**Introduction to the Environmental Document Annotated Outlines**

The Environmental Document Annotated Outlines (AOs) were developed for the preparation of environmental documents addressing both the requirements of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). An annotated version of the Initial Study/Environmental Assessment (IS/EA) was first posted in November of 2003, and over the next two years the Environmental Impact Report/Environmental Assessment (EIR/EA) and Environmental Impact Report/Environmental Impact Statement (EIR/EIS) AOs were posted. The NEPA-only AOs were first posted in April of 2008.

The use of the joint NEPA/CEQA AOs or the NEPA-only AOs is *required* for any project receiving Federal Highway Administration (FHWA) Federal-aid funds. In addition, the AOs are required for projects on the state highway system. The use of the joint NEPA/CEQA AOs is highly recommended for all other projects.

The AOs provide a consistent document format for the presentation of required content and organize the documents into the following sections:

1. Summary (optional for the IS/EA and NEPA-only EA)
2. Proposed project
3. Project alternatives
4. Affected environment
5. Environmental consequences
6. Avoidance, minimization, and/or mitigation measures
7. Comments and coordination
8. Appendices
9. Technical Reports

Each section provides guidance for the planner to assist in the preparation of the environmental document.

As new initiatives emerge regarding environmental document preparation, the Division of Environmental Analysis reviews these initiatives and incorporates them, as appropriate, into the AOs. In some cases, the AOs already feature the suggestions or techniques contained in these documents. The references below can be used as general guidelines for improving the quality of environmental documents:

* [*Improving the Quality of Environmental Documents*](http://environment.transportation.org/center/products_programs/reports/improving_quality_nepa.aspx) (AASHTO/American Council of Engineering Companies Committee in Cooperation with the FHWA, May, 2006)
* [*Improving the Process for Preparing Efficient and Timely Environmental Review under the National Environmental Policy Act*](https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Improving_NEPA_Efficiencies_06Mar2012.pdf)(Council on Environmental Quality Memorandum, March 6, 2012)
* [FHWA - Every Day Counts – EDC 2012 Initiatives – Implementing Quality Environmental Documentation](http://www.fhwa.dot.gov/everydaycounts/edctwo/2012/doc.cfm)
* [Plain Language: Improving Communication from the Federal Government to the Public](http://www.plainlanguage.gov/)
* [*Examples of Effective Techniques for Improving the Quality of Environmental Documents* (2014)](http://environment.transportation.org/center/products_programs/reports/quality_enviro_docs.aspx) (AASHTO Center for Environmental Excellence and FHWA)

Initial Study/
Environmental Assessment
Annotated Outline

Note to authors:

For a “Final” IS/EA mark any changes to the document by placing a line in the margin where the changes are made. Do not show strikeout of text in the final document.

Standards used in this template:

Black text = Required headings.

Blue text = Instructions and guidance to be considered and deleted from the final document.
Red text = Required boilerplate text to be inserted into document. This text may be deleted if not applicable, but may not be edited.
Gray highlighted text (Coastal) = Instructions and guidance for projects within the coastal zone. This text should be deleted for projects outside the coastal zone.
Purple text = Sample text that can be used in document, as applicable.
Orange text = Text needing special attention; for example, to distinguish between instructions relating to draft and final environmental document.

Green text = Special guidance for Local Assistance projects (local roadway projects off the State Highway System using Federal-aid funds).

Underlined text (regardless of text color) = Internet or Intranet web links.

To jump to desired sections, use the navigation pane shown on the left of the screen. If the navigation pane is not visible, it can be turned on by marking the “navigation pane” box located under the “View” tab in the “Ribbon” at the top of the screen.

**Sample Cover Sheet**

Harmony Climbing Lane Project

SAN LUIS OBISPO COUNTY, CALIFORNIA

DISTRICT 5 – SLO – 1 (PM 42.3/44.7)

0A3800/0500021247

Initial Study [with Proposed] Negative Declaration or Mitigated Negative Declaration/
Environmental Assessment and [Draft or Final] Section 4(f) Evaluation (only include if there is an Individual or Programmatic Section 4(f) Evaluation [with Finding of No Significant Impact - for “Final” EA Only]

[INSERT A PHOTO HERE]

**Prepared by the**

**State of California, Department of Transportation**

and Local Jurisdiction

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 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

****

**December 2023**

**General Information about This Document**

GUIDANCE

An example of the General Information page for the draft and final documents is included to show how this page could be formatted. Change the project-specific text as needed.

**[DRAFT DOCUMENT ONLY]**Include the following three sections in the draft document: “What’s in this document,” “What you should do,” and “What happens next.”

**What’s in this document:**This section should briefly identify the document type (IS/EA) and what the document contains. An example is included on the following page and can be modified for use in any document.

**What you should do:**This section should describe what is being asked of the reader. Where should they send their comments? The General Information page and public notice shall specify the manner in which comments will be received (e.g., formal written comments, email, social media, etc.). When does the comment period close? Describe where the document and the documents incorporated by reference (e.g., technical studies) can be viewed and how the document can be found in an electronic format. An example is included on the following page and can be modified for use in any document.

**What happens next:**This section should briefly describe the next step in the environmental process. An example is included on the following page and can be modified for use in any document.

