2045 without improvements.

1.3 Project Alternatives

The Grove Avenue Corridor Project considers one No Build Alternative and one Build Alternative to address existing and future projected traffic demands. A summary of the proposed project alternatives is provided below.

1.3.1 No Build Alternative

The No Build Alternative proposes no improvements within the project area. Grove Avenue would maintain the existing four through lanes, and the existing configuration at the Grove Avenue/Holt Boulevard intersection would be maintained.

1.3.2 Build Alternative

The Build Alternative includes widening Grove Avenue from four lanes to six lanes between 4th Street and State Street/Airport Drive in accordance with the City of Ontario Master Plan. South of 4th Street, Grove Avenue would be widened to the west to avoid impacts to the historic Jay Littleton Ballpark. Between I Street and Holt Boulevard, Grove Avenue would be widened to the east, and between Holt Boulevard and State Street/Airport Drive, Grove Avenue would be widened on both sides.

In addition, Holt Boulevard would be widened at the Grove Avenue intersection from two through lanes, two through-right lanes, and one left-turn lane to four through lanes, two through-right lanes, and two left-turn lanes.

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Chapter 2 Regulatory Setting

2.1 Overview

This evaluation identifies the Section 4(f) resources in the Grove Avenue Corridor Project study area, describes the nature and extent of the potential effects on these properties, evaluates alternatives that would avoid the use of Section 4(f) resources, and describes measures to minimize harm to the affected resources.

2.2 Determining Section 4(f) Resources

There are two steps in determining whether Section 4(f) applies to a project:

1. The project must involve a resource that is protected by the provisions of Section 4(f).
2. There must be a "use" of that resource.

Protected resources include:

- Public parks
- Recreational areas of national, state, or local significance
- Wildlife or waterfowl refuges
- Historic sites of national, state, or local significance

2.3 Section 4(f) Use

As defined in 23 *Code of Federal Regulations* (CFR) 774.17, a "use" of a protected resource occurs when any of the following conditions are met:

- **Direct Use:** Land is permanently incorporated into a transportation facility.
- **Temporary Use:** There is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in 23 CFR 774.13(d).
- **Constructive Use:** There is a constructive use of a Section 4(f) property as determined by the criteria in 23 CFR 774.15.

2.3.1 Direct Use

A direct use of a Section 4(f) resource takes place when part or all of the property designated for protection under Section 4(f) is permanently incorporated into a

transportation project (23 CFR Section 774.17). This may occur as a result of partial or full acquisition of a fee simple interest, permanent easements, or temporary easements that exceed the regulatory limits noted below (23 CFR Section 771.135).

2.3.2 Temporary Use

A temporary use of a Section 4(f) property occurs when there is temporary occupancy of a protected property for construction-related activities and when that temporary occupancy is considered adverse in terms of the preservationist purposes of the Section 4(f) statute.

If the following five conditions set forth in 23 CFR Section 774.13(d) can be satisfied, Section 4(f) does not apply.

1. The duration of the occupancy must be temporary (i.e., shorter than the period of construction) and does not involve a change in ownership of the property.
2. The scope of the work must be minor, with only minimal changes to the protected resource.
3. There are no anticipated permanent adverse physical impacts on the protected resource and no temporary or permanent interference with the activities or purpose of the resource.
4. The land being used must be fully restored to a condition that at least equals the condition that existed prior to the proposed project.
5. There must be documented agreement by the appropriate officials having jurisdiction over the Section 4(f) resource regarding the above conditions.

2.3.3 Constructive Use

A constructive use of a Section 4(f) resource happens when a transportation project does not permanently incorporate land from the resource in the transportation facility, but the proximity of the project to the Section 4(f) property results in adverse proximity impacts (i.e., noise, vibration, visual, access, and/or ecological impacts) so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired (23 CFR Section 774.15). Substantial impairment occurs only if the protected activities, features, or attributes of the Section 4(f) property are substantially diminished by the indirect adverse impacts of the project (23 CFR Section 774.15(a)). This determination is made through the following process:

- Identification of the current activities, features, or attributes of the resource that may be sensitive to proximity impacts

- Analysis of the potential proximity impacts of the project on the resource
- Consultation with the appropriate officials having jurisdiction over the resource (23 CFR Section 774.15(d))

2.4 *De Minimis* Impacts

2.4.1 Determining *De Minimis* Impacts to Section 4(f) Resources

A *de minimis* impact to a Section 4(f) resource is a nominal impact that would not be adverse to the activities, features, or attributes of the Section 4(f) resource. A *de minimis* impact finding can be made for some direct uses and temporary uses; however, a *de minimis* impact finding cannot be made for constructive uses.

Under FHWA regulations (23 CFR Section 774.13(d)), temporary occupancy, including temporary construction easements (TCEs), and other temporary project activities are typically considered *de minimis* impacts if they do not exceed the five thresholds discussed above in Section 2.3.2.

Under Section 4(f), *de minimis* impacts to historic resources would be either no impact to the property or a finding of "no adverse effect" under 36 CFR Part 800. For other Section 4(f) protected resources, including publicly owned parks, recreational areas, and wildlife and waterfowl refuges, *de minimis* impacts would be defined as those impacts that do not adversely affect the activities, features, or attributes of the Section 4(f) resource.

The *de minimis* impact finding is based on the level of impact, including any avoidance, minimization, and mitigation or enhancement measures that are included in the project to address the Section 4(f) use. *De minimis* impact findings are expressly conditioned upon the implementation of measures that are relied on to reduce the impact to a *de minimis* level.

As discussed below in Sections 2.4.2 through 2.4.4, to reach a *de minimis* impact finding for properties where a use would occur, the official(s) with jurisdiction over the Section 4(f) resource must provide written concurrence to the California Department of Transportation (Caltrans) that the project would not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f). In addition, the public must be afforded the opportunity to review and comment on the effects of the project on the identified Section 4(f) resource(s).

2.4.2 Coordination and Concurrence on *De Minimis* Findings

As discussed above, the regulations require coordination with officials that have jurisdiction over park and historic resources that may be used by the project prior to the approval of Section 4(f) impact findings. Regulations require written concurrence from these officials prior to:

- Making *de minimis* impact findings
- Applying an exception for temporary occupancies
- Applying an exception for transportation enhancement and mitigation activities

For parks, recreational areas, and wildlife and waterfowl refuges, the officials with jurisdiction over the property must be informed of the intent to make a *de minimis* impact determination, after which an opportunity for public review and comment must be provided. Information on coordination with each jurisdiction is provided in detail in Chapter 4.0.

2.4.3 Public Meeting to Disclose Section 4(f) *De Minimis* Finding

After initial formal consultation is conducted with the official representing each potentially impacted resource, a meeting must be held to provide the public with an opportunity to review and comment on the draft environmental document. To facilitate public disclosure, notice of the public meeting must be circulated informing agencies and the general public of the time and place of the meeting, project description, and the proposed *de minimis* findings. During the public meeting and circulation of the draft environmental document, the public must be afforded the opportunity to review the environmental document, as well as to comment on the effects of the project on Section 4(f) resources along the project corridor.

2.4.4 Caltrans *De Minimis* Impact Finding for the Grove Avenue Corridor Project

When seeking a *de minimis* impact determination for a use of Section 4(f) resources, local agencies must work with Caltrans to complete the analysis. Caltrans is responsible for making the *de minimis* impact finding.

After considering any comments received from the public during circulation, and whether the official concurs in writing that the project will not adversely affect the Section 4(f) activities, features, or attributes, then Caltrans finalizes the *de minimis* impact determination on behalf of FHWA. Final Section 4(f) concurrence will be achieved prior to approval of the Finding of No Significant Impact (FONSI).

2.5 Section 6(f) Resources

In addition to resources protected under Section 4(f), this project is also required to analyze potential impacts to properties protected or enhanced with Land and Water Conservation Fund (LWCF) grants. Section 6(f)(3) of the LWCF Act (16 U.S.C. Section 4601-4) contains provisions to protect federal investments in park and recreational resources and the quality of those resources. State and local governments often obtain grants through the LWCF Act to acquire or make improvements to parks and recreational areas. Section 6(f) of the LWCF Act prohibits the conversion of property acquired or developed with LWCF grants to a nonrecreational purpose without the approval of the DOI's National Park Service. Section 6(f) further directs DOI to assure that replacement lands of equal value, location, and usefulness are provided as conditions to such conversions. Consequently, where conversion of Section 6(f) lands are proposed for roadway and highway projects, replacements will be necessary.

To determine whether LWCF funds were involved in the acquisition or improvement of Section 4(f) resources, State Parks staff and database records of all LWCF-funded parks within San Bernardino County were consulted in April 2015 to determine properties pursuant to Section 6(f).[13] This research revealed that no LWCF funds were utilized for improvements at any sites within 0.5 mile of the proposed project; therefore, there would be no effect on LWCF-funded parks or recreational resources.

2.6 Measures to Minimize Harm

As discussed above, there are no prudent and feasible alternatives that would avoid all Section 4(f) resources. The next step is to identify all reasonable measures to minimize harm or mitigate adverse impacts and effects. 23 CFR 774.3(c) provides the following direction:

> *(c) If the analysis … concludes that there is no feasible and prudent avoidance alternative, then the Administration may approve only the alternative that:*
> *(1) Causes the least overall harm in light of the statute's preservation purpose. The least overall harm is determined by balancing the following factors:*
> *i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);*

[13] Provided by Cristelle Taillon of California State Parks Grand and Local Services. The report is dated April 1, 2015.

ii. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

iii. The relative significance of each Section 4(f) property;

This section describes how the project alternatives, and other potential minimization measures, could avoid one or more of the Section 4(f) resources, reduce the impacts to one or more Section 4(f) resources, or potentially mitigate impacts to Section 4(f) resources. This section also evaluates whether these measures would be reasonable.

As outlined in 23 CFR 774.17, *all possible planning*, in evaluating the reasonableness of measures to minimize harm, FHWA and Federal Transit Administration (FTA) consider the preservation principles of the Section 4(f) statute, along with:

(i) The views of the officials with jurisdiction over the Section 4(f) property,

(ii) Whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property, and

(iii) Any impacts or benefits of the measures to communities or environmental resources outside the Section 4(f).

Based on this analysis, some of the project alternatives and other measures that could minimize harm to Section 4(f) resources are not reasonable; however, because the project is currently in the conceptual design phase, it is not possible to draw conclusions about the reasonableness of all potential measures to minimize harm. Therefore, this Section 4(f) Evaluation carries all reasonable and potentially reasonable measures forward for consideration. These measures will be further considered as the project sponsors identify a locally preferred alternative and move into preliminary engineering and final design. In all cases, measures to minimize harm to Section 4(f) resources will be considered in coordination with the relevant consulting parties for historic resources, and with jurisdictions for City of Ontario (City) park resources along the project corridor.

Chapter 3 List and Description of Section 4(f) Properties

3.1 Identification of Section 4(f) Properties

As noted above, resources subject to Section 4(f) consideration include publicly owned lands such as public parks; recreational areas of national, state, or local significance; wildlife and waterfowl refuges; and historic sites of national, state, or local significance.

Resources in the project study area were identified if they were:

- Existing publicly owned recreational and park resources, including local, regional, and State resources;
- Publicly owned wildlife and water fowl refuges and conservation areas;
- Existing public bicycle, pedestrian, and equestrian trails; or
- National Register of Historic Places (NRHP) listed or eligible historic sites.

Research was conducted to identify publicly owned parks, recreational areas, wildlife and waterfowl refuges, and land from a historic site within 0.5 mile of the project alternatives.

Based on this research, there are 12 properties within 0.5 mile of the project corridor that qualify as Section 4(f) resources, including 5 parks, 6 schools with publicly accessible facilities, 1 historic property, and no archaeological sites. As stated previously, no Section 6(f) resources exist within the project study area.

A summary of the number of identified resources is provided in Table 1. A map of public parks and public schools with recreational facilities is provided as Figure 1.

Table 1. Summary of Properties Subject to Section 4(f) Consideration

Type of Property	Geographic Location to Project	Number of Properties Identified
Public Parks	Within 0.5 mile	5
Public Schools with Recreational Areas	Within 0.5 mile	6
Trails	Within 0.5 mile	0
Wildlife and Waterfowl Refuges	Within 0.5 mile	0
NRHP-eligible historic sites	Within 0.5 mile	1
NRHP-eligible archaeological sites	Within 0.5 mile	0

Source: Parsons, 2015.

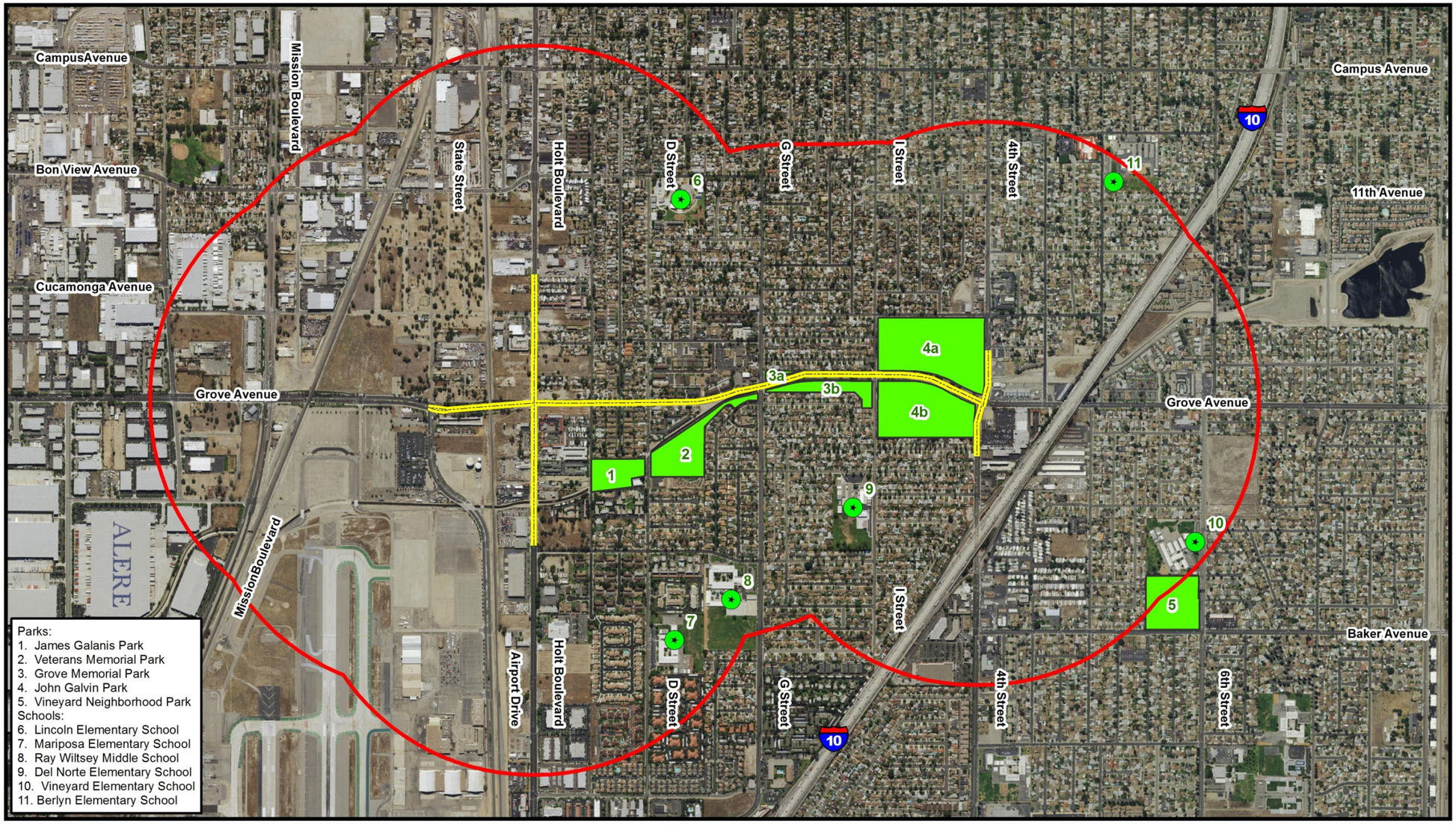
3.2 Public Parks and Recreational Facilities

Eleven (11) publicly owned lands that contain parks and recreational areas are within 0.5 mile of the project corridor, as shown in Figure 1. Of these 11 properties, 6 are public schools with outdoor playgrounds and other recreational facilities, which are assumed to be open to the general public. The remaining 5 properties are outdoor parks. Tables 2 and 3 provide a summary of all 11 properties by type (i.e., school and park), including information on location, ownership, facilities available at each property, and whether the property is subject to Section 4(f) protection.

Table 2. School Facilities within the Study Area

Property Name	Location	Current Ownership	Facilities	Subject to Section 4(f) Protection?
Lincoln Elementary School	440 N. Allyn Avenue Ontario, CA 91764	Ontario Montclair School District	Playground; basketball courts; soccer field; large multiple use area	Yes
Mariposa Elementary School	1605 E. D Street Ontario, CA 91764	Ontario Montclair School District	Multiuse playground; blacktop play area; swing set; multiuse turf area; baseball backstop; basketball courts	Yes
Ray Wiltsey Middle School	1450 E. G Street Ontario, CA 91764	Ontario Montclair School District	Basketball courts; tennis courts; large multiuse turf area; baseball backstop; soccer field	Yes
Del Norte Elementary School	850 N. Del Norte Avenue Ontario, CA 91764	Ontario Montclair School District	Basketball courts; multiuse turf area; soccer field; swings; playground; baseball backstop	Yes
Vineyard Elementary School	1500 E. 6th Street Ontario, CA 91764	Ontario Montclair School District	Basketball courts; tennis courts; multiuse turf area; baseball backstop; playground; swings	Yes
Berlyn Elementary School	1320 N. Berlyn Avenue Ontario, CA 91764	Ontario Montclair School District	Multiuse playground; blacktop play area; swing set; large multiuse turf area; baseball backstops; basketball courts	Yes

Source: Parsons, 2015.



Sources: GeoEye Aerial Imagery (2012); Parsons (2015).

Figure 1. Section 4(f) Public Parks and Recreation Lands

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Table 3. Parks and Recreational Resources within the Study Area

Property Name	Location	Current Ownership	Facilities	Subject to Section 4(f) Protection?
James Galanis Park	1259 E. D Street Ontario, CA 91764	City of Ontario	5.10 acres; turf area – multiuse	Yes
Veterans Memorial Park	1259 E. D Street Ontario, CA 91764	City of Ontario	8.90 acres; community center; restrooms; tot lot; basketball courts; picnic tables; barbecues; soccer, football, softball fields; pedestrian/bike paths; drinking fountains	Yes
Grove Memorial Park	800 Block of Grove Avenue Ontario, CA 91764	City of Ontario	Western Portion: 0.48 acre; two benches; horseshoe-shaped walking path Eastern Portion: 3.84 acres; standard curb for pedestrians	Yes
John Galvin Park	900 Block of Grove Avenue Ontario, CA 91764	City of Ontario	Western Portion: 19.71 acres; baseball field; tennis courts; playgrounds; horseshoe pits; picnic shelters and BBQs Eastern Portion: 15.23 acres; Jay Littleton Ballpark; two additional baseball fields; picnic shelters and BBQs; basketball courts	Yes
Vineyard Neighborhood Park	1530 E. 6th Street Ontario, CA 91764	City of Ontario	9.60 acres; pool; restrooms; tot lot; basketball courts; picnic tables; barbecues; turf area/multiuse; benches; drinking fountains	Yes

Source: Parsons, 2015.

3.3 Historic and Archaeological Sites

Many efforts have been undertaken to identify historic properties, including a Historical Resources Evaluation Report (HRER) and an Archaeological Survey Report (ASR) to support the findings of the project's Historic Property Survey Report (HPSR). These studies included cultural resource records and literature searches, Native American consultation, a reconnaissance survey and intensive pedestrian (Phase I) surveys of the project APE, archival research, and consultation with historical societies and local government agencies.

As part of these studies, 85 parcels containing buildings, groups of buildings, and structures were identified within the APE; of these, only 8 parcels contained historic-period resources that required evaluation. These included 8 historic architectural properties and no historic archaeological sites. The remaining parcels within the APE were either vacant, contained buildings constructed after 1964, or contained buildings exempt from evaluation in accordance with Attachment 4 of the Section 106 Programmatic Agreement (PA) among FHWA, the Advisory Council on Historic Preservation, the SHPO, and Caltrans regarding compliance with Section 106 of the National Historic Preservation Act. Properties listed in or determined eligible for listing in the NRHP are provided in Table 4. Locally significant properties determined to not be eligible for the NRHP are provided in Table 5.

Table 4. Properties Listed in or Determined Eligible for Listing in the National Register of Historic Places

Property Name	Address/Location	Listed in the National Register of Historic Places?	Details
Jay Littleton Ballpark	John Galvin Park	No	Found eligible as a result of the HRER completed for this project

Source: Parsons, 2015; National Register, 2015.

Table 5. Locally Significant Properties Determined to Not be Eligible for the National Register of Historic Places*

Property Name	Address/Location	Community	Section 4(f) Resource?
1130 E. Holt Boulevard	1130 E. Holt Boulevard	Ontario	No
1101 E Holt Boulevard	1101 E Holt Boulevard	Ontario	No
*Eligibility for listing in the National Register is determined on an individual basis. These properties have been evaluated in detail on Department of Parks and Recreation Historical Resources Inventory Forms (Series DPR 523) in Appendix A of the HRER (2015).			

Source: Parsons, 2015; National Register, 2015.

As a result of this study, the project APE is known to contain one historic property listed in or eligible for the NRHP. The project cultural studies found that Jay Littleton Ballpark appears eligible for listing in the NRHP under National Register Criterion A and C, with a period of significance from 1937 to 1955.

No historic archaeological sites were found eligible for listing in the NRHP. Three historic archaeological resources are present within the project APE and were determined by qualified archaeologists to meet Property Type 1 as defined in PA Attachment 4 (Properties Exempt from Evaluation).

Based on current design plans for the project, no adverse effects to any of these resources are anticipated. All historic properties identified along the project corridor are outside of the direct impact footprint and would not be affected by the Build Alternative. No indirect effects are anticipated. With no historic properties being affected, there would be no constructive use of historic properties. Therefore, no further analysis of historic and archaeological Section 4(f) resources would be required.

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Chapter 4 Impacts on Section 4(f) Properties

This section describes which Section 4(f) resources may be affected if the proposed project is implemented.

Although not discussed in detail in this chapter, every Section 4(f) resource within the study area was analyzed for potential direct and indirect impacts under both alternatives. Of the five public parks and recreational facilities discussed in Chapter 3, potential impacts are discussed in this evaluation for the two properties where impacts are anticipated under the Build Alternative.

A summary of potential effects is provided in Table 6. Later in this chapter, additional analysis follows for each resource with the potential to be impacted by the Build Alternative. In each instance, an assessment has been made as to whether any permanent or temporary occupation of the property would occur, and whether the proximity of the project would cause any access, visual, air quality, noise, vibration, biological, or water quality effects that would substantially impair the features or attributes that qualify the resource for protection under Section 4(f).

Table 6. Section 4(f) Impact Summary for Build Alternative

Property Name	Direct Use?	Temporary Use?	Constructive Use?	Comments
Grove Memorial Park	Yes	Yes	No	0.06-acre direct use; 0.48-acre temporary use
John Galvin Park	Yes	Yes	No	0.06-acre direct use; 0.20-acre temporary use

Source: Parsons, 2015.

The analysis of potential effects on Section 4(f) resources that follows includes discussion of how the proposed project would affect each Section 4(f) resource and whether the effects would result in a use of the resource.

4.1 Potential Section 4(f) Uses by the No Build Alternative

There would be no uses of park, recreational, or historic resources subject to Section 4(f) provisions with the No Build Alternative.

4.2 Potential Section 4(f) Uses by the Build Alternative

The following sections describe each resource where a potential *use* may occur, provide aerial photos with proposed project improvements for each property, and describe the potential Section 4(f) *uses* for the Build Alternative.

In summary, the Build Alternative would require direct use and temporary use of two Section 4(f) resources. No direct use, temporary use, or constructive use of Section 4(f) resources would be required for the No Build Alternative.

4.3 Grove Memorial Park

4.3.1 Description of Grove Memorial Park

The 4.32-acre Grove Memorial Park, which is owned by the City, is located on the west and east sides of Grove Avenue, generally located between G Street and I Street in Ontario. Representative site photographs are provided in Appendix B.

Western Portion: The 0.48-acre western portion of Grove Memorial Park is located at the northwest corner of Grove Avenue and G Street. Amenities at this section of the park include two benches, a horseshoe-shaped walking path, dense tree coverage, and drought-tolerant shrub cover. The existing walking path connects to the sidewalk along G Street, because currently there is no sidewalk along the western portion of Grove Avenue between G Street and I Street. There is no dedicated parking for Grove Memorial Park.

Eastern Portion: The 3.84-acre eastern portion of Grove Memorial Park is located along the eastern edge of Grove Avenue between G Street and I Street. Within this section of the park, there are no recreational amenities, such as benches, playgrounds, and/or ball fields. As such, recreational use of this park is generally limited to users walking and jogging along the sidewalk. Although it is identified as a park by the City, the eastern portion of Grove Memorial Park resembles a parkway, landscaped with mature trees and turf grass, and a standard sidewalk along the length of the park. There is no dedicated parking for this section of the park.

There are many other parks near Grove Memorial Park, including John Galvin Park and Veterans Memorial Park, which are both less than 0.25 mile away. Compared to Grove Memorial Park, these other parks in close vicinity provide a much wider range of recreational amenities, including baseball fields, basketball courts, playgrounds,

BBQs, and picnic shelters. Therefore, the primary use of this section of John Galvin Park is to commute (jog/walk) from one park to the other.

In 2015, consistent with the City of Ontario General Plan Circulation Element, which identifies Grove Avenue as a six-lane principal arterial, the City adopted a roadway easement along Grove Avenue to accommodate the ultimate six-lane facility and clarify the edge of the existing Grove Memorial Park. The current park boundary is delineated in Figure 2. Information related to the easement is provided in Appendix C.

4.3.2 Project Effects at Grove Memorial Park

No Build Alternative

Because there are no project activities proposed under the No Build Alternative, no impacts to Grove Memorial Park would result from this alternative.

Build Alternative

Direct Use

The Build Alternative would require acquisition of 0.06 acre (2,393 square feet) of Grove Memorial Park on both sides of Grove Avenue, which represents approximately 1.4 percent of the park's pre-project acreage.

At the western portion of Grove Memorial Park, acquisition would be necessary to accommodate a modified curb return and a connection with the proposed new sidewalk, which would connect this side of the park with John Galvin Park just 0.2 mile to the north. As such, the proposed project would help increase usage of this section of the park and would provide improved pedestrian connectivity between Grove Memorial Park and John Galvin Park.

At the eastern portion of Grove Memorial Park, partial acquisition would be necessary to extend the covered portion of the existing West Cucamonga Creek concrete channel. Given that this park has no active use areas, this minor proposed direct use is not anticipated to impair recreational values of the park.

The direct use areas described above would not adversely affect any of the recreational activities, features, or attributes within the park. Although the acquisition area would minimally reduce the overall size of the park, it would not inhibit existing recreational activities within the park. In fact, given that this park is primarily used by walkers and joggers, improving pedestrian connectivity along the western side of Grove Avenue through this park would help to increase its utility for neighborhood residents.

Temporary Use

Under the Build Alternative, a 0.48-acre TCE would be required at Grove Memorial Park to allow for construction of curb returns, new sidewalks on both sides of Grove Avenue, and to extend the covered portion of the existing West Cucamonga Creek concrete channel, as shown in Figure 2. Although this TCE would temporarily reduce the overall park area during construction, it would not affect existing recreational activities, features, or attributes in the park. Pedestrian connectivity along Grove Avenue through Grove Memorial Park would be maintained at all times during project construction. Construction of the proposed project would not result in a temporary use of the park because recreational activities within this park would not be impeded.

Constructive Use

The Build Alternative would not result in a constructive use of Grove Memorial Park. An indirect impact would be considered a constructive use under Section 4(f) if the impact were so severe that the public did not have access to the park and/or recreational activities occurring within the park were severely affected by the project's impacts. Potential indirect impacts related to the Build Alternative are discussed below.

Accessibility

Vehicular and pedestrian access to Grove Memorial Park would be maintained at all times during construction and operation of the Build Alternative. No designated parking exists for Grove Memorial Park; therefore, no impacts to parking for Grove Memorial Park would result from the Build Alternative.

No sidewalk currently exists along the southbound side of Grove Avenue between I Street and G Street, just north of the western portion of Grove Memorial Park. As illustrated in Figure 2, a new sidewalk along the southbound side of Grove Avenue would be constructed under the Build Alternative, which would provide improved access to the park once the project is constructed.

Visual

Visual impacts during construction would be typical of roadway construction projects, including construction fencing, construction equipment, material stockpiles, and vegetation removal, which would collectively temporarily disturb the park's existing landscape aesthetic. Temporarily disturbed areas would be returned to pre-project conditions once construction is completed; therefore, the minor visual changes associated with the Build Alternative would not be considered a Section 4(f) constructive use.

Figure 2. Build Alternative Impacts at Grove Memorial Park

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Air Quality and Noise

Indirect air quality and noise impacts as a result of the Build Alternative are not expected to result in a constructive use of Grove Memorial Park. As discussed in the project's *Air Quality Study* (February 2017) and *Noise Study Report* (December 2017), the park is currently subject to indirect air quality and noise impacts due to its proximity to the existing Interstate 10 (I-10) mainline and Grove Avenue, and due to the park's location in a built-out suburban environment. The incremental increase in noise and air quality impacts during construction and once the proposed project is in operation would not inhibit existing recreational functions in the park that are already subject to noise and air quality. The proposed project would not result in a Section 4(f) constructive use of the park due to indirect noise and air quality impacts.

Vibration

Vibration impacts as a result of the Build Alternative would not result in a constructive use of Grove Memorial Park. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance from the piece of construction equipment. These impacts would be short term and would not inhibit recreational use of the site during construction. During operation of the Build Alternative, ground-borne vibration impacts are not anticipated beyond the impacts currently experienced as a result of vehicles traveling through the study area. Therefore, there would be no vibration impacts at Grove Memorial Park that would result in a Section 4(f) constructive use.

Vegetation and Wildlife

Grove Memorial Park is located in a built-out suburban area; there are no wildlife corridors or substantial vegetation communities adjacent to the park that would be indirectly impacted by the project; therefore, there would be no vegetation or wildlife impacts at the park resulting in a Section 4(f) constructive use.

Water Quality

Construction of the Build Alternative has the potential to affect water quality. Potential pollutant sources from the building phase of this alternative include construction activities and materials expected at the project site, such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, with

minimization measures, short- and long-term water quality impacts associated with the Build Alternative would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

4.3.3 Applicability of Section 4(f)

The Build Alternative would result in direct and temporary use of Grove Memorial Park. No constructive use of this resource is anticipated under the Build Alternative.

The Build Alternative would require direct use of 0.06 acre (2,393 square feet) of Grove Memorial Park in the form of permanent acquisition, which represents 1.4 percent of the park's pre-project acreage. According to the FHWA guidance provided in the Environmental Review Toolkit for Section 4(f) Evaluations, to be considered a *de minimis* impact, the amount of land to be acquired from any Section 4(f) site must not exceed 10 percent of the site. Given that this direct use is below the threshold set forth in the statute, the proposed 0.06-acre acquisition at Grove Memorial Park is eligible to be considered as a *de minimis* impact. In addition, the area to be acquired is primarily unused landscaped and mulch-covered space, which does not contribute to the walking path or park benches that qualify Grove Memorial Park as a resource under Section 4(f). Given that the five conditions set forth in 23 CFR Section 774.13(d) are satisfied, and the proposed acquisition would not adversely affect the activities, features, or attributes of Grove Memorial Park, Section 4(f) does not apply.

In addition, the Build Alternative would result in temporary use of 0.48 acre of Grove Memorial Park; however, work would be minor in scope, and there are no anticipated permanent adverse physical effects or other interference with the activities or purpose of the resource. Temporarily disturbed areas would be fully restored to pre-project conditions once temporary impacts are complete; therefore, Section 4(f) does not apply for this temporary use.

4.3.4 Documentation of Consultation

Since the scoping period, staff members from the City of Ontario Public Works, Planning, and Parks Departments have coordinated internally with the City Manager regarding potential project impacts and potential avoidance and minimization measures to be implemented during construction at Grove Memorial Park. Meetings and further correspondence between City departments will continue to occur throughout development of the Draft Environmental Impact Report (EIR)/Environmental Assessment (EA).

Formal consultation with the City of Ontario City Manager to confirm the *de minimis* finding will occur during public review of the Draft EIR/EA. Thereafter, correspondence with the official with jurisdiction over Grove Memorial Park will be added to Appendix C.

4.4 John Galvin Park

4.4.1 Description of John Galvin Park

The 34.90-acre John Galvin Park, which is owned by the City, is located on both sides of Grove Avenue, generally between 4th Street and I Street in Ontario. Representative site photographs are provided in Appendix B.

Western Portion: The 19.71-acre western portion of John Galvin Park is located west of Grove Avenue between 4th Street and I Street. Amenities at this section of the park include a volleyball court, baseball field, tennis courts, playgrounds, and an area with BBQs, tables, and shelters. An Army National Guard post and a City water purification facility are also located within the park. The City recently built a dog park in John Galvin Park near the corner of I Street and Cucamonga Avenue, which includes a new lot for parking.

The western portion of John Galvin Park is accessible to pedestrians from 4th Street, Cucamonga Avenue, I Street, and Grove Avenue. Existing vehicular parking and access for the western section of John Galvin Park is located at the southwest corner of 4th Street and Grove Avenue. In addition, a smaller parking lot is located at the southeast corner of 4th Street and Cucamonga Avenue, which primarily serves the three tennis courts in this section of the park. Automobile parking is also widely available along surface streets adjacent to the western portion of John Galvin Park, including along I Street and Cucamonga Avenue.

Eastern Portion: The 15.23-acre eastern portion of John Galvin Park is located along the eastern edge of Grove Avenue between 4th Street and I Street. Within this section of the park, there are two baseball stadiums, one smaller baseball field, two basketball courts, several playgrounds, a concession stand, picnic shelters with BBQs, and restrooms. This eastern portion of John Galvin Park is generally landscaped with turf grass and scattered mature trees.

The eastern portion of John Galvin Park is accessible to pedestrians from sidewalks and crosswalks along 4th Street, I Street, and Grove Avenue. Existing vehicular parking for the eastern portion of John Galvin Park is located at the southeast corner of 4th Street

and Grove Avenue. Parking is also available throughout the interior of the park. This parking can be accessed from Grove Avenue and I Street.

There are many other parks in the vicinity within a short walk, including Grove Memorial Park and Veterans Memorial Park, which are both less than 0.25 mile from John Galvin Park. Despite the presence of other parks in the vicinity, the eastern portion of John Galvin Park is important for providing large spaces and facilities for groups, and large-scale baseball facilities for local and regional users. To a lesser extent, the western section of John Galvin Park is significant compared to other regional parks for its tennis courts and meandering walking paths, with less utility for use by large groups or organized sports leagues.

In 2015, consistent with the City of Ontario General Plan Circulation Element, which identifies Grove Avenue as a six-lane principal arterial, the City adopted a roadway easement along Grove Avenue to accommodate the ultimate six-lane facility and clarify the edge of the existing John Galvin Park. The current park boundary is delineated in Figures 3 and 4. As stated previously, information related to the easement is provided in Appendix C.

4.4.2 Project Effects at John Galvin Park

No Build Alternative

Because there are no project activities proposed under the No Build Alternative, no impacts to John Galvin Park would result from this alternative.

Build Alternative

Direct Use

The Build Alternative would require acquisition of a total of 0.02 acre (740 square feet) of John Galvin Park on both sides of Grove Avenue, which represents 0.06 percent of the park's pre-project acreage.

At the western portion of John Galvin Park, partial acquisition would be necessary to accommodate two curb returns and to accommodate widening of the 4th Street Culvert, as shown in Figure 3.

Figure 3. Build Alternative Impacts at John Galvin Park – West

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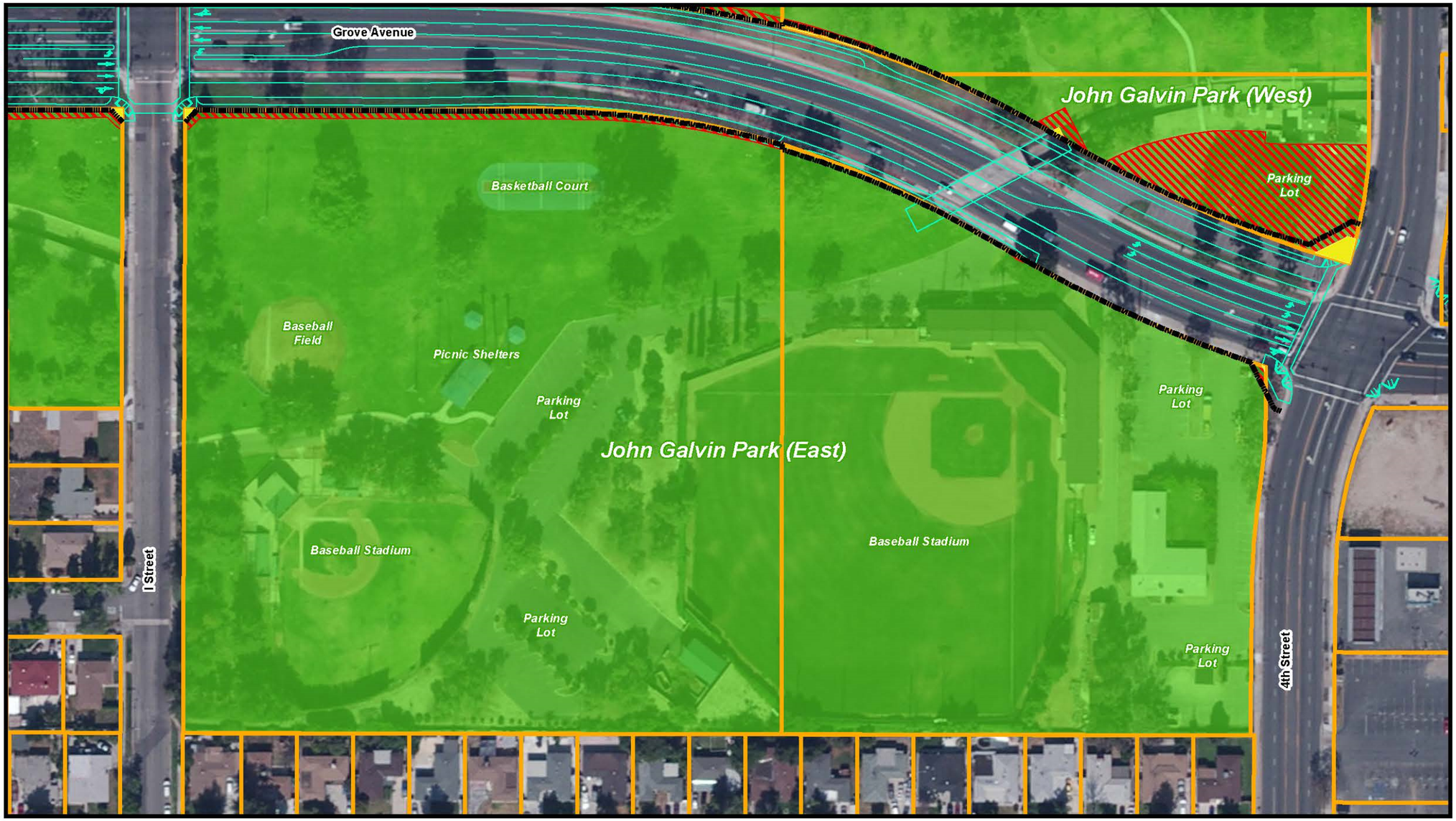

* The proposed ROW follows the existing ROW unless drawn otherwise.

Figure 4. Build Alternative Impacts at John Galvin Park – East

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In addition, the project proposes permanent removal of approximately 40 parking spaces that are currently available for users of the western portion of John Galvin Park in the Grove Avenue and 4th Street parking lot, as shown in Figure 4. During field surveys, only 2 to 3 parking spaces were observed to have been used during each of three visits to the site. Although these parking spaces are within the Grove Avenue right-of-way (ROW) and not technically within the John Galvin Park boundaries, the impacted parking spaces are currently accessible to park users and are perceived as belonging to the park. As part of the project, the remnant parking lot would be reconfigured to maintain as many parking spots at this location as possible. As discussed in Section 4.4.1, a secondary parking lot and ample on-street parking are available in the immediate vicinity of the western portion of John Galvin Park. In addition, many users of this portion of the park are local residents who generally walk to the park, as observed during field studies at the site. Finally, given that the western section of John Galvin Park does not have facilities for organized sports or other large events, it is highly unlikely that the proposed permanent removal of parking spaces would impair usage of this section of the park.

At the eastern portion of John Galvin Park, partial acquisition would be necessary to accommodate two curb returns. The direct use area at this location would be acquired for project ROW and would be converted to transportation uses.

Existing trees and vegetation would be removed during project construction. Turf areas would be replanted to the extent feasible. Existing mature trees (larger than 20 feet high) that are to be removed by proposed improvements at John Galvin Park would be mitigated at a 2:1 ratio to the extent feasible.

No permanent impacts to parking at the eastern portion of John Galvin Park are proposed. Access to the parking lot and the total number of parking spaces available would remain the same after project construction.

As discussed above, the direct use areas in the western and eastern portions of John Galvin Park would not adversely affect any of the recreational activities, features, or attributes of the park. Although the acquisition areas would minimally reduce the overall size of the park and number of parking spaces, these direct uses would not inhibit existing recreational activities within either portion of the park or substantially affect access to the park. Sufficient parking would remain for existing and future use of the western and eastern portions of John Galvin Park.

Temporary Use

Under the Build Alternative, a 0.20-acre TCE would be required at John Galvin Park to allow construction of curb returns and sidewalks, as shown in Figures 3 and 4. Although the temporary TCEs would temporarily reduce the overall park area available to users during construction, the proposed TCEs would not affect existing recreational activities, features, or attributes in the park. The areas proposed as TCEs are landscaped areas at the edge of the western and eastern sections of John Galvin Park and, as such, are not used for recreational purposes. Furthermore, pedestrian access along Grove Avenue through John Galvin Park would be maintained at all times during project construction. Therefore, construction of the proposed project, including the proposed TCEs at this park, would not result in a temporary use of the park itself because use of the park can continue throughout project construction.

As discussed above, the parking lot on the west side of John Galvin Park would be closed for approximately 1 month so that it can be reconfigured, resulting in a temporary reduction of 10 spaces in this parking lot beyond those that would be permanently impacted as discussed in the direct use section above. No impacts to parking for the east side of John Galvin Park are anticipated.

Due to the road realignment and widening, the sidewalks along northbound and southbound Grove Avenue through John Galvin Park would be reconstructed to follow the proposed road. Pedestrian connectivity would be maintained at all times through the park during project construction.

Constructive Use

The Build Alternative would not result in a constructive use of John Galvin Park. An indirect impact would be considered a constructive use under Section 4(f) if the impact were so severe that the public did not have access to the park and/or recreational activities occurring within the park were severely affected by the project's impacts. Potential indirect impacts related to the Build Alternative are discussed below.

Accessibility

Access to John Galvin Park would be maintained at all times during construction and operation of the Build Alternative. As discussed previously, although the Build Alternative would result in the permanent reduction of parking spots on the western portion of John Galvin Park, sufficient alternate parking spaces are available to adequately meet existing demand for this portion of the park.

Visual

Visual impacts during construction would be typical of roadway construction projects, including construction fencing, construction equipment, material stockpiles, and vegetation removal, which would collectively temporarily disturb the park's existing landscape aesthetic. Temporarily disturbed areas would be returned to pre-project conditions once construction is completed; therefore, the minor visual changes associated with the Build Alternative would not be considered a Section 4(f) constructive use

Air Quality and Noise

Indirect air quality and noise impacts as a result of the Build Alternative are not expected to result in a constructive use of John Galvin Park. As discussed in the project's *Air Quality Study* (February 2017) and *Noise Study Report* (December 2017), the park is currently subject to indirect air quality and noise impacts due to its proximity to the existing I-10 mainline and Grove Avenue, and due to the park's location in a built-out suburban environment. The incremental increase in noise and air quality impacts during construction and once the proposed project is in operation would not inhibit existing recreational functions in the park that are already subject to noise and air quality. The proposed project would not result in a Section 4(f) constructive use of the park due to indirect noise and air quality impacts.

Vibration

Vibration impacts as a result of the Build Alternative would not result in a constructive use of John Galvin Park. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance from the piece of construction equipment. These impacts would be short term and would not inhibit recreational use of the site during construction. During operation of the Build Alternative, ground-borne vibration impacts are not anticipated beyond the impacts currently experienced as a result of vehicles traveling through the study area. Therefore, there would be no vibration impacts at John Galvin Park that would result in a Section 4(f) constructive use.

Vegetation and Wildlife

John Galvin Park is located in a built-out suburban area; there are no wildlife corridors or substantial vegetation communities adjacent to the park that would be indirectly impacted by the project; therefore, there would be no vegetation or wildlife impacts at the park resulting in a Section 4(f) constructive use.

Water Quality

Construction of the Build Alternative has the potential to affect water quality. Potential pollutant sources from the building phase of this alternative include construction activities and materials expected at the project site, such as vehicle fluids; concrete and masonry products; landscaping and other products; and contaminated soils. Similarly, operation of this alternative has the potential to affect water quality. Potential pollutant sources associated with operation of this alternative include motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care; however, with minimization measures, short- and long-term water quality impacts associated with the Build Alternative would not substantially impair the activities, features, and/or attributes that qualify the park for protection under Section 4(f).

4.4.3 Applicability of Section 4(f)

The Build Alternative would result in direct and temporary use of John Galvin Park. No constructive use of this resource is anticipated under the Build Alternative.

The Build Alternative would require direct use of 0.06 acre (2,304 square feet) of John Galvin Park in the form of permanent acquisition, which represents 0.2 percent of the park's pre-project acreage. According to the FHWA guidance provided in the Environmental Review Toolkit for Section 4(f) Evaluations, to be considered a *de minimis* impact the amount of land to be acquired from any Section 4(f) site must not exceed 10 percent of the site. Given that this direct use is below the threshold set forth in the statute, the proposed 0.06-acre acquisition at John Galvin Park is eligible to be considered as a *de minimis* impact. In addition, the area to be acquired is primarily unused landscaped and mulch-covered space, which does not contribute to the ball fields and basketball courts that qualify John Galvin Park as a resource under Section 4(f). Therefore, this acquisition would not adversely affect the activities, features, or attributes of John Galvin Park, and Section 4(f) does not apply.

In addition, the Build Alternative would result in temporary use of 0.20 acre of John Galvin Park; however, work is minor in scope, and there are no anticipated permanent adverse physical effects or other interference with the activities or purpose of the resource. Temporarily disturbed areas would be fully restored to pre-project conditions once temporary impacts are complete.

Given that the five conditions set forth in 23 CFR Section 774.13(d) are satisfied, and the proposed acquisition and temporary use proposed would not adversely affect the activities, features, or attributes of John Galvin Park, Section 4(f) does not apply.

4.4.4 Documentation of Consultation

Since the scoping period, staff members from the City of Ontario Public Works, Planning, and Parks Departments have coordinated internally with the City Manager regarding potential project impacts and potential avoidance and minimization measures to be implemented during construction at John Galvin Park. Meetings and further correspondence between City departments will continue to occur throughout development of the Draft EIR/EA.

Formal consultation with the City of Ontario City Manager to confirm the *de minimis* finding will occur during public review of the Draft EIR/EA. Thereafter, correspondence with the official with jurisdiction over John Galvin Park will be added to Appendix C.

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Chapter 5 Avoidance Alternatives

As outlined in 23 CFR 774.3, USDOT may not approve the use of Section 4(f) property unless they first determine that there is no prudent and feasible alternative to the use of land from the property, or that any use of Section 4(f) property would be a *de minimis* impact. An alternative is not prudent, according to 23 CFR 774.17(3)), if it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need. In other words, alternatives that do not adequately meet the project's purpose and need can be dropped from further consideration.

The No Build Alternative, which would result in no direct, temporary, or constructive use of parks or bike trails within the project area, would not fulfill the project purpose and need; thus, it is not a prudent or feasible avoidance alternative.

The Build Alternative would affect one or more protected Section 4(f) properties; however, all impacts are considered *de minimis*. Therefore, no avoidance alternatives are required. Also, no avoidance alternatives are feasible given that Grove Avenue is an existing roadway corridor, which is constrained by park and residential uses. Alternative alignments would be infeasible due to ROW costs and impacts to the community.

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Chapter 6 Measures to Minimize Harm

6.1 Common Measures to Minimize Harm

Several common measures have been identified during development of the technical studies and the Draft EIR/EA to minimize potential project impacts to Section 4(f) properties.

Common Visual Measures

For common visual measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

Common Air Quality Measures

For common air quality measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

Common Noise Measures

For common noise measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

Common Vibration Measures

For common vibration measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

Common Vegetation and Wildlife Measures

For common vegetation and wildlife measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

Common Water Quality Measures

For common water quality measures to minimize harm, please see Chapter 2 of the Draft EIR/EA.

6.2 Specific Measures to Minimize Harm by Specific Section 4(f) Property

Along with the common measures described above, indirect impacts would be reduced to *de minimis* levels through implementation of specific measures at potentially impacted Section 4(f) resources as discussed below.

Grove Memorial Park

A 0.47-acre TCE would be required at Grove Memorial Park under the Build Alternative to widen Grove Avenue and to construct curb returns and sidewalk connections. The affected area in the park is the sidewalk and an area of the park landscaped with turf grass and scattered tree cover. Turf grass would be replaced in TCE areas to match pre-project conditions in consultation with the property owner (City of Ontario) during and at the completion of construction. By doing so, the land used as a TCE would have similar function and value as it did prior to project construction.

John Galvin Park

A 0.68-acre TCE would be required at John Galvin Park under the Build Alternative to widen Grove Avenue and to construct a sidewalk and curb return. The affected area in the park is the sidewalk and an area of the park landscaped with turf grass and scattered tree cover. Turf grass would be replaced in TCE areas to match pre-project conditions in consultation with the property owner (City of Ontario) during and at the completion of construction. By doing so, the land used as a TCE would have similar function and value as it did prior to project construction.

The Build Alternative proposes permanent removal of approximately 40 parking spaces that are currently available for users of the western portion of John Galvin Park in the Grove Avenue and 4th Street parking lot. Although these parking spaces are within the Grove Avenue ROW and not technically within the John Galvin Park boundaries, the impacted parking spaces are currently accessible to park users and are perceived as belonging to the park. The remnant parking lot on the west side of John Galvin Park would be reconfigured to maintain as many parking spots at this location as possible.

Appendix A Federal Highway Administration Section 4(f) Checklist

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Section 4(f) Checklist

The attached section 4(f) checklist was developed by Dan Harris (FHWA, San Francisco). It includes the items he looks for when reviewing section 4(f) evaluations, and is based on 2 CFR 771.15, the FHWA Technical Advisory T 6640.8A, the FHWA Guidebook Section 24, and project experience.

Comments and suggestions regarding the checklist are encouraged; please send them to Dan Harris via the internet or FHWA email. The checklist has been in use for some time; however, it is a working document subject to change and improvement.

Dan R. Harris
Environmental Specialist
FHWA Western Resource Center
201 Mission Street, Suite 2100
San Francisco 94105-188
tel: 415.744.2611
dan.harris@fhwa.dot.gov

May 1997

Draft Section 4(f) Evaluation

General

Is the section 4(f) evaluation contained in a separate section, chapter, or appendix?

For EIS's, is the environmental document entitled Draft Environmental Impact Statement and Section 4(f) Evaluation@ on the EIS title page?
For EA's, is it entitled Draft Environmental Assessment and Section 4(f) Evaluation@?

Does the title page include the citation: Submitted Pursuant to 42 U.S.C. 42(2)(c) and 49 U.S.C. 0@?

Does the introduction to the section 4(f) evaluation include the following boiler plate description of section 4(f):

> Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. '0, declares that A[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.
>
> Section 4(f) specifies that A[t]he Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:
>
> (1) there is no prudent and feasible alternative to using that land; and
>
> (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.
>
> Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by section 4(f).

Is Section 4(f) listed in the EIS index with correct page numbers?

Proposed Action

Are the proposed project and the project purpose and need briefly described with the corresponding EIS/EA text discussions properly referenced for additional information?

Description of Section 4(f) Property(ies)

Does the description of **each** section 4(f) resource which would be used by any alternative include all of the applicable information outlined in Attachment A?