**Alternative Formats:**

This page must also include a paragraph telling the public how to obtain the document in alternative formats. Determine the special formats the document should be available in and list them in this section. You’ll also need to provide your district’s California Relay Service TTY number (<http://itvendors.dot.ca.gov/tty.htm>) and include the following: "or use California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.”

**[FINAL DOCUMENT ONLY]
Alternative Formats:**

The General Information page for the final document must also include a paragraph telling the public how to obtain the document in alternative formats. Determine the special formats the document should be available in and list them in this section. You’ll also need to provide your district’s California Relay Service TTY number (<http://itvendors.dot.ca.gov/tty.htm>) and include the following: "or use California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.”

The General Information page should be kept to one page. A sample for the draft and final documents can be found on the following pages.

**SAMPLE GENERAL INFORMATION PAGE [DRAFT DOCUMENT ONLY]**

**General Information about This Document**

What’s in this document:

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Luis Obispo County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA). The Department [or insert name of Local Agency] is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

**What you should do**:

* Please read this document.
* Additional copies of this document and the related technical studies, are available for review at [the district office and/or XYZ public institution, such as a library, community center, school, etc., (provide addresses for all locations)]. This document may be downloaded at the following website (include web page address).
* Include as applicable: Attend the public hearing. [Add date and location of hearing if known.]
* We’d like to hear what you think. If you have any comments about the proposed project, please attend the [insert type of meeting—see [Chapter 11, Article 7 of the PDPM](https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm)] and/or send your written comments via postal mail or email to the Department by the deadline.
* Send comments via postal mail to:
IMA Planner, Environmental Branch Chief, Attention: Larry E. Planner
Department of Transportation, Environmental Planning
50 Higuera Street, San Luis Obispo, CA 93401
* Send comments via email to: larry\_planner@dot.ca.gov.
* Be sure to send comments by the deadline: November 1, 2017.

What happens next:

After comments are received from the public and reviewing agencies, the Department, as assigned by the FHWA, may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, the Department could design and construct all or part of the project.

**Alternative Formats:**

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Larry E. Planner, Environmental Planning, 50 Higuera Street, San Luis Obispo, CA 93401; (805) xxx-xxxx (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

**SAMPLE GENERAL INFORMATION PAGE [FINAL DOCUMENT ONLY—can be placed on back of cover sheet]**

**General Information about This Document**

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study with Negative Declaration [or Mitigated Negative Declaration]/Environmental Assessment for the proposed project located in San Luis Obispo County, California. The Department is the lead agency under the National Environmental Policy Act (NEPA). The Department [or insert name of Local Agency] is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures. The Initial Study/Draft Environmental Assessment circulated to the public for [INSERT NUMBER] of days between [INSERT DATE] and [INSERT DATE]. Comments received during this period are included in Chapter 4 (or Appendix [INSERT APPENDIX LETTER]. Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated. Additional copies of this document and the related technical studies are available for review at [the district office and/or XYZ public institution, such as a library, community center, school, etc., (provide addresses for all locations)]. This document may be downloaded at the following website (include web page address).

**Alternative Formats:**

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Larry E. Planner, Environmental Planning, 50 Higuera Street, San Luis Obispo, CA 93401; (805) xxx-xxxx (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

**Sample Title Sheet**

FHWA Highway ID No. SCH# 1987062567

10-MER-99-PM 0.0/10.5

415700

1000021137

[Insert short descriptive phrase consistent with project alternative(s) such as “widen” or “improve” or “rehabilitate.”] State Route 99, from the Madera/Merced County line (Postmile 0.0 to Postmile 10.5) to just south of the Merced city limits

**INITIAL STUDY [Include as appropriate] with (Proposed) Negative Declaration or (Proposed) Mitigated Negative Declaration/Environmental Assessment [Include as appropriate] and [DRAFT or FINAL] Section 4(f) Evaluation (only include if there is an Individual or Programmatic Section 4(f) Evaluation) [with Finding of No Significant Impact – for “Final” EA only]**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

[If there is an Individual or Programmatic Section 4(f) Evaluation, add: 49 USC 303, and/or 23 USC 138]

THE STATE OF CALIFORNIA

Department of Transportation

and

Local Agency

List any other cooperating/responsible agencies here.

Cooperating Agencies:

Responsible Agencies: California Transportation Commission

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Debra Director

 District Director

 California Department of Transportation

 NEPA Lead Agency

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Debra Director

 District Director

 California Department of Transportation

 or Local Agency

 CEQA Lead Agency

Guidance

Include the agency signature block only if the agency is involved as a joint lead agency under NEPA or lead agency under CEQA, otherwise delete***.***

The following persons may be contacted for more information about this document:

Name, address, & telephone number of Name, address and telephone of

Department Contact local agency contact

# Finding of No Significant Impact (FONSI) [Final Document Only]

For “final” IS/EA include the FONSI as applicable. The FONSI is prepared by the Department. Do not include a blank FONSI in a “draft” IS/EA. See the [Forms and Templates page](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates) of the SER for a sample FONSI.

 SCH:

Proposed Mitigated Negative Declaration [change as applicable]

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (the Department) proposes to…

***Determination***

Include the following for Draft IS/EA along with a watermark that states “DRAFT:”

This proposed Negative Declaration (ND) (or Mitigated Negative Declaration [MND]) is included to give notice to interested agencies and the public that it is the Department’s intent to adopt an ND or MND for this project. This does not mean that the Department’s decision regarding the project is final. This ND or MND is subject to change based on comments received by interested agencies and the public.

The Department has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons: (Go to \*\* below.)

For a Final IS/EA: Delete any reference to “proposed” including the watermark and include:

The Department has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons: (Go to \*\* below)

\*\*

[NOTE: The determinations discussed here MUST be the same as those made on the CEQA checklist.]

The proposed project would have no effect on…list types of resources.

In addition, the proposed project would have less than significant effects to…list types of resources.

Include for (Proposed) Mitigated ND: With the following mitigation measures incorporated, the proposed project would have less than significant effects to list resources (for a list of potential resources see the Chapter 2 subheadings):

List mitigation measures.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name Date

District Director

District [#]

California Department of Transportation

Leave unsigned for proposed ND or MND.

Summary (optional)

The summary is optional. When considering whether to include a summary, focus on the complexity of the project and its environmental impacts. For small, non-complex projects a summary may not be appropriate.

If a summary is included, follow the guidance provided in the EIR/EA Annotated Outline.

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To update the table of contents (TOC), hover cursor over table and right-click. Choose update field. For topics not needed, or to modify a header (i.e., remove the “if applicable” statements), delete or edit the header in the body of the document and then update the TOC.

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**List of Tables and Figures**

Include a list of table and figures here. Make sure to update whenever edits are made to table numbers or figure numbers.

To aid the public in locating maps, it is recommended to clearly show where mapping can be found, particularly for the preferred alternative (if it has been identified).

Chapter 1 – Proposed Project

Introduction

**NOTE: If a summary is not used, include the following NEPA Assignment information here.**

Note: As you write the body of the document, remember who your audience is. Write to the general public and not to professional planners and engineers. Reword difficult terms or concepts, or explain them in the body of the text. Only when neither of these is practical should you use footnotes or include these terms in a glossary using common language.

**NEPA Assignment**

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 ([NEPA Assignment MOU](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/mous-moas-agreements)) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the [23 USC 326 CE Assignment MOU](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/mous-moas-agreements), projects excluded by definition, and specific project exclusions.

GUIDANCE

Identify the lead agency, or joint lead agencies under the National Environmental Policy Act (NEPA) and the lead agency under the California Environmental Quality Act (CEQA).

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). The Department [or insert name of Local Agency] is the lead agency under the California Environmental Quality Act (CEQA).

Begin Chapter 1 with a ***brief***introduction describing the existing facility, the project background and history (including funding and programming—specifically state that the project is included in the [agency and date] Regional or Metropolitan Transportation Plan [RTP or MTP] and a cost-constrained Transportation Improvement Program [TIP] if that is the case)—and very generally describe the proposed action (more detailed information can be provided in the “Alternatives” discussion). Include just enough information so that the reader can understand the general geographic setting of the project. See the sample text below.

The Department of Transportation (Department) proposes to improve the uphill segment of Route ## in ABC County from west of Route ## south to east of the River Causeway near Interstate ##. The total length of the project is 2.1 miles. Figures 1 and 2 are project location and vicinity maps.

This project is included in the 2013 Federal Statewide Transportation Improvement Program (FSTIP) and is proposed for funding from the HB4C program (System Operational Improvements). It is also included in the Metropolitan Transportation Commission’s (MTC) 2013 Metropolitan Transportation Plan (MTP) and the 2013 cost-constrained Metropolitan Transportation Improvement Program (MTIP).

Include maps showing the project location, the project vicinity, and/or the project features. These should clearly identify the limits of the project and the project footprint. The project location map should identify street names and prominent landmarks (e.g., community center, museum, library), especially those mentioned in the text.

For more information on the project description, go to:

* [Standard Environmental Reference (SER), Chapter 35, “Initial Study and Negative Declaration.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-35-initial-study-negative-declaration)

Purpose and Need

The project “purpose” is a set of objectives the project intends to meet. The project “need” is the transportation deficiency that the project was initiated to address.

1. Make your Purpose and Need statement broad enough to allow you to consider more than one solution, but specific enough that the range of alternatives can be focused. This allows you to consider alternate locations and/or alignments, design variations, and other modes of travel. Resource agencies reviewing the Purpose and Need statement are particularly interested in this; addressing the issue early means you won’t have to go back and do this work later.
2. Other departmental documents (see list in guidance below) can be useful sources of information. A project’s purpose and need may broaden or become more focused as the project progresses through the project development process. However, it is important that the project’s basic purpose and need, which is the reason for the project, stays consistent from planning and programming through each phase. Often, the Transportation Planning Office has already drafted a “regional” or “corridor” document such as a Route Concept Report or Transportation Concept Report; these documents can provide valuable information about traffic, systems linkages, etc. Also refer to the Project Initiation Document (PID) for the project.

Format for Purpose and Need Discussion

Depending on the project, the Purpose and Need statement can range from a few sentences to several pages. Its length and complexity will be driven by the complexity of the proposed project. You may also discuss the project benefits in this section.

1. Discuss the purpose of the project. Each purpose should be no more than two sentences and a bulleted list may be used.

The project purposes are specific objectives of the proposed action. The project purposes are used as the decision factors for comparing alternatives and identifying/selecting the preferred alternative. The purpose is a proposed solution to the problem or deficiency identified in the need statement. Ensure that the purpose is:

1. Consistent with transportation goals and objectives (mobility, safety, capacity).
2. A reasonable expenditure of public funds (benefit: cost).
3. Broad enough to allow a reasonable range of alternatives.
4. Achievable and unbiased.