Impacts on the Section 4(f) Property(ies)

Does the impact evaluation discussion address the following impacts on **each** section 4(f) property for **each** alternative?

the amount of land to be used?
the facilities, functions, and/or activities affected?
accessibility?
visual?
noise?
vegetation?
wildlife?
air quality?
water quality?

If there is not an impact in one of the above areas, does the evaluation state such with adequate supportive information?

Does the evaluation include an impact summary table when:

(1) more than one section 4(f) property is involved and
(2) such a table would be useful in comparing the various impacts of the alternatives?

Alternatives

Does the section 4(f) evaluation of alternatives **identify** and **summarize** the alternatives addressed in the EIS/EA and include specific references to those discussions?

Detailed discussions of alternatives in an EIS/EA do not need to be repeated in the section 4(f) portion of the document if they are identified and summarized with specific references to the EIS/EA discussions of alternatives.

Do both the section 4(f) evaluation and the EIS/EA discussion of alternatives include the same location alternatives?

Are location alternatives and site-specific design variations which avoid section 4(f) property(ies) identified and evaluated?

Does the section 4(f) evaluation of alternatives
include at least one build alternative which avoids **each** and **all** section 4(f) resources
or
explain why there are not any such avoidance alternatives with adequate supportive information?

Measures to Minimize Harm

Are all possible measures which are available to minimize the impacts to the section 4(f) property(ies) discussed?
Detailed discussions of mitigation measures in the EIS/EA may be referenced and appropriately summarized rather than repeated.

If the section 4(f) property includes lands or facilities developed under section 6(f) of the Land and Water Conservation Fund Act, does the mitigation discussion address the section 6(f) requirements? See Attachment C.

Other Park, Recreational Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

This section evaluates other park, recreational facilities, wildlife refuges, and historic sites in the project vicinity that do not involve a section 4(f) use.
It needs to include the information outlined in Attachment B. This discussion is necessary to explain why some resources or facilities are not protected by provisions of section 4(f) and to document that any proximity impacts to section 4(f) resources do not result in a constructive use.

Coordination

Does the summary discussion of preliminary coordination with the public official having jurisdiction over the section 4(f) resource address the following:
avoidance alternatives,
impacts to the property,
measures to minimize harm, and
where necessary, the significance and primary use of the property?

If section 6(f) lands are involved, does the summary discussion include preliminary coordination with the National Park Service Region Office?

Final Section 4(f) Evaluation

Is the information contained in the draft section 4(f) evaluation included in the final evaluation with appropriate revisions to reflect comments received on the draft document and any changed conditions, new information, or project refinements?

Does the final evaluation provide the basis for concluding that there are no feasible and prudent alternatives to the use of section 4(f) land(s)?

> *The supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes 2 CFR '771.15(a)(2).*

Does the final evaluation provide the basis for concluding that the preferred alternative includes all possible planning to minimize harm to the section 4(f) property(ies)?

Does the final evaluation demonstrate that the preferred alternative is the feasible and prudent alternative with the least harm on the section 4(f) resources after considering mitigation?

Does the Coordination Section summarize the formal section 4(f) coordination with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture (usually the Forest Service) and Housing and Urban Development?

Are copies of the section 4(f) comments included in the final evaluation, or if contained in the Draft EIS Comment and Response Section, are they accurately referenced?

Have each of the section 4(f) comments received a full and adequate response?

> *Where new alternatives or modifications to existing alternatives are identified and will not be given further consideration, the basis for dismissing the alternatives/modifications needs to be provided and supported by factual information.*

Where section 6(f) land is involved, is the National Park Service's position on the land transfer summarized in the text and documented with a copy of an NPS letter?

Does the final section 4(f) evaluation conclude with the following statement?

> Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the [name(s) of the section 4(f) property(ies)] and the proposed action includes all possible planning to minimize harm to the [names(s) of the section 4(f) property(ies)] resulting from such use.

EIS/EA's Without a Section 4(f) Use

All EIS's (and EA's only if appropriate) need to include a subsection/subchapter within the Environmental Consequences section/chapter entitled:

Park, Recreational Facilities, Wildlife Refuges, and Historic Properties
Evaluated Relative to the Requirements of Section 4(f)

that addresses the information outlined in Attachment B.

This discussion is necessary to explain why some resources or facilities are not protected by provisions of section 4(f) and to document that any proximity impacts to section 4(f) resources do not result in a constructive use.

Attachment A

Description of Section 4(f) Property(ies)

A detailed map or drawing of sufficient scale to identify the relationship of the alternatives to the section 4(f) property.

Size of the section 4(f) property (hectares or square meters (with acres or square feet following parenthesis)).

Location of the section 4(f) property (maps or other exhibits such as photographs and/or sketches).

Ownership (e.g., private, city, county, State, Federal agency).

Type of section 4(f) property (e.g., park, recreation, historic).

Available activities or function of the property (e.g., ball playing, swimming, golfing).

Description and location of all existing and planned facilities (e.g., ball diamonds, tennis courts).

Type of access to the property (e.g., pedestrian, vehicular).

Usage of the section 4(f) resource (e.g., approximate number of users/visitors).

Relationship to other similarly used lands in the vicinity.

Applicable clauses affecting the ownership, such as lease, easement, covenants, restrictions, or conditions, including forfeiture.

Unusual characteristics of the section 4(f) property that either reduce or enhance the value of all or part of the property (e.g., flooding problems, terrain conditions, or other features).

If the section 4(f) property includes lands or facilities developed under section 6(f) of the Land and Water Conservation Fund Act, the description of the section 4(f) resource will need to indicate such. See Attachment C.

Attachment B

Park, Recreational Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

This section evaluates parks, recreational facilities, wildlife refuges, and historic sites in the project vicinity that do not involve a use of section 4(f) land. It describes each resource and then either:

(1) explains why it is not protected by section 4(f), or

(2) demonstrates that the proximity impacts do not rise to a level that substantially impairs the activities, features, or attributes that qualified the resource for protection under section 4(f).

All archaeological and historic sites within the section 106 area of potential effect (APE) and all public and private parks, recreational facilities, and wildlife refuges within approximately 0.8 km (one-half mile) of any of the project alternatives should be included. It is usually unlikely that such resources would be affected at greater distances; however, if there is an issue or question whether they would be affected, they should also be included.

Does the introduction to this discussion include:

a listing of the parks, recreational facilities, wildlife refuges, and historic properties being addressed in this section?

if a section 4(f) resource type (i.e., a park, recreational facility, wildlife refuge, or historic property) does not exist in the project vicinity, does the discussion state such?

the following statement, edited as appropriate for the types of resources involved:

> The purpose of this discussion is to address section 4(f) requirements relative to other park, recreational facilities, wildlife refuges, and historical properties in the project vicinity. As indicated below, none of the alternatives under consideration result in a section 4(f) use of these other park, recreational, wildlife refuges, or historical resources. The discussion of each resource either documents (1) why the resource is not protected by the provisions of section 4(f) or (2) if it is protected by section 4(f), why none of the alternatives under consideration cause a section 4(f) use by (a) permanently incorporating land into the project, (b) by temporarily occupying land that is adverse to the preservationist purposes of section 4(f), or (c) by constructively using land from the resource.

Does the description of **each** resource include:

all of the applicable information outlined in Attachment A?

documentation of whether it is or is not protected by the provisions of section 4(f)?

For each of the resources protected by section 4(f), does the impact evaluation:

address the following for **each** alternative:

the facilities, functions, and/or activities potentially affected?
accessibility?
visual?
noise?
vegetation?
wildlife?
air quality?
water quality?

conclude, based on the above discussion, whether any of the alternatives under consideration would cause a section 4(f) use?

If there is not an impact in one of the above areas, does the evaluation state such with adequate supportive information?

Concluding discussions of section 4(f) **must not use** phrases such as "therefore, section 4(f) does not apply." Section 4(f) is applicable to all US Department of Transportation actions.

Rather, use:

Therefore, the provisions of section 4(f) are not triggered,
Therefore, the provisions of section 4(f) do not come into play,

or

The proposed project [<preferred alternative= for final evaluations] will not cause a constructive use of [name of section 4(f) resource] because the proximity impacts will not substantially impair the protected activities, features, or attributes of [type of resource, e.g., park, historic site, future park].

2

Attachment C

Section 6(f)

Section 6(f) of the Land and Water Conservation Fund Act directs the Department of the Interior (National Park Service) to assure that replacement lands of equal value, location, and usefulness are provided as conditions to their approval of the section 6(f) land conversion. Therefore, where a section 6(f) land conversion is proposed, replacement land will be necessary. Regardless of the mitigation proposed, the draft and final section 4(f) evaluations need to document the National Park Service's position on the section 6(f) land transfer.

Appendix B Representative Site Photos

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Photo 1: Looking south along the western portion of John Galvin Park.

Photo 2: Looking north along Grove Avenue at John Galvin Park.

Photo 3: Jay Littleton Ballpark and other baseball fields are character-defining elements of the eastern portion of John Galvin Park.

Photo 4: In addition to baseball fields, the eastern portion of John Galvin Park contains basketball courts, picnic facilities, mature trees, and turf landscaping.

Photo 5: Typical view of the eastern portion of Grove Memorial Park (looking north).

Photo 6: Looking north at the western portion of Grove Memorial Park.

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Appendix C Summary of Consultation with the City of Ontario

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
464 WEST 4th STREET
SAN BERNARDINO, CA 92401
PHONE (800) 427-7623
FAX (800) 427-7623
TTY 711
www.dot.ca.gov

Serious Drought.
Serious drought.
Help save water!

October 25, 2018

Cathy Wahlstrom, Director
City of Ontario
Planning Department
303 East "B" Street
Ontario, California 91764

Re: Grove Avenue Corridor Project – Section 4(f) Evaluation

Dear Ms. Wahlstrom,

The purpose of this letter is to inform you that the California Department of Transportation District 8 (Caltrans) intends to issue a *de minimis* impact finding under Section 4(f) of the U.S. Department of Transportation Act of 1966 as part of the environmental compliance process for the proposed Grove Avenue Corridor Project, as discussed in detail below. As public park facilities managed by the City of Ontario, Grove Memorial Park and John Galvin Park are afforded special protections under Section 4(f). A *de minimis* impact to a Section 4(f) resource is a nominal impact that would not be adverse to the activities, features, or attributes of the resource. A *de minimis* finding is conditioned upon:

- The official(s) with jurisdiction over the resource indicating, in writing, that the proposed action, including consideration of any mitigation, will not adversely affect the activities, features, and attributes that are important to the resource;
- The public has been afforded an opportunity (by public notice) to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resources; and
- Implementation of mitigation measures, if applicable.

Project Background

The City of Ontario, in cooperation with the County of San Bernardino and Caltrans, proposes to widen Grove Avenue in Ontario from four to six lanes between 4th Street and East State Street/East Airport Drive. Figure 1 shows the project's regional location. Grove Avenue is located approximately 1.4 miles east of Euclid Avenue and approximately 1.2 miles west of Vineyard Avenue along Interstate 10 (I-10). The project area is bound on the north by 4th Street and on the south by East State Street/East Airport Drive. The widened segment of Grove Avenue would be located south of I-10 and would serve the City of Ontario. The Grove Avenue Corridor Project considers one No Build Alternative and one Build Alternative to address existing and future projected traffic demands:

Alternative 1 – No Build Alternative: Alternative 1 would not result in any project improvements.

Alternative 2 – Build Alternative: The Build Alternative includes widening Grove Avenue from four lanes to six lanes between 4th Street and East State Street/East Airport Drive in accordance with the City of Ontario Master Plan. South of 4th Street, Grove Avenue would be widened to the west to avoid impacts to the historic Jay Littleton Ballpark. Between I Street and Holt Boulevard, Grove Avenue would be widened to the east, and between Holt Boulevard and East State Street/East Airport Drive, Grove Avenue would be widened on both sides. In addition, Holt Boulevard would be widened at the Grove Avenue intersection from one through lane, one through-right lane, and one left-turn lane in each direction to two through lanes, one through-right lane, and two left-turn lanes in each direction.

Effective July 1, 2007, the Federal Highway Administration (FHWA) assigned, and Caltrans assumed, all of FHWA's responsibilities under the National Environmental Policy Act (NEPA) for projects on California's State Highway System (SHS) and for federal-aid local street and road projects under FHWA's Surface Transportation Project Delivery Pilot Program, pursuant to 23 *Code of Federal Regulations* (CFR) 773. Caltrans also assumed all of FHWA's responsibilities for environmental coordination and consultation under other federal environmental laws pertaining to the review or approval of projects. Caltrans is deemed to be acting as FHWA with respect to environmental review, consultation, and other actions required under those responsibilities.

The proposed Grove Avenue Corridor Project may receive federal funding and/or discretionary approvals through the U.S. Department of Transportation (i.e., FHWA); therefore, documentation of compliance with Section 4(f) is required. The purpose of this letter is to share information from the Section 4(f) Evaluation. Section 4(f) of the federal Department of Transportation Act of 1966 (49 United States Code [U.S.C.] § 303), declares that "[i]t is the policy of the United States government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." In addition to these areas, Section 4(f) can also apply to publicly accessible bikeways and scenic trails, as well as school playgrounds and sports fields/arenas/courts/tracks.

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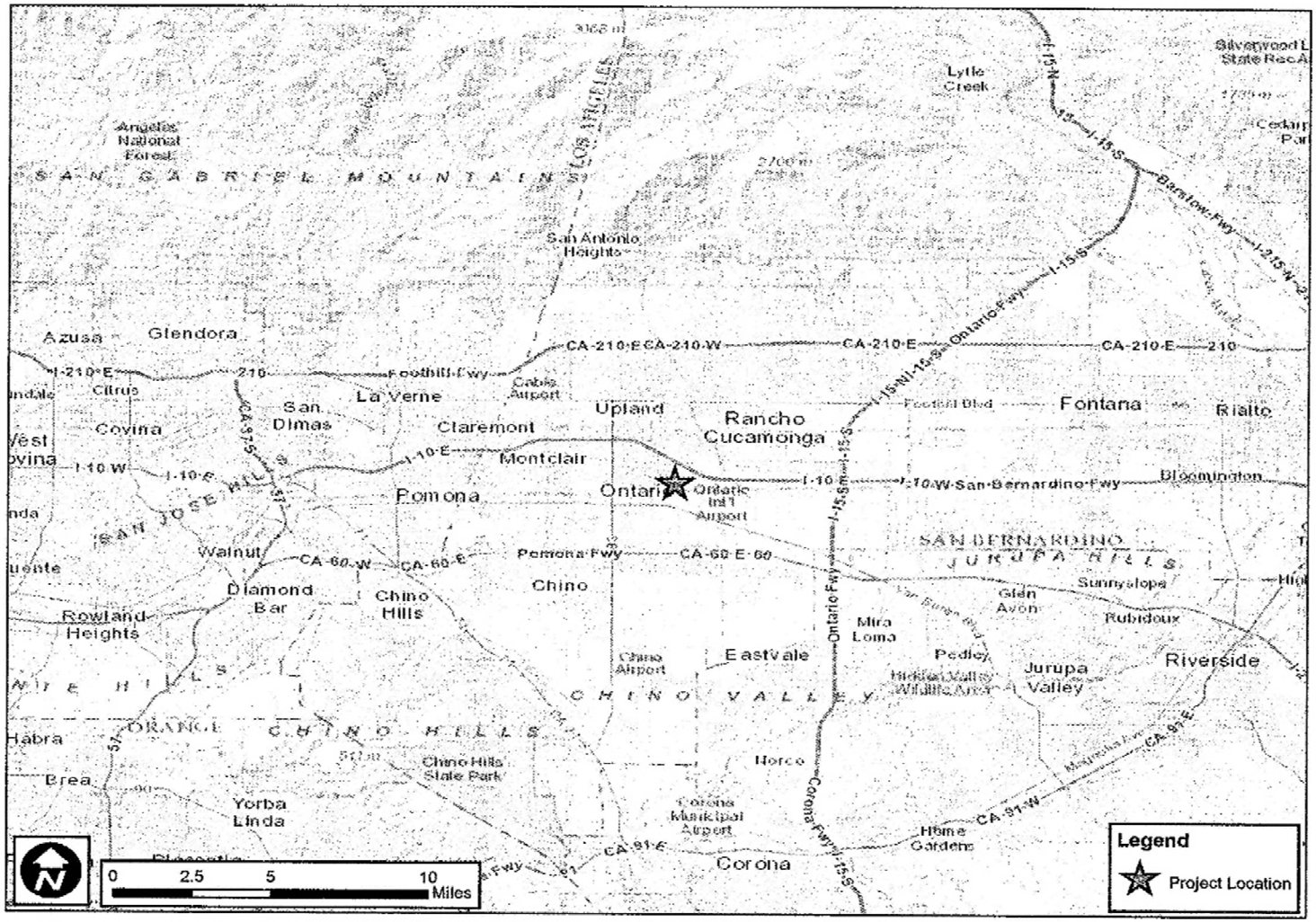

Figure 1. Regional Project Location

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Accordingly, a Section 4(f) Evaluation has been prepared. The evaluation identifies the Section 4(f) resources in the Grove Avenue Corridor Project study area, describes the nature and extent of the potential effects on these properties, evaluates alternatives that would avoid the use of Section 4(f) resources, and describes measures to minimize harm to the affected resources.

The City of Ontario administers numerous trails, bike paths, parks, and open spaces within the study area that are subject to Section 4(f) protection. The Section 4(f) Evaluation has identified Grove Memorial Park and John Galvin Park as being affected by the Grove Avenue Corridor Project.

- The 4.32-acre Grove Memorial Park, which is owned by the City of Ontario, is located on the west and east sides of Grove Avenue, generally located between G Street and I Street in Ontario.
- The 34.90-acre John Galvin Park, which is owned by the City of Ontario, is located on both sides of Grove Avenue, generally between 4th Street and I Street in Ontario.

Impacts to Grove Memorial Park

Grove Memorial Park – Direct Use

The Build Alternative would require acquisition of 0.06 acre (2,393 square feet) of Grove Memorial Park on both sides of Grove Avenue, which represents approximately 1.4 percent of the park's pre-project acreage.

At the western portion of Grove Memorial Park, acquisition would be necessary to accommodate a modified curb return and a connection with the proposed new sidewalk, which would connect this side of the park with John Galvin Park 0.2 mile to the north. As such, the proposed project would help increase usage of this section of the park and would provide improved pedestrian connectivity between Grove Memorial Park and John Galvin Park.

At the eastern portion of Grove Memorial Park, partial acquisition would be necessary to extend the covered portion of the existing West Cucamonga Creek concrete channel. Because this park has no active use areas, this minor proposed direct use is not anticipated to impair recreational values of the park.

The direct use areas described above would not adversely affect any of the recreational activities, features, or attributes within the park. Although the acquisition area would minimally reduce the overall size of the park, it would not inhibit existing recreational activities within the park. Because this park is primarily used by walkers and joggers, improving pedestrian connectivity along the western side of Grove Avenue through this park would help increase its utility for neighborhood residents.

Grove Memorial Park – Temporary Use

Under the Build Alternative, a 0.48-acre temporary construction easement (TCE) would be required at Grove Memorial Park to allow construction of curb returns and new sidewalks on both sides of Grove Avenue and to extend the covered portion of the existing West Cucamonga Creek concrete channel, as shown in Figure 2. Although this TCE would temporarily reduce the overall park area during construction, it would not affect existing recreational activities, features, or attributes in the park. Pedestrian connectivity along Grove Avenue through Grove Memorial Park would be maintained during project construction. Construction of the proposed project would not result in a temporary use of the park because recreational activities within this park would not be impeded.

Grove Memorial Park – Constructive Use

The Build Alternative would not result in a constructive use of Grove Memorial Park. An indirect impact would be considered a constructive use under Section 4(f) if the impact were so severe that the public did not have access to the park and/or recreational activities occurring within the park were severely affected by the project's impacts. Potential indirect impacts related to the Build Alternative are discussed below. No indirect impacts to Grove Memorial Park would qualify as a constructive use under Section 4(f).

Impacts to John Galvin Park

John Galvin Park – Direct Use

The Build Alternative would require acquisition of 0.06 acre (2,304 square feet) of John Galvin Park on both sides of Grove Avenue, which represents 0.2 percent of the park's pre-project acreage.

At the western portion of John Galvin Park, partial acquisition would be necessary to accommodate two curb returns and widening of the 4th Street culvert, as shown in Figure 3. In addition, the project proposes removal of approximately 40 parking spaces that are currently available for users of the western portion of John Galvin Park in the Grove Avenue and 4th Street parking lot, as shown in Figure 3. Although these parking spaces are within the Grove Avenue right-of-way and not technically within the John Galvin Park boundaries, the impacted parking spaces are currently accessible to park users and are perceived as belonging to the park. As part of the project, the remnant parking lot would be reconfigured to maintain as many parking spaces at this location as possible. Parking lots on the east side of Grove Avenue, as well as ample on-street parking on I Street, would remain.

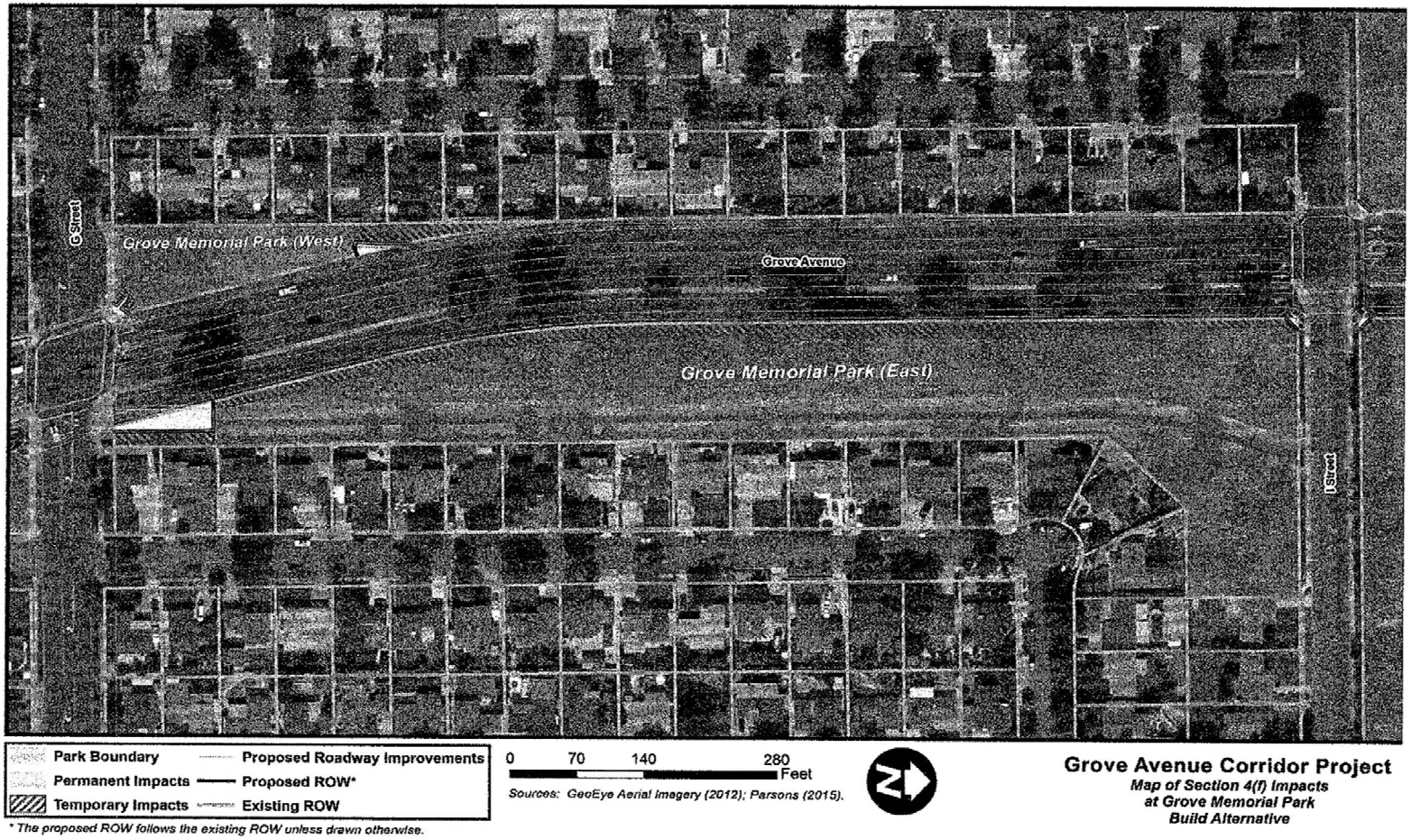

Figure 2. Impacts at Grove Memorial Park

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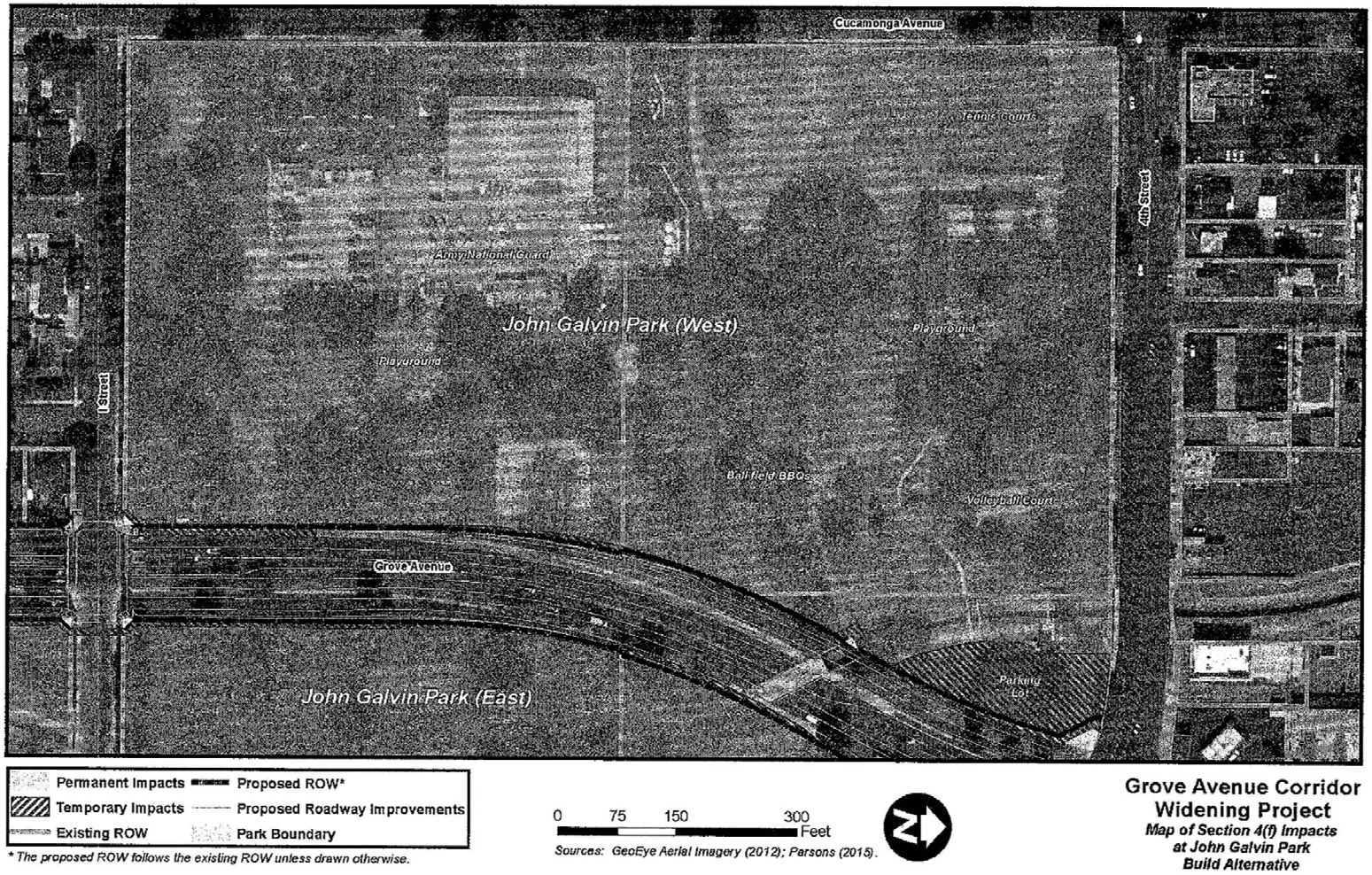

Figure 3. Build Alternative Impacts at John Galvin Park – West

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At the eastern portion of John Galvin Park, partial acquisition would be necessary to accommodate two curb returns, as shown in Figure 4. No permanent impacts to parking at the eastern portion of John Galvin Park are proposed. Access to the parking lot and the total number of parking spaces available would remain the same after project construction.