Again, do not make the purpose so narrow that only one solution is considered:

If the "need" is for increased capacity, don’t write that the purpose is “to widen the highway.” Do write that the purpose is “to relieve traffic congestion.” This would allow the project team to consider Transportation System Management (TSM), public transit, and access control alternatives. Don’t write that the purpose of the project is “to build a new bridge on SR 1 due to the piers being undermined by wave action.” Do write that the purpose of the project is “to protect the SR 1 bridge from being undermined by wave action.” This would allow the project team to consider rip-rap, breakers, clear span bridge, and/or moving the location of the bridge farther inland.

Some examples of purpose are:

* To encourage motorists passing through the area on their way to another destination to use the regional highway system.
* To relieve congestion and improve traffic flow on the regional transportation system.
* To address increased travel associated with existing and planned local development. Note: The Department has no approval authority with regard to local plans.
* To offer a different way for vehicles to get to…
* To help achieve the goals of the [agency/date] Regional Transportation Plan (RTP). [This purpose can be used if there is a link between the project and broad policy goals of the RTP that should be highlighted, such as encouraging more transit use, shortening car trips, linking transportation and housing.]
* To help reduce emissions from transportation sources.
* To balance the circulation of traffic and reduce the number of motorists who must “double-back” to get to their destinations (out of direction travel).
* To improve the safety and operation of …**[NOTE: Do not state that the project will improve safety unless a safety problem has been identified]**
1. Discuss the need for the project.

The need is the transportation problem or deficiency that the Department is responding to. Be specific and use measurable terms as much as possible. Use terms the general reader will easily understand: For example, “Drivers typically wait 7 to 9 minutes to enter the intersection.” The statement of need, together with the purpose, allows the agency to focus the range of alternatives. In developing the statement of need, consider this: alternatives can be thought of as different ways to meet the underlying need.

Discuss the following categories of needs as applicable for your project. Appendix B of the Department’s [Purpose and Need Team Report and Recommendation](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#purpose_need) can help to identify potential data sources.

1. Capacity, Transportation Demand, and Safety
2. Describe existing capacity and LOS.
3. List regional population/traffic forecasts.
4. Identify projected capacity needs, queue and delay, and/or LOS.
5. If the project is specified as a safety improvement project, identify system safety needs.
* Describe the existing collision rate. Use direct language in this discussion. If collisions are occurring regularly on this stretch of roadway, say so.
* Compare the existing collision rate to the statewide average.
* Explain what is needed to improve safety, and how this project will address that need.

Coordinate with Traffic forecasting staff—for most districts, they are in the Transportation Planning division. They coordinate with the local Metropolitan Planning Organization/Regional Transportation Planning Agency/Council of Governments (MPO/RTPA/COG) on traffic modeling. The circulation element of city and county general plans should also contain traffic data. Regional population forecasts are usually done by the MPO/RTPA as well. The U.S. Census Bureau also has some information on [population projections](https://www.census.gov/programs-surveys/popproj.html); however, these projections do not take the place of traffic forecasts.

Collision data is available from the Traffic Accident Surveillance and Analysis System (TASAS). Each district should have a District TASAS Highway Database Coordinator within its Traffic Division. The Project Engineer (PE) should contact the coordinator to get the needed TASAS data, and the traffic or design engineer should provide the interpretation of that data. Be sure to use the most current data in the need statement.

The PE should be able to provide information about how the project will improve safety. This information should be as specific as possible.

1. Roadway Deficiencies
2. Describe operational deficiencies (substandard geometrics, inadequate cross sections). Use language the general reader will understand.
3. Identify structural limitations (load limits).
4. Discuss maintenance problems.
5. Explain what is needed to correct deficiencies.

The information for this section is primarily the responsibility of the PE. The PE will have information about roadway deficiencies and proposed corrections, but may need to coordinate with the Department’s Office of Structure Design if bridges or other structures are involved. Information on maintenance problems can be obtained by contacting the maintenance field station in the project area.

1. Social Demands or Economic Development
2. Discuss existing land use plans.
3. Identify projected land use plan changes.
4. Identify growth management/control ordinances.

Sources for the above information include city and county planning offices, MPOs and RTPAs (e.g., SACOG, SANDAG, ABAG, SCAG), and the District/Region Intergovernmental Review/CEQA branch.

1. Legislation
2. Describe any federal, state, or local government mandates (e.g., demonstration projects, sales tax measure projects) that relate to the project.
3. The following is an example from one of the Department’s documents:

In July 1989, Governor Deukmejian approved Assembly Bill 680. This allowed the Department to select four demonstration projects to be financed by and constructed by private sector developers and then operated as private toll facilities for up to 35 years. In September 1990, the Department selected the proposed Route XYZ project as one of the demonstration projects.

The Project Manager (PM) should have the above information, and it should also be in the Project Initiation Document or PID (PSR, PSR/PDS, PSSR, etc.). [CA Streets and Highways Code Section 300](http://leginfo.legislature.ca.gov/faces/codes.xhtml) provides useful language on the Legislature’s intent in establishing the State Highway System (SHS).

1. Modal Interrelationships and System Linkages
2. Discuss how the project will interface with airport, rail, port, and mass transit facilities.
3. Indicate whether the project serves as a connecting link between two facilities or systems.
4. Describe how the project fits into the transportation system.

Coordinate with the Department’s System Planning Branch. Look at Route Concept Reports and Transportation Concept Reports. Contact local agencies for transit information and general plans (circulation elements), and the MTP/RTP available from MPOs/RTPAs (the district/region planning office may also have copies and many RTPs are available on-line).

1. Air Quality Improvements
2. Identify transportation control measures (e.g., High Occupancy Vehicle [HOV] lanes, ramp metering, bike lanes, and park and ride facilities).
3. Identify Transportation Demand Management strategies (e.g., rideshare programs, mass transit subsidies).

Information on bike lane systems, park and ride facilities, ridesharing, and mass transit can be obtained from the Department’s Transportation Planning Office or local government planning departments. Information on HOV lanes and ramp metering can be obtained from district Traffic Operations.

Some examples of need are:

* A growing use of the local streets for regional trips, leading to congestion that requires motorists to go out of their way to get to their destinations (increased travel distance).
* Increasing congestion on the regional transportation system, including Interstates ##.
* Extensive existing and approved planned development that generates additional trips.
* Inadequate regional access to the \_\_\_\_ area.

**Independent Utility and Logical Termini**

Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

When writing the Purpose and Need statement, ensure that the text addresses independent utility and logical termini. These are two terms that will need to be defined for readers and should be restated with plainer language whenever possible. A problem of segmentation may arise if a transportation need extends throughout an entire corridor, but environmental issues and transportation need are discussed for only a segment of the corridor. Again, be sure to define segmentation for readers. See FHWA’s guidance on logical termini and independent utility at: <http://environment.fhwa.dot.gov/projdev/tdmtermini.asp>.

Additional Guidance on Purpose and Need

* [FHWA memo on Purpose and Need in Environmental Documents,](http://www.environment.fhwa.dot.gov/projdev/tdmneed.asp) Sept. 18, 1990
* [Technical Advisory T6640.8A](http://environment.fhwa.dot.gov/projdev/impTA6640.asp), Oct. 30, 1987
* [Project Development Procedures Manual](https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm) (see Chapter 10, Section 4)
* [Guidance on Purpose and Need, July 23, 2003, Memo from FHWA](http://www.environment.fhwa.dot.gov/guidebook/Gjoint.asp)
* [Interim Guidance on Purpose and Need, August 21, 2003](https://collaboration.fhwa.dot.gov/dot/fhwa/ReNepa/Lists/aReferences/DispForm.aspx?ID=339&ContentTypeId=0x0100FD88498C79DA344891463A41FB7F7D1A001A40A8D46CD61248B5B55A58770845CA)
* [Caltrans Purpose and Need Team: Final Report and Recommendations](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#purpose_need), July 2003
* Caltrans Deputy Directive #83, Purpose and Need
* FHWA [“Executive Order 13274 Purpose and Need Work Group Draft Baseline Report, Revised Draft,”](https://collaboration.fhwa.dot.gov/dot/fhwa/ReNepa/Lists/aReferences/Attachments/338/pnreport031505.pdf) March 15, 2005

Project Description

An Environmental Assessment (EA) should contain a discussion of one or more build alternatives as well as a discussion of the no-build alternative ([FHWA Technical Advisory T6640.8A](https://www.environment.fhwa.dot.gov/projdev/impTA6640.asp)). Under NEPA, viable alternatives must be discussed in equal detail. Also under NEPA, consideration should be given to transportation system management (TSM), transportation demand management (TDM), and multi-modal alternatives, such as bike lanes, Active Transportation Program projects, pedestrian walkways, etc. NOTE: If your project includes new or modified access to the Interstate System and requires FHWA approval, include the “Final Determination of Engineering and Operational Acceptability” from FHWA as an appendix in the final document. See the [Project Development Procedures Manual](https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm), Chapter 27, for additional information.

**Additional Guidance**

* [SER, Vol. 1, Chapter 35, “Initial Study and Negative Declaration”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-35-initial-study-negative-declaration)
* [SER, Vol. 1, Chapter 31, “Environmental Assessment/Finding of No Significant Impact”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-31-environmental-assessment-finding-of-no-significant-impact)
* [SER, Vol. 1, Chapter 1, “Federal Requirements, Development of Project Alternatives”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#devalt)

Writing the Document

1. Provide a brief paragraph telling the reader the purpose of this section. For example:

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are Alternative “X,” Alternative “Y,” and the “No-Build Alternative.”

1. Provide a very brief restatement of the description of the existing facility and the purpose and need for the project. For example:

The project is located in ABC County on Route ## from west of Route ## South (PM 5.00) to east of the River Causeway near Highway ## (PM 7.3). The total length of the project is 2.1 miles. Within the limits of the proposed project, Route ## is a conventional two-lane, undivided highway with two 12-foot lanes and 2- to 4-foot non-standard shoulders. The purpose of the project is to upgrade the highway to current design standards and to correct operational problems resulting from traffic queues formed by slow-moving vehicles.