The direct use areas in the western and eastern portions of John Galvin Park would not adversely affect any of the recreational activities, features, or attributes of the park. Although the acquisition areas would minimally reduce the overall size of the park and number of parking spaces, these direct uses would not inhibit existing recreational activities within either portion of the park or substantially affect access to the park. Sufficient parking would remain for existing and future use of the western and eastern portions of John Galvin Park.

John Galvin Park – Temporary Use

Under the Build Alternative, a 0.20-acre TCE would be required at John Galvin Park to allow construction of curb returns and sidewalks. Although the TCEs would temporarily reduce the overall park area available to users during construction, the proposed TCEs would not affect existing recreational activities, features, or attributes in the park. The areas proposed as TCEs are landscaped areas at the edge of the western and eastern sections of John Galvin Park and are not used for recreational purposes. Furthermore, pedestrian access along Grove Avenue through John Galvin Park would be maintained during project construction. Therefore, construction of the proposed project, including the proposed TCEs at this park, would not result in a temporary use of the park itself because use of the park can continue throughout project construction.

The parking lot on the west side of John Galvin Park would be closed for approximately 1 month so that it can be reconfigured, resulting in a temporary reduction of 10 parking spaces beyond those that would be permanently impacted, as discussed in the direct use section above. No impacts to parking for the east side of John Galvin Park are anticipated.

Due to the road realignment and widening, the sidewalks along northbound and southbound Grove Avenue through John Galvin Park would be reconstructed to follow the proposed road. Pedestrian connectivity would be maintained through the park during project construction.

John Galvin Park – Constructive Use

The Build Alternative would not result in a constructive use of John Galvin Park. An indirect impact would be considered a constructive use under Section 4(f) if the impact were so severe that the public did not have access to the park and/or recreational activities occurring within the park were severely affected by the project's impacts. No indirect impacts to John Galvin Park would qualify as a constructive use under Section 4(f).

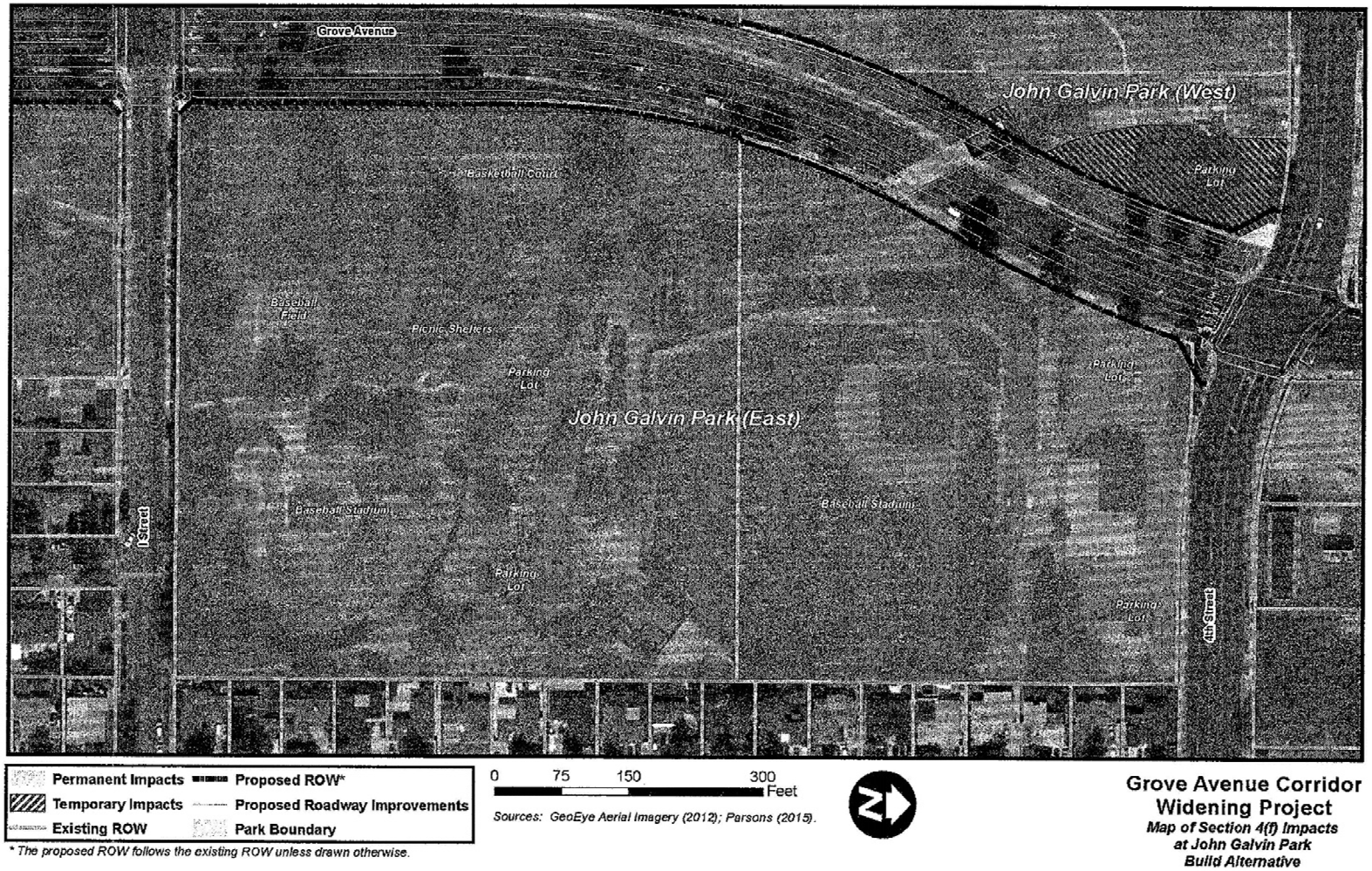

Figure 4. Build Alternative Impacts at John Galvin Park – East

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Grove Memorial Park and John Galvin Park – De Minimis Impact Finding Determination

Since the scoping period, Caltrans has contacted the City of Ontario to consult on project impacts to Grove Memorial Park and John Galvin Park.

While the extent of project improvements is under review, it is expected that the project would result in *de minimis* impacts to Grove Memorial Park and John Galvin Park under Section 4(f) because the activities, features, and attributes of these resources would not be adversely affected as discussed above; therefore, Caltrans is requesting the City of Ontario's concurrence with this *de minimis* impact finding determination, as required under Section 4(f) in 23 CFR 774. For your convenience, a signature block is provided as an attachment to this letter. Your concurrence is needed to continue to maintain the schedule of the project. Therefore, please provide concurrence on or before November 7, 2018. If you have any questions or would like to discuss in more detail, please contact Aaron Burton at Caltrans District 8 (909) 383-2841.

Sincerely,

Aaron Burton
Senior Environmental Planner, District 8
Local Assistance – Environmental Support

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CITY OF ONTARIO
303 EAST "B" STREET, CIVIC CENTER ONTARIO CALIFORNIA 91764-4105
(909) 395-2000
FAX (909) 395-2070

The City of Ontario appreciates the opportunity to participate in the Section 4(f) concurrence process. The City of Ontario understands that as part of the Grove Avenue Corridor Project, the California Department of Transportation (Caltrans) is proposing to widen Grove Avenue in the City of Ontario and the County of San Bernardino from four to six lanes between 4th Street and State Street/Airport Drive.

Caltrans determines that the *de minimis* finding is appropriate and would be maintained with regard to potential impacts to Grove Memorial Park and John Galvin Park on the activities, features, and attributes that qualify these trails for protection under Section 4(f).

My signature below represents written concurrence on the *de minimis* finding that the Grove Avenue Corridor Project would not adversely affect the activities, features, and attributes that qualify Grove Memorial Park and John Galvin Park for protection under Section 4(f). The transportation use of the Section 4(f) resource incorporated into the Grove Avenue Corridor Project, together with the Section 4(f) avoidance, minimization, and mitigation or enhancement measures incorporated into the Grove Avenue Corridor Project, do not adversely affect the activities, features, and attributes that qualify Grove Memorial Park and John Galvin Park for protection under Section 4(f). The signature is conditioned upon the Section 4(f) impacts and avoidance, minimization, and mitigation measures as previously referenced.

Cathy Wahlstrom, Director
City of Ontario
Planning Department
303 East "B" Street
Ontario, California 91764

12/20/18
Date

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Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
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Making Conservation a California Way of Life.

April 2018

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

LAURIE BERMAN
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

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A California Way of Life.

Abril 2018

DECLARACIÓN DE POLÍTICA
DE NO DISCRIMINACIÓN

El Departamento de Transporte de California, bajo el Título VI de la Ley de Derechos Civiles de 1964, asegura que *"Ninguna persona en los Estados Unidos, debido a su raza, color u origen nacional, será excluída de participar, ni se le negarán los beneficios, o será objeto de discriminación, en cualquier programa o actividad que reciba ayuda financiera federal".*

Los estatutos federales relacionados y la ley estatal refuerzan estas protecciones para incluir el sexo, la discapacidad, la religión, la orientación sexual y la edad.

Para información u orientación sobre cómo presentar una queja relacionada, por favor visite la siguiente página de Internet: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Para obtener esta información en un formato alternativo como el Braille o en un lenguaje diferente al inglés, por favor póngase en contacto con la Oficina de Negocios y Oportunidades Económicas del Departamento de Transporte de California. Dirección: 1823 14th Street, MS-79, Sacramento, CA 95811. Teléfono: (916) 324-8379. Teléfono de Texto TTY: 711. Email Title.VI@dot.ca.gov, o visite la página de Internet: www.dot.ca.gov.

LAURIE BERMAN
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix C Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

This appendix is general in nature and is not intended to be a complete statement of federal and state relocation laws and regulations. Any questions about relocation should be addressed to Caltrans Right-of-Way. This section provides some general descriptive information on Public Law (PL) 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. This is often referred to simply as the "Uniform Act." The information in this appendix is provided only as background and is not intended as a complete statement of all the state or federal laws and regulations; for specific details, the environmental planner should contact the Caltrans District or Regional Right-of-Way Relocation Branch. After presenting an outline of the basic legal foundation for relocation policy, the appendix looks at important relocation assistance information, including advisory services and the payment program. Refer to the Caltrans Right-of-Way Manual Chapter 10, for more detailed and specific information on relocation and housing programs.

DECLARATION OF POLICY

"The purpose of this title is to establish a uniform policy for fair and equitable treatment of persons displaced as a result of federal and federally assisted programs in order that such persons shall not suffer disproportionate injuries as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 *Code of Federal Regulations* (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of

employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe and sanitary" replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest

rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (see the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the Down Payment section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date Caltrans takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans' initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort

Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.

- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right-of-Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Include as applicable:

RESIDENTIAL RELOCATION PAYMENTS PROGRAM

The links below are to the Relocation Assistance for Residential Relocation Brochure. Print them and place them in the environmental document as applicable.

- http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf
- http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf

If the project requires relocation of mobile homes, print and include the following:

- http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf
- http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf

THE BUSINESS AND FARM RELOCATION ASSISTANCE PROGRAM

If the project requires relocation of businesses and/or farms, print and include the following:

- http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf
- http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf

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Appendix D Minimization and/or Mitigation Summary

The following matrix lists each of the environmental topics evaluated in the environmental document and the avoidance, minimization, and mitigation measures required to reduce or eliminate project impacts related to those topics. The column headings include the following information:

- **ID No.:** This column provides each commitment, as defined in Chapters 2 and 3.
- **Task and Brief Description:** This column provides the complete language of each environmental commitment, from Chapters 2 and 3.
- **Source:** Describes the specific section in the Final Environmental Document from where the commitment was derived.
- **CEQA Significance Addressed:** This column describes the significance level (potentially significant impact, less than significant with mitigation, less than significant, and no impact) of the California Environmental Quality Act (CEQA) impact that the commitment addresses.