1. For projects in the coastal zone, the California Coastal Commission (CCC) usually requires a more detailed project description than normally provided in an IS/EA in order to support findings for coastal permit or Local Coastal Program (LCP) approval by the CCC or local agency. Additional information to include in the project description, to the extent feasible, would include details about all physical development, such as dimensions of proposed structures and facilities, public access components (trails, parking lots, etc.), approximate grading quantity, approximate amount of vegetation removal, construction techniques and timing, etc. It is helpful to include as much detail as possible, acknowledging that the details may change as the project and plans progress.

Alternatives

Alternatives may be developed to avoid or substantially lessen impacts to resources such as wetlands, floodplains, Section 4(f) properties, endangered species, and cultural sites or to be consistent with federal, state, and departmental directives such as DD-64-R2 Complete Streets – Integrating the Transportation System. If there are no alternatives to impacts on floodplains or wetlands, then an *only practicable alternative finding* must be made for these resources. This section of the document should include a reference to the appropriate sections where further discussion of these avoidance alternatives can be found—wetlands, floodplains, Section 4(f) properties, endangered species, etc., as applicable.

NOTE: For projects in the coastal zone, the CCC usually requires an alternatives analysis that goes beyond what is typically provided in an IS/EA. The alternatives analysis should address the feasibility of potential temporary and permanent resource impact avoidance or minimization alternatives through project design features, siting options and/or construction methods, and clearly identify the proposed avoidance, minimization, and mitigation measures and any potential secondary impacts associated with such implementation. For example, consider alternatives that would reduce native vegetation removal, grading/landform alteration, impacts to sensitive habitat, water quality, public views, cultural resources, public access, etc.

**GUIDANCE**

For projects with only one build alternative, include the following discussions:

1. Proposed Build Alternative

Describe the major project features of the proposed build alternative. Remember to discuss utility relocations, designated optional borrow/fill sites, staging areas, etc., as applicable to the proposed project. Include a map or maps showing the location and major features of the proposed action. Make sure to label all locations referenced in the text. Include typical cross-sections and typical profiles as appropriate to help the reader understand. Make sure the project description in the environmental document, (Draft) Project Report, and technical studies all match.

1. No-Build (No-Action) Alternative

 No-Build (No-Action) Alternative. The “no build” analysis must discuss the existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the project was not approved. Environmental review must consider the effects of not implementing the proposed project. The no-build alternative provides a basis for comparing the build alternatives. Under NEPA, the no-build alternative can be used as the baseline for comparing environmental impacts; under CEQA, the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. It is important that the baseline is clearly and consistently identified throughout the document. Explain the effects of the no-build alternative. Use the Purpose and Need statement to identify these; they might include deteriorating LOS, worsening air quality, and increasing maintenance costs. Indirect impacts might include those to the economic health of a nearby or an adjacent community. The no-build alternative may create cumulative impacts if the project need is addressed by multiple smaller projects done over an extended period of time.

For proposed projects with more than one build alternative, organize the discussion as shown below:

Outline of Alternatives Section

1. Project Alternatives
2. Build alternatives should include a range of reasonable alternatives that could meet the purpose and need of the project. Once a preferred alternative has been identified, it should be listed before the other alternatives under consideration. List the criteria for alternative selection here. Use the following headings to cover the topic:
3. Common Design Features of the Build Alternatives
4. Unique Features of Build Alternatives (use separate subheadings for each build alternative)
5. Include Transportation Demand Management (TDM), Transportation System Management (TSM), and Mass Transit alternatives:
* TDM Alternative (to be considered on all proposed major highway projects in urban areas over 200,000 population)
* TSM Alternative (usually only relevant in urban areas over 200,000 population)
* Mass Transit Alternative (to be considered on all proposed major highway projects in urban areas over 200,000 population)
1. No-Build (No-Action) Alternative—the “no-build” analysis must discuss both the existing conditions and what would reasonably be expected to occur in the foreseeable future if the project was not approved.
2. Comparison of Alternatives
3. Identification of a Preferred Alternative (include in the final document)
4. Alternatives Considered but Eliminated from Further Discussion [for “final” document, change section title to Alternatives Considered but Eliminated from Further Discussion Prior to the “draft” Initial Study/Environmental Assessment (IS/EA)]

Writing the Document

Project Alternatives

1. Include an introductory paragraph that briefly discusses the criteria used for alternative evaluation (meets purpose and need, avoids environmental impacts, feasibility, etc.). Major features used for comparison may include project cost, level of service (LOS) and other traffic data, and specific environmental impacts. NOTE: Cost should not be used as a primary determining factor for choosing an alternative; rather, it can be one of several considerations in alternative selection. If a specific “avoidance alternative” has been developed for the project, describe the ways in which this alternative is expected to avoid or minimize environmental impacts. If different alternatives have been developed to avoid Section 4(f) resources, wetlands, floodplains, etc., include that information in the “Common Design Features of the Build Alternatives” or the “Unique Features of Build Alternatives” discussions, as applicable.
2. This section of the document should discuss any project features intended to reduce environmental impacts or that could be considered project enhancements. The specific placement of this discussion will depend upon whether or not these features are common to all alternatives or if they vary by project alternative.