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ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
Consistency with State, Regional, and Local Plans and Programs										
LU-3	The remnant parking lot on the west side of John Galvin Park will be reconfigured to maintain as many parking spots at this location as possible.	Draft Environmental Document, Section 2.1.1.3, Measure LU-3	No				No Impact			
VA-2	Where it is not feasible to save the existing trees, new tree and vegetation plantings shall be included in the final design of the roadway. Replacement trees shall be two 24-inch boxed trees for each tree removed by the project. All areas disturbed by the project shall be fitted with new landscaping, including trees, groundcovers, accent plants, and turf grass (in park areas adjacent to existing remaining turf).	Draft Environmental Document, Section 2.1.7.4, Measure VA-2	Yes				Less Than Significant Impact			
NC-1	The project shall preserve as many mature trees as practicable. Although there is no City of Ontario (City) or County of San Bernardino (County) ordinance for tree removal, the project's landscape plan will incorporate a tree replacement plan with a replacement ratio of 2:1 – for every mature tree removed, two trees will be planted to be consistent with Measure VA-2. Mature trees (larger than 20 feet high) that are to be removed shall be replaced with two 24-inch box trees. Design plans shall indicate locations of existing mature trees (larger than 20 feet high) to be preserved in place. Tree replacement shall meet all California Department of Transportation (Caltrans) and City standards and policies, and near John Galvin Park, the replacement tree species will incorporate species that have been identified as those of the original planting of John Galvin Park in the 1930s.	Draft Environmental Document, Section 2.3.1.3, Measure NC-1	Yes				No Impact			
Parks and Recreation										
LU-1	Turf grass and rock curbs will be replaced in temporary construction easement (TCE) areas within Grove Memorial Park to match pre-project conditions in consultation with the property owner (City) during and at completion of construction.	Draft Environmental Document, Section 2.1.1.3, Measure LU-1	No				No Impact			
LU-2	Turf grass and rock curbs will be replaced in TCE areas within John Galvin Park to match pre-project conditions in consultation with the property owner (City) during and at completion of construction.	Draft Environmental Document, Section 2.1.1.3, Measure LU-2	No				No Impact			
LU-3	The remnant parking lot on the west side of John Galvin Park will be reconfigured to maintain as many parking spots at this location as possible.	Draft Environmental Document, Section 2.1.1.3, Measure LU-3	No				No Impact			
Community Impacts										
SC-CI-1	To the extent practicable, street closures required during construction shall be scheduled to occur during nighttime hours. This requirement will be addressed in the Transportation Management Plan (TMP) to be prepared during the final design phase of project development.	Draft Environmental Document, Section 3.3, Measure SC-CI-1	Yes				No Impact			
SC-CI-2	To the extent practicable, the contractor shall avoid blocking or limiting access to businesses during construction during normal business hours. Businesses will be contacted and advised of nearby construction activities before their start.	Draft Environmental Document, Section 3.3, Measure SC-CI-2	Yes				No Impact			
SC-CI-3	Caltrans shall notify emergency service providers, such as fire, police, and ambulance services, in advance of construction of the timing, location, and duration of construction activities and the locations of detours and lane closures.	Draft Environmental Document, Section 3.3, Measure SC-CI-3	No				No Impact			
Utilities and Emergency Services										
SC-CI-4	In accordance with the requirements in the California Code of Regulations (CCR), prior to the initiation of construction, the contractor shall coordinate and notify the operators of underground or overhead utility and service lines prior to any excavation activities. This coordination will avoid damage to existing utility lines and will limit disruption to existing utility services to the existing developments near the proposed alignments.	Draft Environmental Document, Section 3.3, Measure SC-CI-4	No				No Impact			
UT-1	During final design, the Project Engineer will prepare utility relocation plans in consultation with the affected utility providers/owners for those utility facilities that will need to be relocated, removed, or protected in-place	Draft Environmental Document, Section 2.1.5.3, Measure UT-1	Yes				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
UT-2	During final design, the Project Engineer will prepare utility relocation plans in consultation with the affected utility providers/owners for those utility facilities that will need to be relocated, removed, or protected in place. If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way (ROW) or other existing public ROWs and/or easements. If relocation outside of existing or the additional public ROWs and/or easements required for the project is necessary, the final design will focus on relocating those facilities in adjacent public ROWs and in a manner so as to not result in significant community, land use, or natural resource impacts.	Draft Environmental Document, Section 2.5.1.3, Measure UT-2	Yes				No Impact			
UT-3	Close coordination with utility service providers and implementation of a public outreach program will be conducted, as needed, to minimize impacts to surrounding communities.	Draft Environmental Document, Section 2.1.5.3 Measure UT-3	No				No Impact			
UES-1	Prior to and during any construction activities, the City will coordinate with emergency service providers to ensure that all providers are aware of temporary road closures and detours.	Draft Environmental Document, Section 2.1.5.3, Measure UES-1	No				No Impact			
UES-2	Emergency service phone numbers (i.e., fire, emergency medical, police) will be posted in visible locations in all active construction areas.	Draft Environmental Document, Section 2.1.5.3, Measure UES-2	No				No impact			
UES-3	To avoid conflicts during construction, the project's Resident Engineer will notify all emergency and other essential service providers no less than 2 weeks prior to the start of construction. Agencies to be notified include: • City of Ontario Police Department • City of Ontario Fire Department • San Bernardino County Sherriff's Department • San Bernardino County Fire Department	Draft Environmental Document, Section 2.1.5.3, Measure UES-3	No				No Impact			
Relocations and Real Property Acquisition										
COM-1	Where acquisition and relocation are unavoidable, provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (USDOT) (March 2, 1989) and, where applicable, the California Public Park Preservation Act of 1971, will be followed. An appraisal of the affected property will be obtained, and an offer for the full appraisal will be made.	Draft Environmental Document, Section 2.1.4.2, Measure COM-1	No				Less Than Significant Impact			
Traffic and Transportation / Pedestrian and Bicycle Facilities										
SC-CI-5	Caltrans shall require the contractor to provide motorist alert and awareness information during construction, as appropriate for the conditions, to include the following options: changeable message signs (CMSs), stationary ground-mounted signs, traffic radio announcements, and the Caltrans Highway Information Network.	Draft Environmental Document, Section 3.3, Measure SC-CI-5	yes				No Impact			
T-1	Final TMP – A TMP (July 2015) was prepared during development of the preliminary engineering for the project. During final design, a Final TMP will be prepared. At a minimum, the Final TMP will include the detailing of any projected temporary street closures or expected traffic delays due to project construction activities. The Final TMP will include a public awareness program that will use an appropriate combination of the Highway Advisory Radio (HAR), local media, newsletters, and/or flyers. The following elements will be major components of the Final TMP: Public Awareness Campaign, particularly related to the scheduling of work; Construction Zone Enhanced Enforcement Program (COZEEP); utilization of portable CMSs; and notification to be sent to local cities and emergency responders, if applicable.	Draft Environmental Document, Section 2.1.4, Measure T-1	Yes				No Impact			
T-2	During project construction, the Project Engineer will ensure that the measures in the Final TMP are properly implemented by the contractor.	Draft Environmental Document, Section 2.1.6.4, Measure T-2	Yes				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
T-3	During final design and construction, the Project Engineer will work with affected property owners to identify means to avoid and minimize parking impacts, including space management, such as restriping of parking areas and identifying parking replacement options.	Draft Environmental Document, Section 2.1.6.4, Measure T-3	No				No Impact			
T-4	All pedestrian facilities will be designed to meet or exceed requirements of the Americans with Disabilities Act (ADA) and current safety standards. Access to pedestrians and bicyclists shall be maintained to the extent practicable during the construction period.	Draft Environmental Document, Section 2.1.6.4, Measure T-4	Yes				No Impact			
T-5	Prior to and during construction, the Project Engineer will coordinate with Omnitrans, the Ontario-Montclair School District, and other affected transit providers to request and comply with applicable procedures for any required temporary bus stop relocations or other disruptions to transit service during construction, if necessary.	Draft Environmental Document, Section 2.1.6.4, Measure T-5	No				No Impact			
T-6	During final design and prior to and during construction, the Project Engineer will coordinate with the design and construction team for the I-10/Grove Avenue Interchange Project to ensure the Grove Avenue Corridor Project and the I-10/Grove Avenue Interchange Project are designed compatibly.	Draft Environmental Document, Section 2.1.6.4, Measure T-6	No				No Impact			
Cultural Resources										
SC-CI-6	In accordance with Caltrans standard specifications, if cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, Section 7050.5 of the State Health and Safety Code states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner shall be contacted. Pursuant to Section 5097.98 of the Public Resources Code (PRC), if the remains are thought to be Native American, the coroner will notify the Resident Engineer and the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendent (MLD). At this time, the Resident Engineer will contact the District 8 Environmental Branch so that staff may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of Section 5097.98 of the PRC are to be followed as applicable.	Draft Environmental Document, Section 3.3, Measure SC-CI-6	Yes				No Impact			
SC-CI-7	It is Caltrans' policy to avoid cultural resources whenever possible. Further investigation may be needed if resources cannot be avoided by the project. Additional survey(s) will be required if the project changes to include areas not previously surveyed.	Draft Environmental Document, Section 3.3, Measure SC-CI-7	Yes				No Impact			
CR-1	If cultural resources are discovered at the job site, all work activities shall stop within a 60-foot radius of the discovery, the discovery area shall be protected, and the Resident Engineer shall be notified. Cultural resources shall not be moved or taken from the job site until Caltrans investigates and determines the significance of the find. Work activities shall not resume within the discovery area until Caltrans provides written notification authorizing work activities to resume.	Draft Environmental Document, Section 2.1.8.4, Measure CR-1	Yes				No Impact			
CR-2	**Human Remains:** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, who will designate the MLD. At this time, the Caltrans District 8 Environmental Branch Chief, Andrew Walters (909) 383-2647, will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	Draft Environmental Document, Section 2.1.8.4, Measure CR-2	Yes				No Impact			
CI-1	**Inadvertent Discoveries:** Should subsurface archaeological resources be discovered; a qualified archaeologist shall be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, the archaeologist shall determine, in consultation with Caltrans, the City, and any local Native American groups expressing interest for prehistoric resources, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), preservation in place shall be the preferred means to avoid impacts to archaeological resources qualifying as historical resources. Methods of avoidance may include, but shall not	Draft Environmental Document, Section 2.1.8.4, Measure CI-1	No				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
	be limited to, rerouting or redesign, cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, such as data recovery or other appropriate measures, in consultation with Caltrans, the City, and any local Native American representatives expressing interest for prehistoric archaeological resources. If an archaeological site does not qualify as a historical resource but meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site shall be treated in accordance with the provisions of Section 21083.2.									
Water Quality and Stormwater Runoff										
SC-CI-8	The project shall comform to and submit a Water Quality Management Plan to the City. In addition, the project shall conform to the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009- DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), also referred to as the Construction General Permit.	Draft Environmental Document, Section 3.3, Measure SC-CI-8	Yes				No Impact			
SC-CI-9	The contractor shall develop an acceptable Storm Water Pollution Prevention Plan (SWPPP) containing proven best management practices (BMPs) to minimize stormwater pollution that has the potential to affect water quality. All construction site BMPs will follow the latest edition of the Storm Water Quality Handbooks and the Construction Site Best Management Practices Manual. In addition, the SWPPP shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure water quality standards are met.	Draft Environmental Document, Section 3.3, Measure SC-CI-9	Yes				No Impact			
SC-CI-10	During construction, when dewatering is required, the contractor shall fully conform to the requirements specified in Order No. R5-00-175 (CAG 995001), General Waste Discharge Requirements for Discharges to Surface Water which Pose an Insignificant *(De Minimis)* Threat to Water Quality, from the Regional Water Quality Control Board (RWQCB).	Draft Environmental Document, Section 3.3, Measure SC-CI-10	Yes				Less Than Significant Impact			
SC-CI-11	The contractor shall comply with all requirements of the Section 404 Permit issued by the U.S. Army Corps of Engineers (USACE) for the discharge of dredged or fill material into waters of the U.S.	Draft Environmental Document, Section 3.3, Measure SC-CI-11	Yes				No Impact			
SC-CI-12	The contractor shall comply with all requirements of the Section 401 Certification issued by the RWQCB to ensure that all discharges comply with applicable federal and State effluent limitations and water quality standards.	Draft Environmental Document, Section 3.3, Measure SC-CI-12	Yes				No Impact			
SC-CI-13	The contractor shall comply with all requirements of the Streambed Alteration Agreement per Section 1602 of the California Fish and Game Code (CFG Code).	Draft Environmental Document, Section 3.3, Measure SC-CI-13	Yes				No Impact			
WQ-1	**Implement Temporary Construction BMPs.** The project will be required to conform to the requirements of the NPDES Permit for Construction Activities, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002.	Draft Environmental Document, Section 2.2.2.4, Measure WQ-1	Yes				No Impact			
WQ-2	**Prepare and Implement an SWPPP.** The Contractor will be required to develop an acceptable SWPPP. The SWPPP shall contain BMPs that have demonstrated effectiveness at reducing stormwater pollution. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to affect water quality. All Construction Site BMPs will be installed, maintained, and inspected to control and minimize the impacts of construction-related pollutants. The SWPPP shall include BMPs to control pollutants, sediment from erosion, stormwater runoff, and other construction-related impacts. In addition, the SWPPP shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure that the implemented BMPs are effective in preventing discharges from exceeding any of the water quality standards.	Draft Environmental Document, Section 2.2.2.4, Measure WQ-2	Yes				Less Than Significant Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
WQ-3	**Incorporate Design Principles into Final Roadway Design.** Design Principles are permanent measures to minimize pollution discharges by retaining source materials and stabilizing soils. The three objectives associated with Design Principle BMPs include maximizing vegetated surfaces, preventing downstream erosion, and stabilizing soil areas. These design objectives will be applied to the entire project.	Draft Environmental Document, Section 2.2.2.4, Measure WQ-3	Yes				No Impact			
Paleontology										
P-1	Develop and implement a Paleontological Monitoring Plan (PMP), with monitoring in excavations more than 10 feet deep for sediments mapped as Holocene at the surface and more than 5 feet deep for excavations mapped as Pleistocene at the surface. The PMP will guide and facilitate the identification and treatment of paleontological resources, if any are found, during project construction to reduce adverse effects on significant resources. The PMP will summarize identified paleontologically sensitive areas within the area of potential effects (APE), the organization and responsibilities of the paleontological team, the responsibilities of other parties, and the treatment and communications procedures to be implemented if paleontological resources are encountered during the project.	Draft Environmental Document, Section 2.2.4.4, Measure P-1	No				Less than Significant Impact			
SC-CI-14	Specifications for paleontological mitigation shall be included in the construction contract special provisions section for this project to advise the construction contractor of the requirement to cooperate with the salvage of paleontological resources, particularly fossil remains and associated locality data.	Draft Environmental Document, Section 3.3, Measure SC-CI-14	Yes				Less Than Significant Impact			
SC-CI-15	A principal paleontologist that meets the qualifications in Chapter 8 – Paleontology of the Caltrans Standard Environmental Reference shall prepare a detailed Paleontological Mitigation Plan before the start of construction. The paleontologist must have a Master of Science/Arts (M.S./M.A.) or Doctor of Philosophy (Ph.D.) degree in paleontology or geology and will be familiar with paleontological salvage or mitigation procedures and techniques. The Paleontological Mitigation Plan shall be certified by a California Professional Geologist.	Draft Environmental Document, Section 3.3, Measure SC-CI-15	Yes				Less Than Significant Impact			
SC-CI-16	If unanticipated fossils are discovered in an area of the project site not being actively monitored, the remains shall not be disturbed. The Resident Engineer shall direct that all work within a 60-foot radius of the discovery be stopped and that the area be protected. The Resident Engineer, in consultation with the paleontologist, will investigate and modify the dimensions of the protected area, if necessary. Paleontological resources will not be removed from the project site without authorization. Work will not resume within the specified radius of the discovery until authorized by the Resident Engineer.	Draft Environmental Document, Section 3.3, Measure SC-CI-16	Yes				Less Than Significant Impact			
SC-CI-17	The construction contractor shall attend a preconstruction meeting with the Paleontological Salvage Team and the Resident Engineer to establish procedures for cooperation in the event fossil remains are encountered and to provide for worker safety during monitoring and salvage activities. The Principal Paleontologist and the Caltrans paleontology coordinator will be present at pregrading meetings to consult with grading and excavation contractors.	Draft Environmental Document, Section 3.3, Measure SC-CI-17	Yes				Less Than Significant Impact			
Environmental Justice										
COM-2	Outreach activities targeted to low-income residents will be conducted during the planning, design, and construction phases of the Build Alternative.	Draft Environmental Document, Section 2.1.4.3, Measure COM-2	No				Not Available- NEPA Only			
Visual Aesthetics										
VA-1	The existing trees, particularly within the park area, provide scale, shade, and visual relief to the extent of roadway paving. Preserving existing trees to the extent feasible will help maintain the existing visual character of the roadway.	Draft Environmental Document, Section 2.1.7.4, Measure VA-1	Yes				Less Than Significant Impact			
VA-2	Where it is not feasible to save the existing trees, new tree and vegetation plantings shall be included in the final design of the roadway. Replacement trees shall be two 24-inch boxed trees for each tree removed by the project. All areas disturbed by the project shall be fitted with new landscaping, including trees, groundcovers, accent plants, and turf grass (in park areas adjacent to existing remaining turf).	Draft Environmental Document, Section 2.1.7.4, Measure VA-2	Yes				Less Than Significant Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
VA-3	To support the replacement of plantings, the project shall include a permanent irrigation system to all new plantings. Materials used for irrigation shall be as per City of Ontario standards.	Draft Environmental Document, Section 2.1.7.4, Measure VA-3	Yes				Less Than Significant Impact			
VA-4	Decorative paving shall be employed for medians, islands, and parkway strips that are too narrow to plant. Paving color and texture/pattern shall match City of Ontario standards.	Draft Environmental Document, Section 2.1.7.4, Measure VA-4	Yes				No Impact			
Hydrology										
HYD-1	Provide positive drainage during construction and refrain from filling designated floodplains. Construction site surface runoff will be channeled into existing drainage facilities so as to not cause water flow on neighboring properties. Offsite flows will be managed in a manner that will mimic the existing drainage network and will not inundate the roadway surface of any of the existing drainage systems.	Draft Environmental Document, Section 2.2.1.4, Measure HYD-1	Yes				Less Than Significant Impact			
HYD-2	Implement standard BMPs as identified in the City of Ontario's Water Quality Management Plan, including temporary construction site BMPs to address site soil stabilization and reduce deposition of sediments to receiving waters.	Draft Environmental Document, Section 2.2.1.4, Measure HYD-2	Yes				No Impact			
HYD-3	Include erosion control and water quality protection during construction at the West Cucamonga Channel. BMPs will be designed and implemented to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). Typical measures that may be implemented include preservation of existing vegetation, use of soil binders or hydroseeding, and installation of silt fences or fiber rolls.	Draft Environmental Document, Section 2.2.1.4, Measure HYD-3	Yes				No Impact			
HYD-4	Contractor shall develop a contingency plan for unforeseen discovery of underground contaminants in the SWPPP.	Draft Environmental Document, Section 2.2.1.4, Measure HYD-4	Yes				No Impact			
HYD-5	Limit construction activities between October and May to those actions that can adequately withstand high flows and entrainment of construction materials. The Contractor shall prepare a Rain Event Action Plan (REAP) and discuss high flows mitigation.	Draft Environmental Document, Section 2.2.1.4, Measure HYD-5	Yes				No Impact			
Natural Communities										
NC-1	The project shall preserve as many mature trees as practicable. Although there is no City or County ordinance for tree removal, the project's landscape plan will incorporate a tree replacement plan with a replacement ratio of 2:1 – for every mature tree removed, two trees will be planted to be consistent with Measure VA-2. Mature trees (larger than 20 feet high) that are to be removed shall be replaced with two 24-inch box trees. Design plans shall indicate locations of existing mature trees (larger than 20 feet high) to be preserved in place. Tree replacement shall meet all Caltrans and City standards and policies, and near John Galvin Park, the replacement tree species will incorporate species that have been identified as those of the original planting of John Galvin Park in the 1930s.	Draft Environmental Document, Section 2.3.1.3, Measure NC-1	Yes				No Impact			
Wetlands and Other										
WET-1	Construction activities within the West Cucamonga Channel and Princeton Basin will be designed and conducted to maintain downstream flow conditions. All construction activities will be effectively isolated from water flows to the greatest extent feasible. This may be accomplished by working in the dry season or dewatering the work area in the wet season. When work in standing or flowing water is required, structures for isolating the in-water work area and/or diverting the water flow must not be removed until all disturbed areas are cleaned and stabilized. The diverted water flow must not be contaminated by construction activities. Structures used to isolate the in-water work area and/or diverting the water flow (e.g., coffer dam, geotextile silt curtain) must not be removed until all disturbed areas are stabilized.	Draft Environmental Document, Section 2.3.2.4, Measure WET-1	Yes				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
Hazardous Waste										
HW-1	Prior to property acquisition, limited soil investigations at 1194 E. Holt Boulevard and 1111 E. Holt Boulevard will be performed to determine the presence of compromised soils. If any compromised soils are present, they shall be removed and disposed of per regulatory requirements.	Draft Environmental Document, Section 2.2.5.4, Measure HW-1	Yes				Less than Significant Impact			
SC-CI-18	Appropriately manage, per regulatory compliance requirements, environmental areas of concern (AOCs) including treated wood waste (TWW) and transformers if encountered prior to or during construction.	Draft Environmental Document, Section 3.3, Measure SC-CI-18	Yes				Less than Significant Impact			
SC-CI-19	As part of the ROW acquisition process, property to be acquired will be tested for asbestos-containing material (ACM) and lead-based paint (LBP). If ACM and LBP are found, the contractor will remove these materials per California Occupational Safety and Health Administration standards. Removal and/or disturbance of ACM must be conducted by a California Occupational Safety and Health Administration-registered and State-licensed asbestos removal contractor. At no time shall the identified asbestos-containing construction materials be drilled, cut, sanded, scraped, or otherwise disturbed by untrained personnel. Construction activities involving the potential for impacting asbestos-containing construction materials shall be conducted in accordance with the requirements of Title 8 of the CCR, Section 1529. Written notification shall be made to the California Occupational Safety and Health Administration at least 24 hours prior to the initiation of any construction activities that involve asbestos-related work of at least 100 square or linear feet.	Draft Environmental Document, Section 3.3, Measure SC-CI-19	Yes				Less than Significant Impact			
SC-CI-20	Any compromised soils, if present, will be removed and disposed of per regulatory requirements.	Draft Environmental Document, Section 3.3, Measure SC-CI-20	Yes				Less than Significant Impact			
Air Quality										
SC-CI-21	The contractor shall implement all applicable measures that are feasible during construction. Examples of air quality control measures include: • All disturbed areas, including storage piles that are not being actively used for construction purposes shall be effectively stabilized of dust emissions using water or chemical stabilizer/ suppressant, or they shall be covered with a tarp, another suitable cover, or vegetative ground cover. • All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions by applying water or by presoaking. • With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition. • When materials are transported offsite, all material shall be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. • Within urban areas, an owner/operator shall prevent carryout and trackout, or immediately remove carryout and trackout when it extends 50 feet or more from the nearest unpaved surface exit point of the site. • Any construction site with 150 or more vehicle trips per day shall prevent carryout and trackout.	Draft Environmental Document, Section 3.3, Measure SC-CI-21	Yes				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
	The following measures shall be implemented at large construction sites near sensitive receptors: • Install wheel washers for all exiting trucks, or wash off tires of trucks and equipment leaving the site. • Install wind breaks at windward side(s) of construction areas. • Suspend excavation and grading activities when wind exceeds 20 mph. • Limit areas subject to excavation, grading, and other earthwork activity at any one time.									
SC-CI-22	The contractor shall comply with the following Caltrans' Standard Specifications and South Coast Air Quality Management District (SCAQMD) rules, ordinances, and regulations: • The construction contractor must comply with SCAQMD Rule 403 (Fugitive Dust), which specifies actions or control measures to prevent, reduce, or mitigate particulate matter (PM) emissions generated from construction, demolition, excavation, extraction, and other earth-moving activities. • Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions. • Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas. • Trucks will be washed off as they leave the ROW as necessary to control fugitive dust emissions. • Construction equipment and vehicles shall be properly tuned and maintained. Low-sulfur fuel shall be used in all construction equipment as provided in CCR Title 17, Section 93114. • Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Keep construction areas clean and orderly. • Track-out reduction measures, such as gravel pads, will be used at project access points to minimize dust and mud deposits on roads affected by construction traffic. • All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard will be provided (i.e., space from the top of the material to the top of the truck) to reduce particulate matter less than 10 microns in diameter (PM_{10}) and deposition of particulates during transportation. • Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease PM. • The construction contractor must comply with Caltrans Standard Specifications in Section 14-9. • Section 14-9.02 includes specifications relating to compliance with air pollution control rules, regulations, ordinances, and statutes of the local ordinances and air quality management district. • Section 14-9.03 includes specifications relating to preventing and alleviating dust by applying water, dust palliative, or both and by covering active and inactive stockpiles.	Draft Environmental Document, Section 3.3, Measure SC-CI-22	Yes				No Impact			
Noise										
SC-CI-23	The contractor shall be required to adhere to the following equipment noise-control measures: • Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the job site without an appropriate muffler. • Construction methods or equipment that will provide the lowest level of noise and ground vibration impact (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition) shall be used. • Idling equipment shall be turned off.	Draft Environmental Document, Section 3.3, Measure SC-CI-23	Yes				No Impact			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
	• Construction activities shall be coordinated to build recommended permanent soundwalls during the first phase of construction to protect sensitive receivers from subsequent construction noise, dust, light, glare, and other impacts, to the extent feasible. • Temporary noise barriers shall be used and relocated, as needed, to protect sensitive receptors against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques. • Newer equipment with improved noise muffling shall be used, and all equipment items shall have the manufacturers' recommended noise abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding). • Construction activities shall be minimized to the extent possible in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours. However, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during daytime hours) or necessary to avoid major traffic disruption. Coordination with the City or County shall occur before construction can be performed in noise-sensitive areas between 9:00 p.m. and 6:00 a.m.									
SC-CI-24	The contractor shall be required to adhere to the following vibration control measures: • Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home). • The owner of a building close enough to a construction vibration source that could cause damage to that structure could be entitled to a preconstruction building inspection to document the preconstruction condition of that structure. • Conduct vibration monitoring during vibration-intensive activities.	Draft Environmental Document, Section 3.3, Measure SC-CI-24	Yes				No Impact			
SC-CI-25	The contractor shall be required to adhere to the following administrative noise control measures: • Once details of the construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction. • Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented. • In case of construction noise complaints by the public, the Resident Engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.	Draft Environmental Document, Section 3.3, Measure SC-CI-25	Yes				No Impact			
N-1	Based on the studies completed, Caltrans and the City will incorporate noise abatement in the form of soundwalls that meet the criteria for reasonableness and feasibility. The recommended soundwalls would reduce the traffic noise by at least 5 decibels (dB) at the impacted receivers, would meet the design goal by providing a 7-dB reduction for at least one receiver, and would cost less than the reasonable cost allowance. If, during final design, conditions have substantially changed, noise abatement may change or not be necessary, depending on the results of the updated noise analysis using final design information. The final decision of the noise abatement will be made upon completion of the project design and the public involvement process. During circulation of the draft environmental document, soundwall surveys will be conducted with all property owners and residents of benefited receptors located within the footprint of the	Draft Environmental Document, Section 2.2.7.4, Measure N-1	Yes				Unavoidable Significant Environmental Impacts			

ID No.	Task and Brief Description	Source	SSP/NSSP	Project Timing	Responsible Staff	Action to Comply	CEQA Significance Addressed	Task Completed		Remarks/ Due Date
								Initial	Date	
	Build Alternative. If more than 50 percent of the responding benefited receptors oppose the soundwall, then the soundwall will not be constructed.									
Energy										
SC-CI-26	The contractor shall identify specific measures that reduce the amount of refuse generated by construction of the proposed project, consistent with the waste reduction requirements established by the California Integrated Waste Management Act of 1989.	Draft Environmental Document, Section 3.3, Measure SC-CI-26	Yes				Not Available- NEPA Only			
Invasive Species										
SC-CI-27	In compliance with the Executive Order (EO) on Invasive Species (EO 13112) and subsequent guidance from the Federal Highway Administration (FHWA), Caltrans shall not use species listed as invasive as part of landscaping erosion control measures. In areas of particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. To adhere to this requirement, any landscape designs shall be submitted to Caltrans for review and concurrence by a qualified biologist during the project design phase. The review shall verify that no noxious weeds/invasive exotic plant species are in the proposed landscaping plan. If the plan contains noxious weeds/invasive species, the reviewing biologist shall coordinate suitable substitutes.	Draft Environmental Document, Section 3.3, Measure SC-CI-27	Yes				Not Available- NEPA Only			
IS-1	In compliance with the EO on Invasive Species (EO 13112) and guidance from FHWA, the landscaping and erosion control included in the project will not use species listed as invasive. In areas of particular sensitivity (i.e., near or adjacent to drainages), extra precautions will be taken if invasive species are found in or next to the construction areas. This includes the inspection and cleaning of construction equipment and eradication strategies, as required by the Caltrans Biological Monitor, to be implemented should an invasion occur. Any cleaning of equipment or site watering will be conducted in adherence to any applicable drought conditions and related regulations. A Caltrans biologist or landscape Architect will approve any seed lists (for planting).	Draft Environmental Document, Section 2.3.6.4, Measure IS-1	Yes				Not Available- NEPA Only			
Animal Species										
Mitigation Measure AS-1	To avoid effects to nesting birds, the Project Engineer will require the contractor to conduct vegetation removal or tree-trimming activities outside of the nesting bird season (i.e., February 15 through August 31). If vegetation clearing is necessary during the nesting season, the Project Engineer will require the contractor to have a qualified biologist conduct a preconstruction survey within 150 feet of construction areas no more than 10 days prior to construction at the location to identify the location of nests, if any. A qualified biologist is one that has previously surveyed for nesting bird species within southern California. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist around each nest site. The buffer will be clearly marked in the field by construction personnel under guidance of the contractor's qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. The qualified biologist will monitor the nests on a weekly basis to ensure that construction activities do not disturb or disrupt nesting activities. If the qualified biologist determines that construction activities are disturbing or disrupting nesting activities, then the biologist will notify the Project Engineer, who has the authority to stop or modify construction to reduce the noise and/or disturbance to the nests. Responses may include, but are not limited to, increasing the size of the exclusionary buffer, curtailing nearby work activities, turning off vehicle engines and other equipment wherever possible to reduce noise, installing a protective noise barrier between the nest and the construction activities, and/or working in other areas until the young have fledged.	Draft Environmental Document, Section 2.3.4.4, Measure AS-1	Yes				Less Than Significant with Mitigation			

Appendix E List of Acronyms and Abbreviations

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AADT	average annual daily traffic
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADT	average daily traffic
ALUCP	Airport Land Use Compatibility Plan
AOC	Areas of Concern
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
ARAR	Applicable or Relevant and Appropriate Requirements
ARB	California Air Resources Board
ASR	Archaeological Survey Report
BACM	Best Available Control Measures
Basin	South Coast Air Basin
BAU	business as usual
bgs	below ground surface
BFE	base flood elevation

BMPs	Best Management Practices
BSA	Biological Study Area
BTEX	benzene, toluene, ethylbenzene, and xylene
BTU	British thermal units
CAFÉ	Corporate Average Fuel Economy
Cal/EPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	Categorical Exclusion
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act of 1992
CESA	California Endangered Species Act
CFG Code	California Fish and Game Code
CFR	*Code of Federal Regulations*
CH_4	methane
CHP	California Highway Patrol
C+M	Construction and Management

City	City of Ontario
CMS	changeable message sign
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
County	San Bernardino County
COZEEP	Construction Zone Enhanced Enforcement Program
CRHR	California Register of Historic Resources
CSA	construction staging area
CTP	California Transportation Plan
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DOC	California Department of Conservation
DPM	diesel particulate matter
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EIS	Environmental Impact Statement

EO	Executive Order
EPA	United States Environmental Protection Agency
EPACT92	Energy Policy Act of 1992
ESA	Environmentally Sensitive Area
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FSTIP	Federal Statewide Transportation Improvement Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
GIS	geographic information system
GPS	global positioning system
H_2S	hydrogen sulfide
HAR	Highway Advisory Radio
HCM	Highway Capacity Manual
HEI	Health Effects Institute

HHS	Department of Health and Human Services
HOV	High-Occupancy Vehicle
HPSR	Historic Property Survey Report
HREC	Historic Recognized Environmental Condition
HRER	Historical Resources Evaluation Report
HSA	hydrologic subarea
I-10	Interstate 10
I-15	Interstate 15
IBI	Index of Biotic Integrity
IEUA	Inland Empire Utility Agency
IPaC	Information, Planning, and Conservation
IPCC	Intergovernmental Panel on Climate Change
LCFS	low carbon fuel standard
LED	light-emitting diode
LBP	Lead-based paint
LEDPA	lease environmentally damaging practicable alternative
LOS	Level of Service
LST	Localized Significance Threshold
LUST	leading underground storage tank
MAP-21	Moving Ahead for Progress in the 21st Century
MBTA	Migratory Bird Treaty Act
MEP	maximum extent practicable
MLD	Most Likely Descendent
MMTCO2e	million metric tons of carbon dioxide equivalent

MOU	Memorandum of Understanding
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	municipal separate storm sewer system
MSAT	Mobile source air toxic
MSWMP	Master Stormwater System Maintenance Program
$MTCO_2e$	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries Service	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NOIS	Notice of Initiation of Studies

NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NWI	National Wetlands Inventory
NWP	Nationwide Permit
O_3	ozone
OE	Operations Engineer
OHWM	ordinary high water mark
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
PA	Programmatic Agreement
PA/ED	Project Approval/Environmental Document
Pb	lead
PCB	polychlorinated biphenyls
PCE	passenger car equivalent
PCL	Pacific Coast League
PDT	Project Development Team
PFYC	Potential Fossil Yield Classification
PL	Public Law
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter

$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Paleontological Monitoring Plan
POAQC	Project of Air Quality Concern
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
Project	Grove Avenue Corridor Project
RAP	Relocation Assistance Program
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act of 1976
RCTC	Riverside County Transportation Commission
REC	Recognized environmental conditions
REAP	Rain Event Action Plan
Resources Agency	California Natural Resources Agency
RIS	Relocation Impact Statement
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAWCO	San Antonio Water Company
SB	Senate Bill
SBAIC	San Bernardino Archaeological Information Center
SBCFCD	San Bernardino County Flood Control District

SBCM	San Bernardino County Museum
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino County Transportation Analysis Model
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SER	Standard Environmental Reference
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPRR	Southern Pacific Railroad
SR	State Route
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	Temporary Construction Easement
TCWG	Transportation Conformity Working Group
TDS	total dissolved solids
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan

TPH	total petroleum hydrocarbon
TSCA	Toxic Substances Control Act
TWW	treated wood waste
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
v/c	volume to capacity
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VOC	volatile organic compounds
VRP	visibility-reducing particles
WDR	Waste Discharge Requirements
WPCP	Water Pollution Control Program

Appendix F Health Risk Assessment

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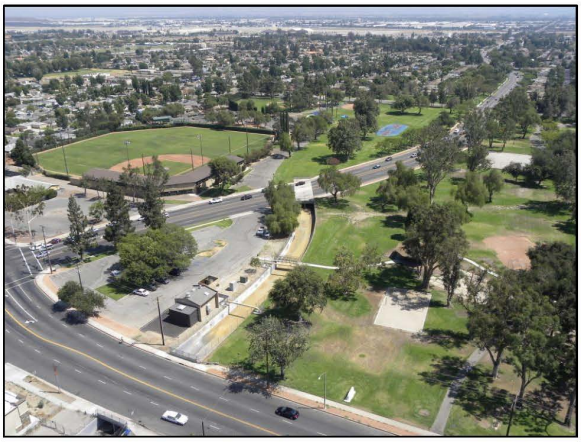
DRAFT
HEALTH RISK ASSESSMENT

Grove Avenue Corridor Project

City of Ontario
San Bernardino County

FPN HPLUL-5092(039)
Project Identification 0815000220



July 2016

CITY OF ONTARIO

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DRAFT
HEALTH RISK ASSESSMENT

CITY OF ONTARIO

Prepared By: _____ Date: 8/23/2017
Joza M. Burnam, Senior Planner
Parsons Transportation Group

Approved By: _____ Date: 8/23/17
Richard Ayala, ~~Senior Planner~~
City of Ontario, Planning Department

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Table of Contents

Appendix

List of Figures

List of Tables

List of Acronyms and Abbreviations

AADT	average annual daily traffic
ADT	average daily traffic
ARB	California Air Resources Board
AQR	Air Quality Report
AT	Averaging time
BW	body weight
CAAQS	California Ambient Air Quality Standards
Cair	concentration of contaminant in air
Caltrans	California Department of Transportation
CDI	chronic daily intake
CEQA	California Environmental Quality Act
City	City of Ontario
CO	carbon monoxide
CPF	cancer potency factor
County	County of San Bernardino
DPM	diesel particulate matter
ED	exposure duration
EF	exposure frequency
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration

I-10	Interstate 10
IR	inhalation rate
LOS	level of service
$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
NB	northbound
NEPA	National Environmental Policy Act
NOA	naturally occurring asbestos
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
O_3	ozone
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
REL	Reference Exposure Level
RME	reasonable maximum exposures
ROGs	reactive organic gases

ROW	right-of-way
SB	Southbound
SCAQMD	South Coast Air Quality Management District
UPRR	Union Pacific Railroad
URF	unit risk factor
TAC	toxic air contaminant
SRA	Source Receptor Area
VMT	vehicle miles traveled
VOC	volatile organic compounds

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Chapter 1 Introduction

For the Grove Avenue Corridor Project, emissions generated by the widening of the roadway are a potential concern and relevant thresholds and standards exist to determine the impact of vehicular emissions on an exposed population. As such, a health risk assessment was prepared to evaluate the potential impact of these emissions on individuals residing within the proposed project area.

In April 2005, the California Air Resources Board (CARB) developed recommendations regarding setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural road with 50,000 vehicles per day. According to the recommendation from CARB, the increased cancer risk is 300 to 1,700 per million within this domain. The strongest association of traffic related emissions with adverse health outcomes was seen within 300 feet of roadways with high truck densities and particulate pollution levels decreasing by approximately 70 percent at a distance of 500 feet and greater.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute the emissions. Air quality conditions are generated by topography, wind speed, wind direction, air temperature gradients, and emissions released by air pollutant sources, which interact to move and disperse air pollutants.

This report summarizes the methodologies used in assessing the potential health risks associated with the proposed project and presents the results of the assessment. The assessment and dispersion modeling methodologies used in the preparation of this report were composed of all relevant and appropriate procedures presented by the U.S. Environmental Protection Agency (EPA), California Environmental Protection Agency (CalEPA) and South Coast Air Quality Management District (SCAQMD). The methodologies and assumptions offered under this regulatory guidance were used to ensure that the assessment effectively quantified residential exposures associated with the generation of contaminant emissions from the Grove Avenue Corridor Project.