Project features can include both design elements and standardized measures that are applied to all, or most, Caltrans projects. These features are considered a part of the project itself and are not subsequent actions proposed to mitigate or offset an adverse environmental impact. For more guidance, please see [Mitigation under CEQA](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#ceqa) on the SER. Include the following statement in this section:

This project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

First, consider design elements. A design element is a feature that is an integral component of the project (for example, bike and transit features of a Complete Streets project). Other examples may include alignment shifts/modifications or a reduction in right-of-way acquisition to avoid sensitive environmental resources; providing pedestrian or bicycle bridges or tunnels; elevated structures to minimize floodplain impacts or low-profile structures to minimize visual impacts; design considerations necessary to address geological or seismic concerns; etc. Some design elements are actually enhancements not intended to address an environmental impact, but rather provide a net benefit to the community (for example, a gateway monument).

Context sensitive solutions should be included here. Explain how these contextual elements such as textured noise barriers, colored concrete or asphalt, highway plantings, etc., help generate public acceptance of the project, reflect the unique character of the community, and provide compatibility with the existing visual resources. Early coordination with Landscape Architecture can ensure that these “good design” elements are incorporated into the project early in the process. For information on context sensitive solutions, please see [FHWA’s Context Sensitive Solutions website](http://contextsensitivesolutions.org/), [FHWA’s Context Sensitive Solutions Primer](https://www.fhwa.dot.gov/context/css_primer/), and the [Department’s Context Sensitive Solutions website](http://www.dot.ca.gov/hq/LandArch/16_livability/css/index.htm).

1. This section should also be used to provide a list of the applicable standardized measures that will be applied to the project such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions (see the sample text below). Many of these will be especially relevant to the discussion of construction impacts. It may also be desirable to list these measures in the ECR (or equivalent) as well, with an emphasis on Standard Special Provisions and Non-Standard Special Provisions required for the project, as well as items to be depicted on the project plan sheets (rather than items found in the Standard Specifications). This will also assist in the PS&E review for the project. If these are included in the ECR, they should be clearly delineated as standardized measures and not included in the listings of avoidance, minimization, and mitigation measures. It is not necessary to discuss these measures in detail, either here or in the ECR, as the “Environmental Consequences” section under each resource topic will explain how these measures have reduced the potential environmental impacts of the proposed project.

Common Design Features of the Build Alternatives

1. Use this heading when the build alternatives share many common features. Shared design features (i.e., park-and-ride facilities, ramp metering, interchanges, etc.) discussed here do not have to be repeated under each alternative description.

2. Include design exceptions, new or revised access, and status of their approval in this discussion.

1. Include those project features (including design elements and standardized measures) intended to reduce environmental impacts that are common to all build alternatives here, as applicable. See the sample text below:

Each project alternative includes the following standardized measures that are included as part of the project description. Standardized measures (such as Best Management Practices [BMPs]) are those measures that are generally applied to most or all Department projects. These standardized or pre-existing measures allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. More information on each measure can be found in the applicable sections of Chapter 2.

**TT-1**: A Transportation Management Plan (TMP) will be prepared for the project.

**CR1:** Standard provisions dealing with the discovery of unanticipated cultural materials or human remains will be included in the project plans and specifications:

**AQ1:** The construction contractor must comply with the Department’s Standard Specifications in Section 14.

Unique Features of Build Alternatives

For each alternative:

1. Discuss right-of-way requirements, utility relocations, designated optional borrow/fill sites, staging areas, proposed access, etc.
2. Include those project features (including design elements and standardized measures) intended to reduce environmental impacts that are unique to certain build alternatives here, as applicable. See the sample text below:

Alternative C was specifically designed to avoid impacts to wetlands by making adjustments to the alignment of the road at the southern end of the project limits. This re-alignment has, however, moved construction activities closer to three elderberry bushes. These bushes will be protected during construction by the establishment of an Environmentally Sensitive Area (ESA), which is described in Section 14 of Caltrans Standard Specifications and which will be included on the project plan sheets.

1. Describe the rationale for inclusion of the alternative in the document.
2. Make sure the names of the various alternatives are distinct and will not be easily confused. Keep the names of the alternatives consistent throughout the document.
3. Make sure the project description and description of alternatives in the environmental document, (Draft) Project Report, and technical studies match.
4. Include a map or maps showing the details of the build alternative(s). If a preferred alternative has been identified, make sure the map detailing the preferred alternative can be easily located by the public. Other graphics such as typical cross sections and typical profiles should also be included, especially when needed to illustrate variations in the alternatives.

Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

Include a discussion of viable TSM and TDM alternatives.

TSM strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include: ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also promotes automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit.

If applicable, add a boilerplate paragraph for one common conclusion:

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the build alternatives for this project: [list items here].

TDM focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals.

If these alternatives have been withdrawn from consideration, move the discussion of TSM and TDM alternatives to the heading “Alternatives Considered but Eliminated from Further Discussion.”

Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that Caltrans or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). For projects that do not meet the criteria (capacity increasing or a major street or highway lane realignment), this determination can be documented in the Project Initiation Document. Projects that do meet this criteria must be evaluated by District Traffic Operations to determine the feasibility of including reversible lanes in the project scope. If reversible lanes are not feasible, document this in the environmental document in the “Alternatives Considered but Eliminated from Further Discussion” section below. If reversible lanes are feasible, evaluate them as a viable alternative in the environmental document. This requirement applies to projects newly approved for programming after January 1, 2017.

**Access to Navigable Rivers**

California Streets and Highways Code Section 84.5 states that during the design hearing process relating to state highway projects that include the construction by the Department of a new bridge across a navigable river, there shall be included full consideration of, and a report on, the feasibility of providing a means of public access to the navigable river for public recreational purposes.