1.1 Project Purpose, Need, Description, and Alternatives

1.1.1 Project Purpose

The purpose of the proposed Grove Avenue Corridor Project is to accomplish the following objectives:

- Alleviate existing and anticipated future congestion along Grove Avenue between Interstate 10 (I-10) and State Street/Airport Drive;
- Improve traffic operations and mobility to and from LA/Ontario International Airport, a future cargo hub facility near Grove Avenue and Holt Boulevard, and other planned uses; and

Provide route continuity along Grove Avenue in conformance with the City of Ontario General Plan Circulation Element, which identifies Grove Avenue as a six-lane principal arterial.

1.1.2 Project Need

The proposed project is needed to serve existing and projected travel demand along the Grove Avenue corridor. Improvements to Grove Avenue are needed to accommodate the recent and projected growth in passenger and goods/trucks movement associated with the LA/Ontario International Airport and changes in land use since Grove Avenue was originally constructed.

Based on traffic projections and the existing and planned land uses in the vicinity, the existing Grove Avenue facility is forecast to operate at unsatisfactory level of service (LOS) at three intersections within the project limits by 2045 without improvements.

1.1.3 Project Description

The City of Ontario (City) proposes to widen Grove Avenue from a four-lane roadway to a six-lane roadway from 4th Street to State Street/Airport Drive, as shown in Figures 1-1 and 1-2. One Build Alternative and a No Build Alternative are being considered for the Grove Avenue Corridor Project.

Grove Avenue is located approximately 1.4 miles east of Euclid Avenue and approximately 1.2 miles west of Vineyard Avenue along I-10. The project area is bound on the north by 4th Street and on the south by East State Street/East Airport Drive.

Figure 1-1. Regional Vicinity

Grove Avenue Corridor Widening Project – Air Quality Report

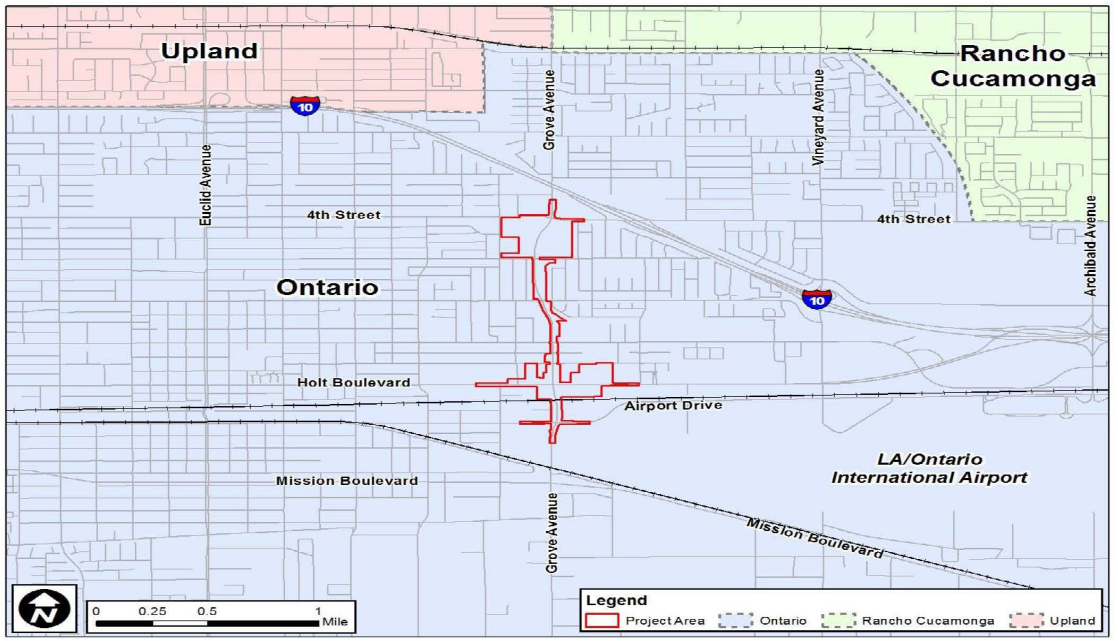

Figure 1-2. Project Location

Grove Avenue Corridor Widening Project – Air Quality Report

1.1.4 Alternatives

Build Alternative

The Build Alternative proposes local street improvements along Grove Avenue and improvements at the Grove Avenue/Holt Boulevard intersection. This includes widening Grove Avenue from four lanes to six lanes between 4th Street and East State Street/East Airport Drive in accordance with the City of Ontario Master Plan. South of 4th Street, Grove Avenue would be widened to the west to avoid impacts to the historical Jay Littleton Ballpark. Between I Street and Holt Boulevard, Grove Avenue would be widened to the east, and between Holt Boulevard and East State Street/East Airport Drive, Grove Avenue would be widened on both sides. Holt Boulevard would be widened at the Grove Avenue intersection from one through lane, one through-right lane, and one left turn lane in each direction to two through lanes, one through-right lane, and two left turn lanes in each direction. Alternative 2 would include covering a portion of two culverts: the G Street Culvert and the Grove Avenue Culvert.

Earthwork and Retaining Walls. The project would include earthwork activities and development of retaining walls. The cut slopes would be a standard two (horizontal) to one (vertical), and fill slopes would be a standard four (horizontal) to one (vertical). Four retaining walls would be proposed under the Union Pacific Rail Road (UPRR) Bridge between Holt Boulevard and East State Street/East Airport Drive to accommodate widening Grove Avenue without impacting the UPRR Bridge. The walls would range from 6 to 10 feet in height and would be constructed at the following locations:

- Northbound (NB) Grove Avenue under the UPRR Bridge, between the roadway and the sidewalk
- NB Grove Avenue between the UPRR Bridge and Holt Boulevard, at the back of sidewalk
- Southbound (SB) Grove Avenue under the UPRR Bridge, between the roadway and the sidewalk
- SB Grove Avenue between the UPRR Bridge and Holt Boulevard, at the back of sidewalk

Nonmotorized and Pedestrian Features. Grove Avenue is designated as a Bicycle Corridor by the City of Ontario Multipurpose Trails and Bikeway Corridor Plan. The Build Alternative proposes an outside lane width of 15 feet, in accordance with the City of Ontario Master Plan. Standard sidewalks would be provided along Grove Avenue within the project limits.

Right-of-Way (ROW) Acquisition. To provide ROW for the local street widening, the Build Alternative would fully acquire approximately 14 properties and partially acquire approximately 70 properties. The ROW impacts consist of single-family and multi-family residential properties, vacant parcels, and commercial and industrial properties. In addition, temporary construction easements would be needed from several properties where grading would occur.

No Build Alternative

The No Build Alternative proposes no improvements to the project area. Grove Avenue would maintain the existing four through lanes, and the existing configuration at the Grove Avenue/Holt Boulevard intersection would be maintained.

1.1.5 Existing Land Uses

The area surrounding the project alignment supports a variety of land uses, including outdoor recreational uses (John Galvin Park and Memorial Grove Park); single- and multi-family residences; three motels; and commercial properties.

Generally, people that are more susceptible to poor 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. Residential land uses also are considered sensitive receptors.

1.1.6 Summary of Findings

For carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled 3.03E-06 (3.03 in one million) for the 30 year and 9.09E-08 (9.09 in one million) for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks will not exceed the applicable thresholds for both the 30 and 9 year exposure scenario. Therefore, carcinogenic exposures are calculated to be within acceptable limits and are less than significant.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30 year and 9 year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM_{10} concentrations of 0.552 $\mu g/m^3$ and 0.25 $\mu g/m^3$ for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively.

For $PM_{2.5}$, a maximum 24-hour average concentration of 1.38 $\mu g/m^3$ was predicted. This value also will not exceed the identified significance threshold of 2.5 $\mu g/m^3$.

The maximum modeled 1-hour average concentration for CO of 1.5 parts per million (ppm) (3,600 $\mu g/m^3$), when added to an existing background concentration of 2.1 ppm, would equal a total Project concentration of 3.6 ppm. This would not cause an exceedance of the California CAAQS of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 1.5 ppm (1,500 $\mu g/m^3$), when added to an existing background level of 1.3 ppm, would equal a total Project concentration of 2.8 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO_2, a maximum one hour concentration of 0.20 ppm (200$\mu g/m^3$) was predicted. This concentration, when added to a background concentration of 00.072 ppm, would equal a total Project concentration.

1.1.7 Mitigation Measures

No significant impacts would occur, thus no mitigation is required.

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Chapter 2 Source Identification and Characterization

2.1 Source Identification

Motor vehicle emissions contribute to ambient levels of air toxics known or suspected as human or animal carcinogens, or that have noncancer health effects. Noncancer health effects can result from exposures to air toxics, and include neurological, cardiovascular, liver, kidney, and respiratory effects as well as effects on the immune and reproductive systems.

In January 2015, Iteris, Inc. developed a Traffic Operations Analysis to future design-year traffic volumes generated by the operation of the proposed project. Table 2-1 presents the annual average daily traffic volumes (AADT) for the roadway segments considered in the assessment.

Table 2-1. Average Daily Traffic Volumes

2045 Conditions	AADT	Truck AADT	Diesel Truck Percentage
Grove Avenue/4th Street	103,052	4,431	4
Grove Avenue/I Street	69,507	2,989	4
Grove Avenue/G Street	79,522	3,022	4
Grove Avenue/D Street	77,562	2,947	4
Grove Avenue/Holt Boulevard	168,413	6,400	4
Grove Avenue/State Street-Airport Drive	131,811	5,009	4

Source: Iteris, Inc. 2015

2.2 Source Characterization

Mobile source emissions within the project area contribute significantly to localized air pollutant concentrations. Emissions that are generated from mobile sources are sorted by vehicle mix, the rate pollutants are generated during the course of travel and the number of vehicles traveling along the roadway network. For on-road motor vehicles, emissions rates are typically expressed as mass of pollutant emitted per mile driven, per vehicle per day, or per trip made, depending on the emissions process being analyzed. An emissions process for a motor vehicle is the physical mechanism that results in the emissions of a pollutant (e.g., the combustion of fuel, the evaporation of fuel, tire or brake wear, or the start of an engine).

CARB developed an EMission FACtors (EMFAC) model to calculate statewide or regional emissions inventories by multiplying emissions rates with vehicle activity data from all motor vehicles, including passenger cars to heavy-duty trucks, operating on highways,

freeways, and local roads in California. In December 2015, the EPA approved the EMFAC2014 model making this model the most current emission factor model. However, at the time the Air Quality Report (AQR) for the proposed project was developed EMFAC2014 had not been approved; therefore, EMFAC2011 was utilized to evaluate potential air quality impacts and establish project conformity. To remain consistent with the project's AQR, emissions factors from EMFAC2011 was utilized to identify pollution emission rates for total organic gases (TOG), diesel particulates, particulates (PM_{10} and $PM_{2.5}$), carbon monoxide (CO) and nitrogen oxide (NO_X) compounds. To produce a representative vehicle fleet distribution, the assessment utilized CARB's San Bernardino County population estimates for the 2045 calendar year. This approach provides an estimate of vehicle mix associated with operational profiles at the link or intersection level. Table 2-2 lists the identified vehicle traffic percentage considered in the assessment. Based upon the project's Traffic Operation Analysis, diesel vehicles account for 4 percent of the on-road mobile fleet. For chronic (long term) and acute (e.g., 1-hour) exposures, AADT values were averaged to produce representative hourly traffic volumes. Table 2-3 presents the hourly traffic volumes considered in the assessment.

Table 2-2. Vehicle Traffic Percentage

Segment	Low (2 Axle Long)	Medium (2 Axle 6 Tire)	Heavy (>3 Axle Single)
7th St - 4th St	19.9%	4.6%	0.2%
4th St - G St	19.7%	4.0%	0.3%
G St - Holt Blvd	19.5%	3.4%	0.4%
Holt Blvd - Mission Blvd	19.5%	3.4%	0.4%
South of Mission Blvd	20.7%	6.7%	0.4%

Table 2-3. PM Peak Hour Traffic Volumes

Segment	Southbound	Northbound	Total Vehicles
Grove Avenue/4th Street	1290	1510	2800
Grove Avenue/I Street	1200	1740	2940
Grove Avenue/G Street	1070	1720	2790
Grove Avenue/D Street	1080	1900	2980
Grove Avenue/Holt Boulevard	1560	1860	3420
Grove Avenue/State Street [Airport Drive]	1520	2510	4030

Source: Iteris, Inc. 2015

Posted speeds were assumed for vehicles traveling along this segment of Grove Avenue. Emissions associated with acceleration and deceleration (i.e., intersection signals) was based upon vehicle speeds of 15 and 5 mile(s) per hour, respectively.

For particulates (PM_{10} and $PM_{2.5}$), emissions were quantified through the reentrainment of paved roadway dust. The predictive emission equation developed by the EPA (AP-42, Section 13.2.1) was utilized to generate particulate source strength. To account for the mass rate of emissions entrained from the roadway surface, the contribution from exhaust, break and tire wear were added to the AP-42 emission factor equation.

A list of compounds associated with mobile source emissions is presented in Table 2-4. Appendix A presents the on-road emission rate calculation worksheets for the freeway segments considered in the assessment.

Table 2-4. Compounds Emitted from On-Road Mobile Source Activity

Source	Pollutant
Grove Avenue	Benzene
	Formaldehyde
	1,3-Butadiene
	Acetaldehyde
	Acrolein
	Diesel Particulates
	Reentrained Particulates (PM10, PM2.5)
	Carbon Monoxide
	Nitrogen Dioxide

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Chapter 3 Exposure Quantification

To determine potential impacts on residents who live within 500 feet of the Grove Avenue Corridor improvements, air quality modeling was performed utilizing Caltrans' dispersion model CALINE4. CALINE4 is a simple line source Gaussian plume dispersion model. The user defines the proposed roadway geometry, worst-case meteorological parameters, anticipated traffic volumes, and receptor positions. The user must also define emission factors for each roadway link. Emission factors should be generated with CARB's EMFAC7f model or CT-EMFAC1.

This assessment followed guidance promulgated by the U.S. EPA, whereby the model was programmed to assume flat, level terrain. As Grove Avenue is predominantly at-grade with nearby residences, no modifications were developed to account for the discrepancy in terrain elevation.

Air dispersion models require additional input parameters including pollutant emission data and local meteorology. Due to the their sensitivity to individual meteorological parameters such as wind speed and direction, the EPA recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, the nearest meteorological data available from the SCAQMD Upland (Source Receptor Area [SRA] 32), which is located less than 3 miles northwest of the project site, was used to represent local weather conditions and prevailing winds.

The modeling analysis also considered the spatial distribution of mobile source activity traveling on Grove Avenue in relation to nearby residential receptors. To accommodate a Cartesian grid format, direction dependent calculations were obtained by identifying the universal transverse mercator (UTM) coordinates for each volume source location. On-site receptors were placed to provide coverage across the identified project boundary. A two meter (6.5 feet) receptor height was assumed per AQMD guidance.

A dispersion model input summary table is provided in Appendix C. A complete listing of model input/output files are provided in electronic format in Appendix D.

Chapter 4 Risk Characterization

4.1 Carcinogenic Chemical Risk

There are no threshold levels for carcinogenic compounds; any exposure is expected to carry some associated risk. As a result, the State of California has established a threshold of one in one hundred thousand (or ten in one million) (1.0E-05) as a level posing no significant risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65). This threshold is also consistent with the maximum incremental cancer risk established by the SCAQMD for projects prepared under the auspices of the California Environmental Quality Act (CEQA). The SCAQMD CEQA Air Quality Handbook (1993) states that emissions of toxic air contaminants (TACs) are considered significant if a health risk assessment shows an increased risk of greater than ten in one million.

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter (µg/m3) over a 70 year lifetime. The URFs utilized in the assessment and corresponding cancer potency factor were obtained from the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values .

To effectively quantify dose, the procedure requires the incorporation of several discrete exposure variants. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day)-1 to derive the cancer risk estimate. Therefore, to assess exposures associated with the proposed residential population, the following dose algorithm was utilized.

$$CDI = (Cair \times EF \times ED \times IR) / (BW \times AT)$$

Where:

CDI = chronic daily intake (mg/kg/day)

Cair = concentration of contaminant in air (mg/m^3)

EF = exposure frequency (days/year)

ED = exposure duration (years)

IR = inhalation rate (m^3/day)

BW = body weight (kg)

AT = averaging time (days)

To represent residential exposures, the assessment employed the EPA's guidance to develop viable dose estimates based on reasonable maximum exposures (RME). Specifically, activity patterns for population mobility recommended by the EPA and presented in the Exposure Factors Handbook were utilized. As a result, lifetime risk values for residents were adjusted to account for an exposure duration of 350 days per year for 30 years (i.e., 95th percentile). A 9 year exposure duration was additionally assessed to identify risk estimates associated with the average time individuals are reported to reside at a given residence. These values are consistent with CEQA, which considers the evaluation of environmental effects of proposed projects in a manner that reflects both reasonable and feasible assumptions. For body weight and inhalation, the assessment employed average adult values of 70 kilograms and 20 cubic meters per day, respectively.

Appendix 3.2, Tables A1 and A2, columns f-g, present the URF's and corresponding cancer potency factors for carcinogens considered in the assessment. The cancer risk attributed to each compound and summation of those risks are presented in column h.

For carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled 3.03E-06 (3.03 in one million) for the 30 year and 9.09E-08 (9.09 in one million) for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks will not exceed the applicable thresholds for both the 30 and 9 year exposure scenario. Therefore, carcinogenic exposures were predicted to be within acceptable limits and are less than significant.

4.2 Non-Carcinogenic Hazards

An evaluation of the potential noncancer effects of contaminant exposures was also conducted. Under the point estimate approach, adverse health effects are evaluated by comparing the concentration of each compound with the appropriate Reference Exposure Level (REL). Available REL's presented in the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values were considered in the assessment.

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). For each discrete pollutant exposure, target organs presented in regulatory guidance were utilized.

To calculate the hazard index, the pollutant concentration or dose is divided by the appropriate toxicity value. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds one (i.e., unity), a health hazard is presumed to exist. For chronic exposures, REL's were converted to units expressed in mg/kg/day to accommodate the above referenced intake algorithm. To assess acute noncancer impacts, the maximum pollutant concentration is divided by the REL for the corresponding averaging time (e.g., 1-hour). No exposure adjustments are considered for short duration exposures.

Appendix C, Tables A1 and A2, columns i-j, present the REL's and corresponding reference dose values used in the evaluation of chronic noncarcinogenic exposures. The noncancer hazard quotient for identified compounds generated from each source and a summation for each toxicological endpoint are presented in columns k-r. Tables A3 through A4, column e present the REL's for the assessment of acute exposures. Columns f-m identify each compound's hazard quotient and corresponding index for each endpoint.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30 year and 9 year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, acute and chronic non-carcinogenic hazards were predicted to be within acceptable limits and are less than significant.

4.3 Criteria Pollutant Exposures

The State of California has promulgated strict ambient air quality standards (CAAQS) for various pollutants. These standards were established to safeguard the public's health and welfare with specific emphasis on protecting those individuals susceptible to respiratory distress, such as asthmatics, the young, the elderly and those with existing conditions which may be affected by increased pollutant concentrations. However, recent research has shown that unhealthful respiratory responses occur with exposures to pollutants at levels that only marginally exceed clean air standards. Table 4-1 presents the CAAQS for the criteria pollutants considered in the assessment.

Table 4-1. California Ambient Air Quality Standards

Pollutant	Standard	Health Effects
Particulates (PM10)	50 µg/m^3 (24 hr avg) 20 µg/m^3 (Annual)	1) Excess deaths from short-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory disease. 2) Excess seasonal declines in pulmonary function especially in children.
Particulates (PM2.5)	12 µg/m3 (Annual)	1) Excess deaths and illness from long-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory and cardio pulmonary disease.
Carbon Monoxide (CO)	20 ppm (1 hr avg) 9.0 ppm (8 hr avg	1) Aggravation of angina pectoris and other aspects of coronary heart disease. 2) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease. 3) Impairment of central nervous system functions. 4) Possible increased risk to fetuses.
Nitrogen Dioxide (NO2)	0.18 ppm (1 hr avg) 0.030 ppm (Annual)	1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups. 2) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes.

Abbreviations: ppm: parts per million; µg/m3: micrograms per cubic meter.
Source: California Code of Regulations, Title 17, Section 70200.

Pollutant emissions are considered to have a significant effect on the environment if they result in concentrations that create either a violation of an ambient air quality standard, contribute to an existing air quality violation or expose sensitive receptors to substantive pollutant concentrations. Should ambient air quality already exceed existing standards, the SCAQMD has established significance criteria for selected compounds to account for the continued degradation of local air quality. Background concentrations are based upon the highest observed value for the most recent three year period.

For PM_{10} emissions, background concentrations representative of the project area exceed the CAAQS for the 24-hour and annual averaging times. As a result, a significant impact is achieved when pollutant concentrations produce a measurable change over existing background levels. Although background concentrations exceed the CAAQS annual averaging time for fine particulates, no measurable change criteria currently exists. As a result, the SCAQMD significance threshold of 2.5 µg/m^3 for the 24-hour averaging time is used to assess $PM_{2.5}$ impacts.

For the CO 1 and 8-hour averaging times and NO_2 1-hour averaging time, background concentrations are below the current air quality standards. As such, significance is achieved when pollutant concentrations add to existing levels and create an exceedance of the CAAQS. Table 4-2 shows the pollutant concentrations collected at the nearest available

monitoring sites to the Project for the last three years of available data. Table 4-3 outlines the relevant significance thresholds considered to affect local air quality.

Table 4-2. Air Quality Data Summary (2013-2015)

Pollutant	Monitoring Data by Year		
	2013	2014	2015
Carbon Monoxide			
Highest 8 Hour Average (ppm)	1.4	1.2	1.3
Highest 1 Hour Average (ppm)	3	2.9	2.1
Particulate Matter (PM_{10})			
Highest 24 Hour Average ($\mu g/m^3$)[b]	113	65	69
Annual Average ($\mu g/m^3$)[b]	33.9	NA	NA
Particulate Matter ($PM_{2.5}$)			
Highest 24 Hour Average ($\mu g/m^3$)[b]	49.3	38.4	52.7[d]
Annual Average ($\mu g/m^3$)[b]	11.98	NA	NA
Nitrogen Dioxide			
Highest 1 Hour Average (ppb)	62	66	72

NOTES:

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter, ppb = parts per billion

NA = There was insufficient (or no) data available to determine the value.

a Generally, state standards and national standards are not to be exceeded more than once per year.

b Values represent federal statistics and are midnight-to-midnight 24-hour averages. State and federal statistics may differ because of different sampling methods.

c Measurements are usually collected every 6 days. Days over the standard represent the measured number of days that the standard has been exceeded.

d Monitor values at the Upland monitoring station were not available to 2015, monitor values from the Ontario (2330 S. Castle Harbour, Ontario) were used as this is the next closest monitoring station with $PM_{2.5}$ concentration values.

Table 4-3. SCAQMD Air Quality Significance Threshold

Pollutant	Averaging Time	Pollutant Concentration
Particulates (PM10) Particulates (PM2.5)	24 Hours	2.5 µg/m3 (operation)
Particulates (PM10)	Annual	1.0 µmg/m3

Table 4-3. SCAQMD Air Quality Significance Threshold

Pollutant	Averaging Time	Pollutant Concentration
Carbon Monoxide (CO)	1/8 Hours	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standards 20 ppm (1-hour) and 9 ppm (8-hour).
Nitrogen Dioxide (NO2)	1 Hour	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standard 0.18 ppm.

Abbreviations: ppm: parts per million; µg/m3: micrograms per cubic meter
Source: South Coast Air Quality Management District.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM_{10} concentrations of 0.552 $\mu g/m^3$ and 0.25 $\mu g/m^3$ for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively.

For $PM_{2.5}$, a maximum 24-hour average concentration of 1.38 $\mu g/m^3$ was predicted. This value also will not exceed the identified significance threshold of 2.5 $\mu g/m^3$.

The maximum modeled 1-hour average concentration for CO of 1.5 parts per million (ppm) (3,600 $\mu g/m^3$), when added to an existing background concentration of 2.1 ppm, would equal a total Project concentration of 3.6 ppm. This would not cause an exceedance of the California CAAQS of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 1.5 ppm (1,500 $\mu g/m^3$), when added to an existing background level of 1.3 ppm, would equal a total Project concentration of 2.8 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO_2, a maximum one hour concentration of 0.20 ppm (200µg/m3) was predicted. This concentration, when added to a background concentration of 00.072 ppm, would equal a total Project concentration.

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Chapter 5 Conclusion

For carcinogenic exposures, the summation of risk for the maximum exposed residential receptor totaled 3.03E-06 (3.03 in one million) for the 30 year and 9.09E-08 (9.09 in one million) for the 9 year exposure scenarios. In comparison to the threshold level of ten in one million, carcinogenic risks will not exceed the applicable thresholds for both the 30 and 9 year exposure scenario. Therefore, carcinogenic exposures are calculated to be within acceptable limits and impacts are less than significant.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30 year and 9 year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM_{10} concentrations of 0.552 $\mu g/m^3$ and 0.25 $\mu g/m^3$ for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively.

For $PM_{2.5}$, a maximum 24-hour average concentration of 1.38 $\mu g/m^3$ was predicted. This value also will not exceed the identified significance threshold of 2.5 $\mu g/m^3$.

The maximum modeled 1-hour average concentration for CO of 1.5 parts per million (ppm) (3,600 $\mu g/m^3$), when added to an existing background concentration of 2.1 ppm, would equal a total Project concentration of 3.6 ppm. This would not cause an exceedance of the California CAAQS of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 1.5 ppm (1,500 $\mu g/m^3$), when added to an existing background level of 1.3 ppm, would equal a total Project concentration of 2.8 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO_2, a maximum one hour concentration of 0.20 ppm (200$\mu g/m^3$) was predicted. This concentration, when added to a background concentration of 00.072 ppm, would equal a total Project concentration.

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Appendix A Emission Rate Calculation Worksheets

Running Rate Emission Summary

Criteria	5 mph	15 mph	45 mph
CO	2.660	1.251	2.496
NOx	0.686	0.142	0.581
PM10	0.016	0.006	0.010
PM2.5	0.014	0.006	0.009
TOG GAS	0.433	0.174	0.122
TOG DSL	1.170	0.131	0.153
DSL Particulate	0.007	0.006	0.008

EMFAC2011 Worksheet
(5 mph)

EMFAC2014 (v1.0.7) Emission Rates										
Region Type: County										
Region: San Bernardino										
Calendar Year: 2045										
Season: Annual										
Vehicle Classification: EMFAC2011 Categories										
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW										
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	CO_RUNEX	NOx_RUNEX	PM10_RUNEX	PM2_5_RUNEX
San Bernar	2045	LDA	Aggregate	5	GAS	32547.21	0.054899	0.038211	0.000466	0.000428326
San Bernar	2045	LDA	Aggregate	5	DSL	452.8933	0.002552	0.041175	0.000158	0.000150878
San Bernar	2045	LDT1	Aggregate	5	GAS	2259.238	0.059582	0.042747	0.000498	0.000457543
San Bernar	2045	LDT1	Aggregate	5	DSL	1.264741	0.027298	0.157824	0.000104	0.000996577
San Bernar	2045	LDT2	Aggregate	5	GAS	12814.22	0.717647	0.045358	0.000469	0.000431683
San Bernar	2045	LDT2	Aggregate	5	DSL	28.17083	0.026451	0.000151	0.000911	0.00087202
San Bernar	2045	LHD1	Aggregate	5	GAS	125.2526	0.229792	0.073791	0.0076	0.000698811
San Bernar	2045	LHD1	Aggregate	5	DSL	140.5119	0.003528	0.034596	0.000159	0.000152462
San Bernar	2045	LHD2	Aggregate	5	GAS	48.68335	0.214608	0.000551	0.000777	0.000714574
San Bernar	2045	LHD2	Aggregate	5	DSL	70.56483	0.033257	0.002376	0.000151	0.000144925
San Bernar	2045	MCY	Aggregate	5	GAS	292.5383	0.004201	0.016387	0.000139	0.000129779
San Bernar	2045	MDV	Aggregate	5	GAS	6867.409	0.849694	0.056445	0.000506	0.004650622
San Bernar	2045	MDV	Aggregate	5	DSL	193.4764	0.029179	0.004708	0.000194	0.000185309
San Bernar	2045	MH	Aggregate	5	GAS	15.12271	0.299882	0.000181	0.000764	0.0007029
San Bernar	2045	MH	Aggregate	5	DSL	3.07548	0.00021	0.000107	0.000433	0.000414249
San Bernar	2045	SBUS	Aggregate	5	GAS	227.4591	0.032253	0.001574	0.000777	0.000714302
San Bernar	2045	SBUS	Aggregate	5	DSL	405.8311	0.011897	0.094554	0.000542	0.000518493
San Bernar	2045	UBUS	Aggregate	5	GAS	770.3906	0.059122	0.054685	0.000762	0.000700814
San Bernar	2045	UBUS	Aggregate	5	DSL	769.8618	0.004072	0.020859	0.000572	0.00054737
							2.660123	0.686279	0.015984	0.013611637

EMFAC2011 Worksheet
(5 mph)

EMFAC2014 (v1.0.7) Emission Rates							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUNI
San Bernar	2045	LDA	Aggregate	5	GAS	32547.21	0.036586
San Bernar	2045	LDT1	Aggregate	5	GAS	2259.238	0.04204
San Bernar	2045	LDT2	Aggregate	5	GAS	12814.22	0.046724
San Bernar	2045	LHD1	Aggregate	5	GAS	125.2526	0.034363
San Bernar	2045	LHD2	Aggregate	5	GAS	48.68335	0.030429
San Bernar	2045	MCY	Aggregate	5	GAS	292.5383	0.000157
San Bernar	2045	MDV	Aggregate	5	GAS	6867.409	0.060447
San Bernar	2045	MH	Aggregate	5	GAS	15.12271	0.087098
San Bernar	2045	SBUS	Aggregate	5	GAS	227.4591	0.083891
San Bernar	2045	UBUS	Aggregate	5	GAS	770.3906	0.010895
							0.43263

EMFAC2011 Worksheet
(5 mph)

EMFAC2014 (v1.0.7) Emission Rates							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUN
San Bernar	2045	LDA	Aggregate	5	DSL	452.8933	0.087735
San Bernar	2045	LDT1	Aggregate	5	DSL	1.264741	0.302185
San Bernar	2045	LDT2	Aggregate	5	DSL	28.17083	0.299059
San Bernar	2045	LHD1	Aggregate	5	DSL	140.5119	0.086295
San Bernar	2045	LHD2	Aggregate	5	DSL	70.56483	0.084797
San Bernar	2045	MDV	Aggregate	5	DSL	193.4764	0.10179
San Bernar	2045	MH	Aggregate	5	DSL	3.07548	0.085917
San Bernar	2045	SBUS	Aggregate	5	DSL	405.8311	0.025732
San Bernar	2045	UBUS	Aggregate	5	DSL	769.8618	0.09608
							1.169589

EMFAC2011 Worksheet
(5 mph)

EMFAC2014 (v1.0.7) Emission Rates								
Region Type: County								
Region: San Bernardino								
Calendar Year: 2045								
Season: Annual								
Vehicle Classification: EMFAC2011 Categories								
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW								
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	PM10_RUI	PM2_5_RU
San Bernar	2045	LDA	Aggregate	5	DSL	452.8933	0.000158	0.000151
San Bernar	2045	LDT1	Aggregate	5	DSL	1.264741	0.000104	0.000997
San Bernar	2045	LDT2	Aggregate	5	DSL	28.17083	0.000911	0.000872
San Bernar	2045	LHD1	Aggregate	5	DSL	140.5119	0.000159	0.000152
San Bernar	2045	LHD2	Aggregate	5	DSL	70.56483	0.000151	0.000145
San Bernar	2045	MDV	Aggregate	5	DSL	193.4764	0.000194	0.000185
San Bernar	2045	MH	Aggregate	5	DSL	3.07548	0.000433	0.000414
San Bernar	2045	SBUS	Aggregate	5	DSL	405.8311	0.000542	0.000518
San Bernar	2045	UBUS	Aggregate	5	DSL	769.8618	0.000572	0.000547
							0.003225	0.003982
								0.007207

EMFAC2011 Worksheet
(15 mph)

Calendar Year: 2045										
Region Type: County										
Region: San Bernardino										
Calendar Year: 2045										
Season: Annual										
Vehicle Classification: EMFAC2011 Categories										
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW										
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	CO_RUNE	NOx_RUN	PM10_RUI	PM2_5_RU
San Bernai	2045	LDA	Aggregatec	15	GAS	320624.1	0.045821	0.000289	0.000194	0.000179
San Bernai	2045	LDA	Aggregatec	15	DSL	4461.331	0.932349	0.000229	0.000128	0.000123
San Bernai	2045	LDT1	Aggregatec	15	GAS	22327.73	0.004978	0.000323	0.000208	0.000191
San Bernai	2045	LDT1	Aggregatec	15	DSL	12.50322	0.010012	0.000909	0.000817	0.000781
San Bernai	2045	LDT2	Aggregatec	15	GAS	126797	0.05995	0.000343	0.000196	0.00018
San Bernai	2045	LDT2	Aggregatec	15	DSL	278.7426	0.096729	0.000841	0.000747	0.000715
San Bernai	2045	LHD1	Aggregatec	15	GAS	2592.963	0.001916	0.000562	0.000317	0.000292
San Bernai	2045	LHD1	Aggregatec	15	DSL	2901.016	0.001302	0.002426	0.000118	0.000113
San Bernai	2045	LHD2	Aggregatec	15	GAS	1006.708	0.00179	0.00042	0.000325	0.000298
San Bernai	2045	LHD2	Aggregatec	15	DSL	1458.048	0.01216	0.001354	0.000123	0.000118
San Bernai	2045	MCY	Aggregatec	15	GAS	2693.575	0.026175	0.013301	0.000607	0.000566
San Bernai	2045	MDV	Aggregatec	15	GAS	68294.39	0.007088	0.000425	0.000211	0.000194
San Bernai	2045	MDV	Aggregatec	15	DSL	1924.133	0.010659	0.000262	0.000158	0.000151
San Bernai	2045	MH	Aggregatec	15	GAS	289.8469	0.002501	0.001376	0.000319	0.000294
San Bernai	2045	MH	Aggregatec	15	DSL	56.92518	0.007781	0.059369	0.000339	0.000325
San Bernai	2045	SBUS	Aggregatec	15	GAS	1594.465	0.002687	0.001204	0.000324	0.000298
San Bernai	2045	SBUS	Aggregatec	15	DSL	2844.834	0.006786	0.042722	0.000419	0.000401
San Bernai	2045	UBUS	Aggregatec	15	GAS	4328.418	0.004917	0.004194	0.000318	0.000293
San Bernai	2045	UBUS	Aggregatec	15	DSL	4325.096	0.015099	0.011693	0.000351	0.000336
							1.2507	0.142241	0.006222	0.005848

EMFAC2011 Worksheet
(15 mph)

Calendar Year: 2045							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUNI
San Bernar	2045	LDA	Aggregate	15	GAS	320624.1	0.001529
San Bernar	2045	LDT1	Aggregate	15	GAS	22327.73	0.017599
San Bernar	2045	LDT2	Aggregate	15	GAS	126797	0.019555
San Bernar	2045	LHD1	Aggregate	15	GAS	2592.963	0.014387
San Bernar	2045	LHD2	Aggregate	15	GAS	1006.708	0.012748
San Bernar	2045	MCY	Aggregate	15	GAS	2693.575	0.00069
San Bernar	2045	MDV	Aggregate	15	GAS	68294.39	0.02527
San Bernar	2045	MH	Aggregate	15	GAS	289.8469	0.036485
San Bernar	2045	SBUS	Aggregate	15	GAS	1594.465	0.000351
San Bernar	2045	UBUS	Aggregate	15	GAS	4328.418	0.045509
							0.174124

EMFAC2011 Worksheet
(15 mph)

Calendar Year: 2045							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUNI
San Bernar	2045	LDA	Aggregate	15	DSL	4461.331	0.032053
San Bernar	2045	LDT1	Aggregate	15	DSL	12.50322	0.011008
San Bernar	2045	LDT2	Aggregate	15	DSL	278.7426	0.010933
San Bernar	2045	LHD1	Aggregate	15	DSL	2901.016	0.003181
San Bernar	2045	LHD2	Aggregate	15	DSL	1458.048	0.031011
San Bernar	2045	MDV	Aggregate	15	DSL	1924.133	0.03718
San Bernar	2045	MH	Aggregate	15	DSL	56.92518	0.000315
San Bernar	2045	SBUS	Aggregate	15	DSL	2844.834	0.001468
San Bernar	2045	UBUS	Aggregate	15	DSL	4325.096	0.003529
							0.130677

EMFAC2011 Worksheet
(15 mph)

Calendar Year: 2045								
Region Type: County								
Region: San Bernardino								
Calendar Year: 2045								
Season: Annual								
Vehicle Classification: EMFAC2011 Categories								
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW								
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	PM10_RUI	PM2_5_RU
San Bernar	2045	LDA	Aggregate	15	DSL	4461.331	0.000128	0.000123
San Bernar	2045	LDT1	Aggregate	15	DSL	12.50322	0.000817	0.000781
San Bernar	2045	LDT2	Aggregate	15	DSL	278.7426	0.000747	0.000715
San Bernar	2045	LHD1	Aggregate	15	DSL	2901.016	0.000118	0.000113
San Bernar	2045	LHD2	Aggregate	15	DSL	1458.048	0.000123	0.000118
San Bernar	2045	MDV	Aggregate	15	DSL	1924.133	0.000158	0.000151
San Bernar	2045	MH	Aggregate	15	DSL	56.92518	0.000339	0.000325
San Bernar	2045	SBUS	Aggregate	15	DSL	2844.834	0.000419	0.000401
San Bernar	2045	UBUS	Aggregate	15	DSL	4325.096	0.000351	0.000336
							0.003201	0.003063
								0.006264

EMFAC2011 Worksheet
(45 mph)

EMFAC2014 (v1.0.7) Emission Rates										
Region Type: County										
Region: San Bernardino										
Calendar Year: 2045										
Season: Annual										
Vehicle Classification: EMFAC2011 Categories										
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW										
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	CO_RUNE	NOx_RUN	PM10_RUI	PM2_5_RU
San Bernai	2045	LDA	Aggregatec	45	GAS	4921516	0.002846	0.020597	0.000513	0.000471
San Bernai	2045	LDA	Aggregatec	45	DSL	68494.75	0.091658	0.006864	0.000544	0.000616
San Bernai	2045	LDT1	Aggregatec	45	GAS	335568	0.307101	0.023013	0.000545	0.000501
San Bernai	2045	LDT1	Aggregatec	45	DSL	187.5199	0.101614	0.035283	0.000404	0.000387
San Bernai	2045	LDT2	Aggregatec	45	GAS	1890185	0.037037	0.024355	0.000515	0.000474
San Bernai	2045	LDT2	Aggregatec	45	DSL	4156.098	0.09436	0.024338	0.000372	0.000356
San Bernai	2045	LHD1	Aggregatec	45	GAS	23091.99	0.117287	0.037733	0.000435	0.000368
San Bernai	2045	LHD1	Aggregatec	45	DSL	34014.87	0.147118	0.018903	0.000576	0.000551
San Bernai	2045	LHD2	Aggregatec	45	GAS	8996.578	0.109494	0.028089	0.000854	0.000285
San Bernai	2045	LHD2	Aggregatec	45	DSL	17053.37	0.120516	0.04768	0.000614	0.000588
San Bernai	2045	MCY	Aggregatec	45	GAS	60092.63	0.001498	0.001082	0.000177	0.000165
San Bernai	2045	MDV	Aggregatec	45	GAS	984244.3	0.442269	0.030984	0.000557	0.000512
San Bernai	2045	MDV	Aggregatec	45	DSL	27723.64	0.104768	0.007683	0.000795	0.00076
San Bernai	2045	MH	Aggregatec	45	GAS	3354.581	0.153418	0.091801	0.00084	0.000472
San Bernai	2045	MH	Aggregatec	45	DSL	902.7625	0.089742	0.001786	0.000195	0.000186
San Bernai	2045	SBUS	Aggregatec	45	GAS	1362.492	0.164257	0.08041	0.000354	0.000785
San Bernai	2045	SBUS	Aggregatec	45	DSL	2430.949	0.106103	0.026487	0.000255	0.000244
San Bernai	2045	UBUS	Aggregatec	45	GAS	657.354	0.303122	0.027368	0.00084	0.000772
San Bernai	2045	UBUS	Aggregatec	45	DSL	654.9276	0.001652	0.046879	0.000129	0.000124
							2.495861	0.581335	0.009512	0.008616

EMFAC2011 Worksheet
(45 mph)

EMFAC2014 (v1.0.7) Emission Rates							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUNI
San Bernar	2045	LDA	Aggregate	45	GAS	4921516	0.004107
San Bernar	2045	LDT1	Aggregate	45	GAS	335568	0.004684
San Bernar	2045	LDT2	Aggregate	45	GAS	1890185	0.005215
San Bernar	2045	LHD1	Aggregate	45	GAS	23091.99	0.003778
San Bernar	2045	LHD2	Aggregate	45	GAS	8996.578	0.003341
San Bernar	2045	MCY	Aggregate	45	GAS	60092.63	0.002093
San Bernar	2045	MDV	Aggregate	45	GAS	984244.3	0.067943
San Bernar	2045	MH	Aggregate	45	GAS	3354.581	0.009591
San Bernar	2045	SBUS	Aggregate	45	GAS	1362.492	0.009197
San Bernar	2045	UBUS	Aggregate	45	GAS	657.354	0.012059
							0.122007

EMFAC2011 Worksheet
(45 mph)

EMFAC2014 (v1.0.7) Emission Rates							
Region Type: County							
Region: San Bernardino							
Calendar Year: 2045							
Season: Annual							
Vehicle Classification: EMFAC2011 Categories							
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW							
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	TOG_RUNI
San Bernar	2045	LDA	Aggregate	45	DSL	68494.75	0.003158
San Bernar	2045	LDT1	Aggregate	45	DSL	187.5199	0.011202
San Bernar	2045	LDT2	Aggregate	45	DSL	4156.098	0.010687
San Bernar	2045	LHD1	Aggregate	45	DSL	34014.87	0.034224
San Bernar	2045	LHD2	Aggregate	45	DSL	17053.37	0.030565
San Bernar	2045	MDV	Aggregate	45	DSL	27723.64	0.003661
San Bernar	2045	MH	Aggregate	45	DSL	902.7625	0.032602
San Bernar	2045	SBUS	Aggregate	45	DSL	2430.949	0.022948
San Bernar	2045	UBUS	Aggregate	45	DSL	654.9276	0.003727
							0.152775

EMFAC2011 Worksheet
(45 mph)

EMFAC2014 (v1.0.7) Emission Rates								
Region Type: County								
Region: San Bernardino								
Calendar Year: 2045								
Season: Annual								
Vehicle Classification: EMFAC2011 Categories								
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW								
Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	PM10_RUI	PM2_5_RU
San Bernar	2045	LDA	Aggregate	45	DSL	68494.75	0.000544	0.000616
San Bernar	2045	LDT1	Aggregate	45	DSL	187.5199	0.000404	0.000387
San Bernar	2045	LDT2	Aggregate	45	DSL	4156.098	0.000372	0.000356
San Bernar	2045	LHD1	Aggregate	45	DSL	34014.87	0.000576	0.000551
San Bernar	2045	LHD2	Aggregate	45	DSL	17053.37	0.000614	0.000588
San Bernar	2045	MDV	Aggregate	45	DSL	27723.64	0.000795	0.00076
San Bernar	2045	MH	Aggregate	45	DSL	902.7625	0.000195	0.000186
San Bernar	2045	SBUS	Aggregate	45	DSL	2430.949	0.000255	0.000244
San Bernar	2045	UBUS	Aggregate	45	DSL	654.9276	0.000129	0.000124
							0.003883	0.003811
								0.007694

Toxic Fractions of VOC for 2007 and later Diesel Vehicles

Pollutant	Toxic fraction
1,3-Butadiene	0.00080
Acetaldehyde	0.06934
Acrolein	0.00999
Benzene	0.01291
Formaldehyde	0.21744

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Appendix B Risk Calculation Worksheets

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Table A1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
Residential Exposure Scenario (30 Year)

Source	Concentration		Weight Fraction (d)	Containment (e)	Carcinogenic Risk			Noncarcinogenic Hazards / Toxicological Endpoints*									
	(ug/m3) (b)	(mg/m3) ©			URF (ug/m3) (f)	CPF (mg/kg/day) (g)	Risk (h)	REL (ug/m3) (i)	RfD (mg/kg/day) (j)	RESP (k)	CNS/PNS (l)	CV/BL (m)	IMMUN (n)	KIDN (o)	GI/LVO (p)	REPRO (q)	EYES ®
Grove Avenue	0.26732	2.60E-04	4.60E-01	Benzene	2.90E-05	3.05E-05	4.07E-10	6.00E+01	2.37E-04		1.42E-02	1.42E-02				1.42E-02	
			3.32E-01	Formaldehyde	6.00E-06	3.90E-02	7.77E-08	9.00E+00	9.13E-03	8.22E-02							
			1.05E-01	1,3-Butadiene	1.70E-04	1.23E-02	2.20E-07	2.00E+01	9.59E-02							1.92E+00	
			7.80E-02	Acetaldehyde	2.70E-06	9.16E-03	1.93E-09	1.40E+02	7.12E-04	9.97E-02							
			2.50E-02	Acrolein				3.50E-01	2.28E-02	7.99E-03							
	0.008	0.00008	1.00E+00	Diesel Particulate	3.00E-04	9.39E-06	2.82E-09	5.00E+00	7.31E-07	3.65E-06							
Total							3.03E-07			0.1899123	1.42E-02	1.42E-02	0.00E+00	0.00E+00	0.00E+00	1.9320548	0.00E+00

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g., teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	30
inhalation rate (m3/day)	20
average body weight (kg)	70
averaging time(cancer) (days)	25550
averaging time(noncancer) (days)	3285

Table A1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
Residential Exposure Scenario (30 Year)

Source	Concentration		Weight Fraction (d)	Containment (e)	Carcinogenic Risk			Noncarcinogenic Hazards / Toxicological Endpoints*									
	(ug/m3) (b)	(mg/m3) ©			URF (ug/m3) (f)	CPF (mg/kg/day) (g)	Risk (h)	REL (ug/m3) (i)	RfD (mg/kg/day) (j)	RESP (k)	CNS/PNS (l)	CV/BL (m)	IMMUN (n)	KIDN (o)	GI/LVO (p)	REPRO (q)	EYES ®
Grove Avenue	0.26732	2.60E-04	4.60E-01	Benzene	2.90E-05	9.16E-06	1.22E-10	6.00E+01	7.12E-05		4.27E-03	4.27E-03				4.27E-03	
			3.32E-01	Formaldehyde	6.00E-06	1.17E-02	2.33E-08	9.00E+00	2.74E-03	2.47E-02							
			1.05E-01	1,3-Butadiene	1.70E-04	3.70E-03	6.60E-08	2.00E+01	2.88E-02							5.75E-01	
			7.80E-02	Acetaldehyde	2.70E-06	2.75E-03	5.79E-10	1.40E+02	2.14E-04	2.99E-02							
			2.50E-02	Acrolein				3.50E-01	6.85E-03	2.40E-03							
	0.008	0.00008	1.00E+00	Diesel Particulate	3.00E-04	2.82E-06	8.45E-10	5.00E+00	2.19E-07	1.10E-06							
Total							9.09E-08			0.0569737	1.42E-02	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.5796164	0.00E+00

RESP Respiratory System
CNS/PNS Central/Peripheral Nervous System
CV/BL Cardiovascular/Blood System
IMMUN Immune System
KIDN Kidney
GI/LV Gastrointestinal System/Liver
REPRO Reproductive System (e.g., teratogenic and developmental effects)
EYES Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	9
inhalation rate (m3/day)	20
average body weight (kg)	70
averaging time(cancer) (days)	25550
averaging time(noncancer) (days)	3285

Appendix C CALINE 4 Model Output Summary File

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 3

JOB: Grove Avenue_CO_1hr

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

	*	* PRED	*	CONC/LINK						
	*	BRG	* CONC	*			(PPM)			
RECEPTOR	*	(DEG)	* (PPM)	* A	B	C	D	E	F	G H
1. R1	*	166.	* 2.5	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0 0.0
2. R2	*	173.	* 2.8	* 0.0	0.0	0.0	0.1	0.2	0.3	0.0 0.0
3. R3	*	172.	* 2.6	* 0.0	0.0	0.0	0.1	0.2	0.2	0.0 0.0
4. R4	*	357.	* 2.7	* 0.0	0.0	0.2	0.0	0.0	0.0	0.0 0.2
5. R5	*	355.	* 3.2	* 0.0	0.0	0.5	0.0	0.0	0.0	0.0 0.3

6.	R6	* 353. *	3.6 *	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.8
7.	R7	* 357. *	3.1 *	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.2
8.	R8	* 7. *	2.6 *	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
9.	R9	* 18. *	2.8 *	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	R10	* 170. *	2.6 *	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
11.	R11	* 188. *	2.7 *	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
12.	R12	* 349. *	2.6 *	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2
13.	R13	* 349. *	2.9 *	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.4
14.	R14	* 343. *	2.6 *	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
15.	R15	* 186. *	2.4 *	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
16.	R16	* 183. *	2.5 *	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
17.	R17	* 177. *	2.9 *	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.4
18.	R18	* 180. *	2.5 *	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
19.	R19	* 7. *	3.0 *	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	R20	* 208. *	2.4 *	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 4

JOB: Grove Avenue_CO_1hr

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	* CONC/LINK (PPM) I	J
1. R1	0.0	0.0
2. R2	0.0	0.0
3. R3	0.0	0.0
4. R4	0.1	0.1
5. R5	0.1	0.1
6. R6	0.2	0.0
7. R7	0.3	0.1
8. R8	0.1	0.2

9.	R9	*	0.0	0.2
10.	R10	*	0.2	0.0
11.	R11	*	0.0	0.0
12.	R12	*	0.1	0.0
13.	R13	*	0.1	0.0
14.	R14	*	0.0	0.0
15.	R15	*	0.0	0.0
16.	R16	*	0.0	0.0
17.	R17	*	0.0	0.0
18.	R18	*	0.0	0.0
19.	R19	*	0.0	0.7
20.	R20	*	0.0	0.2

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

                    JUNE 1989 VERSION

                    PAGE   1


               JOB: Grove Avenue_CO_8hr

               RUN: (MULTI-RUN/WORST CASE HYBRID)

          POLLUTANT:




    I.  SITE VARIABLES


         VD=  0.0 CM/S             Z0= 100. CM            ALT=
306.0 (M)

         VS=  0.0 CM/S




   II.  METEOROLOGICAL CONDITIONS


                     *   U     BRG   CLASS   AMB   MIXH   SIGTH
TEMP

          RUN        * (M/S)  (DEG)          (PPM)   (M)   (DEG)
(C)

  -------------------*-----------------------------------------
-----

  1. Hour 1          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0
```

```
  2. Hour 2          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  3. Hour 3          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  4. Hour 4          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  5. Hour 5          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  6. Hour 6          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  7. Hour 7          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0

  8. Hour 8          *  0.5   WORST  7 (G)   1.3   1000.   5.00
27.0
```

III. LINK GEOMETRY

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	* TYPE	H (FT)	W (FT)
A. Grove SB-4th	*	******	*****	*****	*****	* AG	0.0	72.0
B. Grove SB-I S	*	******	*****	*****	*****	* AG	0.0	72.0
C. Grove SB-G S	*	******	*****	*****	*****	* AG	0.0	72.0
D. Grove SB-D S	*	******	*****	*****	*****	* AG	0.0	83.0
E. Grove SB-Hol	*	******	*****	*****	*****	* AG	0.0	76.0
F. Grove NB- Ar	*	******	*****	*****	*****	* AG	0.0	84.0

```
  G. Grove NB- Ho ****** ***** ***** ***** *  AG   0.0  72.0

  H. Grove NB- D  ****** ***** ***** ***** *  AG   0.0  72.0

  I. Grove NB- G  ****** ***** ***** ***** *  AG   0.0  72.0

  J. Grove NB- G  ****** ***** ***** ***** *  AG   0.0  83.0
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 2

JOB: Grove Avenue_CO_8hr

RUN: (MULTI-RUN/WORST CASE HYBRID)

POLLUTANT:

IV. EMISSIONS AND VEHICLE VOLUMES

	*	LINK									
RUN	*	A	B	C	D	E	F	G	H	I	J
1 VPH	*	1290	1200	1070	1080	1560	2510	1860	1900	1720	1740
EF	*	3.	1.	2.	2.	3.	3.	1.	2.	2.	3.
2 VPH	*	1290	1200	1070	1080	1560	2510	1860	1900	1720	1740
EF	*	3.	1.	2.	2.	3.	3.	1.	2.	2.	3.

```
        *
  3 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
        *
  4 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
        *
  5 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
        *
  6 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
        *
  7 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
        *
  8 VPH *  1290  1200  1070  1080  1560  2510  1860  1900  1720
1740
    EF  *    3.    1.    2.    2.    3.    3.    1.    2.    2.
3.
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 3

JOB: Grove Avenue_CO_8hr

RUN: (MULTI-RUN/WORST CASE HYBRID)

POLLUTANT:

V. RECEPTOR LOCATIONS AND MULTI-RUN AVERAGE CONCENTRATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z	AVG (PPM)
1. R1	******	******	6.5	1.7
2. R2	******	******	6.5	2.0
3. R3	******	******	6.5	1.8
4. R4	******	******	6.5	1.9
5. R5	******	******	6.5	2.4
6. R6	******	******	6.5	2.8
7. R7	******	******	6.5	2.3
8. R8	******	******	6.5	1.8
9. R9	******	******	6.5	2.0
10. R10	******	******	6.5	1.8

11. R11	*	******	******	6.5	* 1.9
12. R12	*	******	******	6.5	* 1.8
13. R13	*	******	******	6.5	* 2.1
14. R14	*	******	******	6.5	* 1.8
15. R15	*	******	******	6.5	* 1.6
16. R16	*	******	******	6.5	* 1.7
17. R17	*	******	******	6.5	* 2.1
18. R18	*	******	******	6.5	* 1.7
19. R19	*	******	******	6.5	* 2.2
20. R20	*	******	******	6.5	* 1.6

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            CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

                     JUNE 1989 VERSION

                     PAGE   1


                JOB: Grove Avenue_NO2_1hr

                RUN: Hour 1

          POLLUTANT: Nitrogen Dioxide



    I.  SITE VARIABLES


          U=   0.5 M/S             Z0= 100. CM            ALT=
306.0 (M)

         BRG=   0.0 DEGREES         VD=  0.0 CM/S

        CLAS=     7 (G)             VS=  0.0 CM/S

        MIXH= 1000. M             TEMP= 27.0 DEGREE (C)

       SIGTH=    5. DEGREES


       NOX VARIABLES


         NO2= 0.07 PPM      NO= 0.00 PPM     O3= 0.13 PPM
KR= 0.000 1/SEC



   II.  LINK VARIABLES
```

	LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A.	Grove SB-4th	*	*****	*****	*****	*****	* AG	1290	0.69	0.0	72.0
B.	Grove SB-I S	*	*****	*****	*****	*****	* AG	1200	0.14	0.0	72.0
C.	Grove SB-G S	*	*****	*****	*****	*****	* AG	1070	0.14	0.0	72.0
D.	Grove SB-D S	*	*****	*****	*****	*****	* AG	1080	0.14	0.0	83.0
E.	Grove SB-Hol	*	*****	*****	*****	*****	* AG	1560	0.58	0.0	76.0
F.	Grove NB- Ar	*	*****	*****	*****	*****	* AG	2510	0.69	0.0	84.0
G.	Grove NB- Ho	*	*****	*****	*****	*****	* AG	1860	0.14	0.0	72.0
H.	Grove NB- D	*	*****	*****	*****	*****	* AG	1900	0.14	0.0	72.0
I.	Grove NB- G	*	*****	*****	*****	*****	* AG	1720	0.14	0.0	72.0
J.	Grove NB- G	*	*****	*****	*****	*****	* AG	1740	0.58	0.0	83.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 2

JOB: Grove Avenue_NO2_1hr

RUN: Hour 1

POLLUTANT: Nitrogen Dioxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. R1	*	******	******	6.5
2. R2	*	******	******	6.5
3. R3	*	******	******	6.5
4. R4	*	******	******	6.5
5. R5	*	******	******	6.5
6. R6	*	******	******	6.5
7. R7	*	******	******	6.5
8. R8	*	******	******	6.5
9. R9	*	******	******	6.5

10. R10	* ****** ******		6.5
11. R11	* ****** ******		6.5
12. R12	* ****** ******		6.5
13. R13	* ****** ******		6.5
14. R14	* ****** ******		6.5
15. R15	* ****** ******		6.5
16. R16	* ****** ******		6.5
17. R17	* ****** ******		6.5
18. R18	* ****** ******		6.5
19. R19	* ****** ******		6.5
20. R20	* ****** ******		6.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 3

JOB: Grove Avenue_NO2_1hr

RUN: Hour 1

POLLUTANT: Nitrogen Dioxide

IV. MODEL RESULTS (PRED. CONC. INCLUDES AMB.)

RECEPTOR	* PRED * CONC * (PPM) *	CONC/LINK (PPM) A	B	C	D	E	F	G	H	I	J
1. R1	* 0.10 *	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2. R2	* 0.10 *	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01
3. R3	* 0.11 *	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01
4. R4	* 0.11 *	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01
5. R5	* 0.13 *	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.01

```
  6. R6        *  0.13 * 0.01 0.00 0.01 0.00 0.00 0.00 0.00 0.03
0.00 0.01

  7. R7        *  0.14 * 0.01 0.00 0.01 0.00 0.00 0.00 0.00 0.01
0.01 0.02

  8. R8        *  0.08 * 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

  9. R9        *  0.07 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 10. R10       *  0.07 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 11. R11       *  0.08 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 12. R12       *  0.08 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 13. R13       *  0.08 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 14. R14       *  0.08 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 15. R15       *  0.07 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 16. R16       *  0.08 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00

 17. R17       *  0.10 * 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.02

 18. R18       *  0.12 * 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.03

 19. R19       *  0.20 * 0.05 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.08

 20. R20       *  0.07 * 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00
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             CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                      JUNE 1989 VERSION
                      PAGE   1

                 JOB: Grove Avenue_PM10
                 RUN: Hour 1           (WORST CASE ANGLE)
           POLLUTANT: Particulates
           (NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=
306.0 (M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M               AMB=  0.0 PPM
       SIGTH=    5. DEGREES       TEMP= 27.0 DEGREE (C)


   II.  LINK VARIABLES

       LINK      *  LINK COORDINATES (FT)  *             EF     H
W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)
(FT)  (FT)
```

```
  ----------------*-------------------------*-----------------------
-------

  A. Grove SB-4th * ***** ***** ***** ***** *  AG   1290   0.0
0.0  72.0

  B. Grove SB-I S * ***** ***** ***** ***** *  AG   1200   0.0
0.0  72.0

  C. Grove SB-G S * ***** ***** ***** ***** *  AG   1070   0.0
0.0  72.0

  D. Grove SB-D S * ***** ***** ***** ***** *  AG   1080   0.0
0.0  83.0

  E. Grove SB-Hol * ***** ***** ***** ***** *  AG   1560   0.0
0.0  76.0

  F. Grove NB- Ar * ***** ***** ***** ***** *  AG   2510   0.0
0.0  84.0

  G. Grove NB- Ho * ***** ***** ***** ***** *  AG   1860   0.0
0.0  72.0

  H. Grove NB- D  * ***** ***** ***** ***** *  AG   1900   0.0
0.0  72.0

  I. Grove NB- G  * ***** ***** ***** ***** *  AG   1720   0.0
0.0  72.0

  J. Grove NB- G  * ***** ***** ***** ***** *  AG   1740   0.0
0.0  83.0
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 2

JOB: Grove Avenue_PM10

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. R1	*	******	******	6.5
2. R2	*	******	******	6.5
3. R3	*	******	******	6.5
4. R4	*	******	******	6.5
5. R5	*	******	******	6.5
6. R6	*	******	******	6.5
7. R7	*	******	******	6.5
8. R8	*	******	******	6.5
9. R9	*	******	******	6.5
10. R10	*	******	******	6.5

11.	R11	*	****** ******	6.5
12.	R12	*	****** ******	6.5
13.	R13	*	****** ******	6.5
14.	R14	*	****** ******	6.5
15.	R15	*	****** ******	6.5
16.	R16	*	****** ******	6.5
17.	R17	*	****** ******	6.5
18.	R18	*	****** ******	6.5
19.	R19	*	****** ******	6.5
20.	R20	*	****** ******	6.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 3

JOB: Grove Avenue_PM10

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

	*	* PRED	*	CONC/LINK						
	*	BRG	* CONC	*	(PPM)					
RECEPTOR	*	(DEG)	* (PPM)	* A	B	C	D	E	F	G H
1. R1	*	166.	* 1.0	* 0.0	0.0	0.0	0.0	0.5	0.6	0.0 0.0
2. R2	*	173.	* 1.8	* 0.0	0.0	0.0	0.4	0.6	0.7	0.1 0.0
3. R3	*	171.	* 1.2	* 0.0	0.0	0.0	0.2	0.4	0.5	0.1 0.0
4. R4	*	357.	* 1.7	* 0.1	0.1	0.6	0.0	0.0	0.0	0.0 0.5
5. R5	*	355.	* 2.9	* 0.1	0.1	1.3	0.0	0.0	0.0	0.0 0.9

6.	R6	*	353.	*	4.0	*	0.1	0.2	1.0	0.0	0.0	0.0	0.0	2.0
7.	R7	*	356.	*	2.8	*	0.2	0.3	0.9	0.0	0.0	0.0	0.0	0.4
8.	R8	*	8.	*	1.4	*	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
9.	R9	*	169.	*	1.8	*	0.0	0.7	0.1	0.1	0.0	0.0	0.1	0.3
10.	R10	*	171.	*	1.6	*	0.1	0.5	0.1	0.1	0.0	0.1	0.1	0.2
11.	R11	*	352.	*	1.7	*	0.1	0.1	0.2	0.2	0.0	0.0	0.7	0.3
12.	R12	*	349.	*	1.6	*	0.0	0.1	0.3	0.1	0.0	0.0	0.4	0.5
13.	R13	*	349.	*	2.4	*	0.0	0.2	0.4	0.1	0.0	0.0	0.5	1.0
14.	R14	*	185.	*	1.6	*	0.0	0.0	0.0	0.2	0.2	0.2	0.9	0.0
15.	R15	*	188.	*	1.0	*	0.0	0.0	0.0	0.2	0.1	0.1	0.6	0.0
16.	R16	*	342.	*	0.7	*	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
17.	R17	*	176.	*	2.1	*	0.0	0.0	0.3	0.2	0.1	0.1	0.2	1.2
18.	R18	*	180.	*	1.0	*	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.4
19.	R19	*	191.	*	2.0	*	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
20.	R20	*	207.	*	0.8	*	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 4

JOB: Grove Avenue_PM10

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	* CONC/LINK (PPM) I	J
1. R1	0.0	0.0
2. R2	0.0	0.0
3. R3	0.0	0.0
4. R4	0.2	0.1
5. R5	0.3	0.1
6. R6	0.5	0.1
7. R7	0.9	0.2
8. R8	0.3	0.4
9. R9	0.4	0.0
10. R10	0.5	0.0

11.	R11	*	0.1	0.1
12.	R12	*	0.1	0.0
13.	R13	*	0.2	0.0
14.	R14	*	0.0	0.0
15.	R15	*	0.0	0.0
16.	R16	*	0.4	0.0
17.	R17	*	0.0	0.0
18.	R18	*	0.1	0.0
19.	R19	*	0.3	1.4
20.	R20	*	0.0	0.5

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

                    JUNE 1989 VERSION

                    PAGE   1


               JOB: Grove Avenue_PM2.5

               RUN: Hour 1           (WORST CASE ANGLE)

          POLLUTANT: Particulates

          (NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM
LABEL)


    I.  SITE VARIABLES


           U=   0.5 M/S             Z0= 100. CM            ALT=
306.0 (M)

         BRG= WORST CASE            VD=  0.0 CM/S

        CLAS=     7 (G)             VS=  0.0 CM/S

        MIXH= 1000. M              AMB=  0.0 PPM

       SIGTH=    5. DEGREES       TEMP= 27.0 DEGREE (C)



   II.  LINK VARIABLES


       LINK      *  LINK COORDINATES (FT)  *              EF
H     W

     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)
(FT)  (FT)
```

```
  ----------------*-------------------------*--------------------
----------

  A. Grove SB-4th * ***** ***** ***** ***** *  AG   1290   0.0
0.0  72.0

  B. Grove SB-I S * ***** ***** ***** ***** *  AG   1200   0.0
0.0  72.0

  C. Grove SB-G S * ***** ***** ***** ***** *  AG   1070   0.0
0.0  72.0

  D. Grove SB-D S * ***** ***** ***** ***** *  AG   1080   0.0
0.0  83.0

  E. Grove SB-Hol * ***** ***** ***** ***** *  AG   1560   0.0
0.0  76.0

  F. Grove NB- Ar * ***** ***** ***** ***** *  AG   2510   0.0
0.0  84.0

  G. Grove NB- Ho * ***** ***** ***** ***** *  AG   1860   0.0
0.0  72.0

  H. Grove NB- D  * ***** ***** ***** ***** *  AG   1900   0.0
0.0  72.0

  I. Grove NB- G  * ***** ***** ***** ***** *  AG   1720   0.0
0.0  72.0

  J. Grove NB- G  * ***** ***** ***** ***** *  AG   1740   0.0
0.0  83.0
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 2

JOB: Grove Avenue_PM2.5

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. R1	*	******	******	6.5
2. R2	*	******	******	6.5
3. R3	*	******	******	6.5
4. R4	*	******	******	6.5
5. R5	*	******	******	6.5
6. R6	*	******	******	6.5
7. R7	*	******	******	6.5
8. R8	*	******	******	6.5
9. R9	*	******	******	6.5

10. R10	* ****** ******		6.5
11. R11	* ****** ******		6.5
12. R12	* ****** ******		6.5
13. R13	* ****** ******		6.5
14. R14	* ****** ******		6.5
15. R15	* ****** ******		6.5
16. R16	* ****** ******		6.5
17. R17	* ****** ******		6.5
18. R18	* ****** ******		6.5
19. R19	* ****** ******		6.5
20. R20	* ****** ******		6.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 3

JOB: Grove Avenue_PM2.5

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

	*	* PRED	*	CONC/LINK							
	* BRG	* CONC	*	(PPM)							
RECEPTOR	* (DEG)	* (PPM)	*	A	B	C	D	E	F	G	H
1. R1	* 166.	* 1.6	*	0.0	0.0	0.0	0.0	0.7	0.8	0.0	0.0
2. R2	* 173.	* 2.7	*	0.0	0.0	0.0	0.6	0.9	1.1	0.1	0.0
3. R3	* 171.	* 1.8	*	0.0	0.0	0.0	0.3	0.5	0.8	0.2	0.0
4. R4	* 357.	* 2.5	*	0.2	0.1	0.9	0.0	0.0	0.0	0.0	0.8

```
  5. R5        *  355. *   4.3 *  0.2  0.2  1.9  0.0  0.0  0.0
0.0  1.3

  6. R6        *  353. *   6.0 *  0.2  0.3  1.5  0.0  0.0  0.0
0.0  3.0

  7. R7        *  356. *   4.2 *  0.2  0.4  1.4  0.0  0.0  0.0
0.0  0.6

  8. R8        *    8. *   2.1 *  0.4  0.6  0.0  0.0  0.0  0.0
0.0  0.0

  9. R9        *  169. *   2.7 *  0.0  1.1  0.2  0.1  0.0  0.1
0.2  0.4

 10. R10       *  171. *   2.3 *  0.1  0.7  0.1  0.1  0.1  0.1
0.2  0.2

 11. R11       *  352. *   2.6 *  0.1  0.1  0.3  0.3  0.0  0.0
1.0  0.5

 12. R12       *  349. *   2.5 *  0.1  0.2  0.5  0.1  0.0  0.0
0.5  0.8

 13. R13       *  349. *   3.6 *  0.1  0.2  0.6  0.1  0.0  0.0
0.8  1.5

 14. R14       *  185. *   2.3 *  0.0  0.0  0.0  0.4  0.3  0.3
1.4  0.0

 15. R15       *  188. *   1.5 *  0.0  0.0  0.0  0.3  0.2  0.1
0.8  0.0

 16. R16       *  342. *   1.1 *  0.0  0.4  0.0  0.0  0.0  0.0
0.0  0.0

 17. R17       *  176. *   3.2 *  0.0  0.0  0.5  0.3  0.1  0.2
0.3  1.7

 18. R18       *  180. *   1.4 *  0.0  0.0  0.3  0.1  0.1  0.1
0.1  0.5

 19. R19       *  191. *   3.1 *  0.0  0.5  0.0  0.0  0.0  0.0
0.0  0.0
```

```
  20. R20       *  207. *   1.2 *  0.4  0.0  0.0  0.0  0.0  0.0
 0.0  0.0
```

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 4

JOB: Grove Avenue_PM2.5

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT: Particulates

(NOTE: OUTPUT IN MICRO-GRAMS/METER**3. IGNORE PPM LABEL)

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	* CONC/LINK (PPM) I	J
1. R1	0.0	0.0
2. R2	0.0	0.0
3. R3	0.0	0.0
4. R4	0.3	0.2
5. R5	0.5	0.2
6. R6	0.8	0.2
7. R7	1.4	0.3
8. R8	0.5	0.7

9.	R9	*	0.6	0.0
10.	R10	*	0.7	0.0
11.	R11	*	0.2	0.1
12.	R12	*	0.2	0.1
13.	R13	*	0.3	0.1
14.	R14	*	0.0	0.0
15.	R15	*	0.0	0.0
16.	R16	*	0.7	0.0
17.	R17	*	0.1	0.0
18.	R18	*	0.2	0.0
19.	R19	*	0.5	2.1
20.	R20	*	0.0	0.8

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Appendix D CALINE4 Input/Output Files

Electronic Format, Available on Request

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Appendix G SHPO Concurrence Letter

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE: (909) 383-6933
FAX: (909) 383-6494
TTY: (909) 383-6300

Serious drought.
Help save water!

April 3, 2017

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street, Suite 100
Sacramento, CA 95816

City of Ontario
Grove Ave. Corridor Project

HPLUL 5092 (039)

Attention: Lucinda Woodward

Re: Historic Property Survey Report for the Grove Ave. Corridor Project, San Bernardino County, CA

The Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) are initiating consultation with the State Historic Preservation Officer (SHPO) in regard to the proposed City of Ontario Grove Ave. Corridor Project, in San Bernardino County. This consultation is undertaken in accordance with the *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA). Caltrans is concurrently complying with PRC 5024 pursuant to Stipulation III of the *Memorandum of Understanding between the California Department of Transportation and the California State Historic Preservation Officer regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (PRC 5024 MOU).

Enclosed you will find a Historic Property Survey Report (HPSR) for the proposed undertaking. The HPSR is intended to fulfill three of Caltrans' responsibilities under Section 106 of the National Historic Preservation Act: determination of the Area of Potential Effects (APE); identification of potential historic properties located within the undertaking's APE; and evaluation of potential historic properties for eligibility to the National Register of Historic Places (National Register). Under the PA, Caltrans is responsible for ensuring the appropriateness of the APE (Stipulation VIII.A) and the adequacy of historic property identification efforts (Stipulation VIII.B). We are consulting with you at the present time under Stipulation VIII.C.6 of the PA, which requires concurrence with Caltrans' determinations of eligibility for potential historic properties.

Caltrans, in cooperation with the City of Ontario, proposes an undertaking to widen Grove Ave. from a four lane roadway to a six lane roadway from Interstate 10 to State Street/Airport Drive. This project coincides with the I-10. Grove Avenue Interchange Project, which would construct a new interchange along I-10 at Grove Avenue.

Consultation and identification efforts resulted in the identification of seven cultural resources within the APE for the proposed project that required evaluation that were found to be not eligible for the NRHP. Pursuant to Stipulation VIII.C.6 of the first amended Section 106 PA (January 2014), we request your concurrence that the following properties within the APE are not eligible for the NRHP:

Name	Address/Location	Community	OHP Status Code	Map Reference #
John Galvin Park		Ontario, CA	6Z	MR-1
Fountain Winery	1300 E. Holt Boulevard	Ontario, CA	5S1	MR-3
Cucamonga Valley Winery and Distillery	1101 E. Holt Boulevard	Ontario, CA	5S1	MR-4
N/A	1111 E. Holt Boulevard	Ontario, CA	6Z	MR-5
N/A	1175 E. Holt Boulevard	Ontario, CA	6Z	MR-6
N/A	1179 E. Holt Boulevard	Ontario, CA	6Z	MR-7
N/A	1329 E. Holt Boulevard	Ontario, CA	6Z	MR-8

In addition, identification efforts resulted in the identification of one cultural resource within the APE for the proposed project that was evaluated and appears eligible for the NRHP. Pursuant to Stipulation VIII.C.6 of the Section 106 PA, we request your concurrence that the following property within the APE is eligible for the NRHP:

Name	Address/Location	Community	OHP Status Code	Map Reference #
Jay Littleton Ballpark	John Galvin Park	Ontario, CA	N/A	MR-2

Pursuant to PA Stipulation IX.A, Caltrans is proposing that a finding of No Historic Properties Affected is appropriate for the undertaking. The Jay Littleton Ballpark, the only Historic Property in the APE, will not be directly affected by the undertaking, and potential indirect effects are minimal. The ballpark has been avoided through the engineering design: all project work is adjacent to the ballpark on City Streets (see HPSR page 7). The Jay Littleton Ballpark (MR-2) was included in the APE due to its proximity to the project and to clarify its (lack of) association with the adjacent John Galvin Park (MR-1) which will be directly affected by the undertaking.

We look forward to receiving your response within thirty (30) days of receipt of this submittal in accordance with Stipulation VIII.C.6 of the Section 106 PA. If you have any questions or comments regarding the proposed project, please feel free to contact Andrew Walters, Associate Environmental Planner (Architectural History) at (909) 383-2647 or by email at Andrew.walters@dot.ca.gov.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Sincerely,

For Gabrielle Duff
Environmental Branch Chief
Caltrans, District 8

Enclosure: Historic Property Survey Report for the Grove Avenue Corridor Project, San Bernardino County (February 2017)

cc: Alexandra Bevk Neeb, Caltrans HQ
Andrew Walters, District 8 HRC

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

April 25, 2017 In reply refer to: FHWA_2017_0403_001

VIA EMAIL

Gabrielle Duff, Environmental Branch Chief
Caltrans District 8
464 West 4th Street
San Bernardino, CA 92401

Subject: Determinations of Eligibility for the Grove Avenue Corridor Project, San Bernardino County, CA

Dear Ms. Duff:

Thank you for consulting with me about the subject undertaking in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans, in cooperation with the City of Ontario, proposes an undertaking to widen Grove Avenue from a four lane roadway to a six lane roadway from Interstate 10 to State Street/Airport Drive. This project coincides with the I-10 Grove Avenue Interchange Project, which would construct a new interchange along I-10 at Grove Avenue.

Caltrans has determined that the following properties, located within the area of potential effect, are not eligible for the listing in the National Register of Historic Places (NRHP):

- John Galvin Park, Ontario, CA
- Fountain Winery, 1300 East Holt Boulevard, Ontario, CA
- Cucamonga Valley Winery and Distillery, 1101 E Holt Boulevard, Ontario, CA
- 1111 E Holt Boulevard, Ontario, CA
- 1175 E Holt Boulevard, Ontario, CA
- 1179 E Holt Boulevard, Ontario, CA
- 1329 E Holt Boulevard, Ontario, CA

In addition Caltrans has determined that the Jay Littleton Ballpark (Ballpark), located in John Galvin Park, is eligible for the NRHP under Criteria A and C. Under Criteria A and Cthe Ballpark is eligible as an excellent example of both a Work Progress Administration (WPA) project, as well as a State Emergency Recovery Act (SERA) project, that touched all social levels of a community and worked towards improving neighborhood relations. While there are notable WPA-funded ballparks in the United States, there does not

appear to be a better extant example in California. Though some modifications have been made to the Ballpark in recent years, the property retains its original functionality, with a covered grandstand that hark back to a time when structures of these type were constructed by hand with a simple post and truss framing system. The period of significance in 1937-1960, as the Ballpark stopped hosting Pacific Coast League games in 1960. The outfield fence and scoreboard are contemporary and considered non-contributors.

Based on my review of the submitted documentation I concur.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 with e-mail at natalie.lindquist@parks.ca.gov or Alicia Perez at (916) 445-7020 with e-mail at alicia.perez@parks.ca.gov .

Sincerely,

Julianne Polanco
State Historic Preservation Officer

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Appendix H IPaC Database Search

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To:
Consultation Code: 08ECAR00-2019-SLI-1055
Event Code: 08ECAR00-2019-E-02414
Project Name: I-10/Grove Corridor

June 04, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-1055

Event Code: 08ECAR00-2019-E-02414

Project Name: I-10/Grove Corridor

Project Type: TRANSPORTATION

Project Description: The City, in cooperation with the County of San Bernardino (County) and Caltrans District 8, proposes to widen Grove Avenue in the city of Ontario and the county of San Bernardino from four to six lanes between 4th Street and State Street/Airport Drive. Grove Avenue is located approximately 1.4 miles east of Euclid Avenue and approximately 1.2 miles west of Vineyard Avenue along I-10. The project area is bound on the north by 4th Street and on the south by State Street/Airport Drive.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/34.068881385467705N117.6285187516007W

Counties: San Bernardino, CA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat *Dipodomys merriami parvus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2060	Endangered

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered

Insects

NAME	STATUS
Delhi Sands Flower-loving Fly *Rhaphiomidas terminatus abdominalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1540	Endangered

Flowering Plants

NAME	STATUS
San Diego Ambrosia *Ambrosia pumila*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/8287

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

List of Technical Studies

Air Quality Report, February 2017

Archaeological Survey Report, March 2017

Community Impact Assessment, October 2016

Floodplain Evaluation Report, September 2015

Geotechnical Memorandum, September 2015

Health Risk Assessment, July 2016

Historic Property Survey Report, March 2017

Historical Resources Evaluation Report, March 2017

Initial Site Assessment, September 2015

Jurisdictional Delineation Letter Report, September 2016

Natural Environment Study (Minimal Impacts), September 2016

Noise Abatement Decision Report, December 2017

Noise Study Report, December 2017

Paleontological Identification Report and Paleontological Evaluation Report, March 2017

Project Report, March 2017

Relocation Impact Statement, October 2016

Section 4(f) *De Minimis* Finding, September 2016

Traffic Operations Analysis, January 2015

Visual Impact Assessment, November 2016

Water Quality Management Plan, June 2016

Water Quality Technical Report, June 2016

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