If the project will construct a new bridge across a navigable river, provide details on the consideration of providing public access to the navigable river for public recreational purposes. Reference feasibility report as appropriate.

No-Build (No-Action) Alternative

1. No-Build (No-Action) Alternative. The “no build” analysis must discuss the existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the project was not approved. Environmental review must consider the effects of not implementing the proposed project. The no-build alternative provides a basis for comparing the build alternatives. Under NEPA, the no-build alternative can be used as the baseline for comparing environmental impacts. Under CEQA, the baseline for environmental impact analysis usually consists of the existing conditions at the time the environmental studies began. However, where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project’s impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. See CEQA Guidelines section 15125 for additional information. If a different baseline is used, ensure that the environmental document clearly explains why. Consult with your HQ Environmental Coordinator and the legal office before using a baseline other than the time environmental studies began. It is important that the baseline is clearly and consistently identified throughout the document. Explain the effects of the no-build alternative. Use the Purpose and Need statement to identify these; they might include deteriorating LOS, worsening air quality, and increasing maintenance costs. Indirect impacts might include impacts to the economic health of a nearby or an adjacent community. The no-build alternative may create cumulative impacts if several smaller fixes are implemented in a piecemeal fashion.

Comparison of Alternatives

1. A summary table comparing the alternatives is suggested but not required. The discussion and table should focus on the criteria used for evaluating the alternatives. Explain how the criteria were developed and how the criteria will be or have been used to reach a decision. Include the no-build alternative in the comparison discussion.
2. When a preferred alternative has been identified at the “Draft” IS/EA stage, it must be disclosed (see suggested wording below). Explain in some detail why the Department identified that alternative as the preferred alternative. Use the following suggested introductory language for the preferred alternative discussion in a “Draft” IS/EA:

After comparing and weighing the benefits and impacts of all feasible alternatives, [Include as appropriate: some of which are summarized in Table 1.x-x], the Project Development Team has identified Alternative [X] as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period.

Note: For larger or more complex projects, the preferred alternative is not typically identified until after the circulation of the draft environmental document.

1. If local governments or organizations have voiced a preference for a particular alternative, state that preference and label that alternative the “Locally Preferred Alternative.” The identification of a “Locally Preferred Alternative” is required if the project is a Federal Transit Agency (FTA) project. If there is any opposition to the project or any of its alternatives, say so here.
2. Briefly explain the final decision-making process. See the sample text below.

After the public circulation period, all comments will be considered, and the Department will select a preferred alternative and make the final determination of the project’s effect on the environment. Under the California Environmental Quality Act (CEQA), if no unmitigable significant adverse impacts are identified, the Department will prepare a Negative Declaration (ND) or Mitigated ND.

Similarly, if the Department, as assigned by the Federal Highway Administration (FHWA), determines the National Environmental Policy Act (NEPA) action does not significantly impact the environment, the Department will issue a Finding of No Significant Impact (FONSI).

The above text should be removed or revised to past tense for the final document.

Identification of a Preferred Alternative

**[This would be in the Final Document]**

1. Explain the rationale for identifying the preferred alternative. The identification decision must be structured, analytical, and clearly address the specific evaluation criteria developed for the project. It must ensure that the preferred alternative meets the purpose and need of the project (See [Project Development Procedures Manual](https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm), Chapter 12, Section 2).
2. Where more than one alternative is equally suitable, the final environmental document can be structured to present such options.

Alternatives Considered but Eliminated from Further Discussion

**[for “final” document, change section title to alternatives considered but eliminated from further discusion prior to the “DRAFT” initial study/environmental assessment (is/ea)]**

1. This section should include all alternatives that were considered during the project development process but were eliminated *before* the draft environmental document, including reversible lanes. Alternatives that were considered in the draft environmental document should not be placed in this section; they remain viable alternatives. The Department may have identified some of these alternatives, while other alternatives may have been identified by other public agencies or members of the public. Information on alternatives considered but eliminated from further discussion can be found in the environmental and design project files, as well as the Project Initiation Document (PID) and other planning documents. This section provides an opportunity to explain to those outside of the Project Development Team (PDT) when and why alternatives were eliminated from consideration. In addition, the section provides documented reasoning why alternatives identified in early planning documents are not to be carried forward for future consideration. Consider the following when writing this section:
2. *Briefly* describe the other alternatives that were considered and explain why each was eliminated from further discussion. Note: Use the criteria for alternative selection as the basis of this discussion (e.g., meets purpose and need, avoids environmental impacts, feasibility, etc.). Compare each alternative to the criteria and explain how the alternative did not meet one or more of the criteria. NOTE: Cost should not be used as a primary determining factor for eliminating an alternative; rather, it can be one of several considerations in alternative selection.
3. Among the factors that may be used to eliminate an alternative from detailed consideration in an IS are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c)). For further information on factors used to eliminate alternatives, see Vol. 1, Chapter 36 of the SER under the subheading [“Narrowing the Range of Alternatives: Feasibility and Other Concerns.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-36-environmental-impact-report#draft)
4. For projects where TSM, TDM, mass transit, and modal alternatives might be considered reasonable alternatives at first glance but are not being considered as viable alternatives in the environmental document, include a brief discussion that they were considered but eliminated and explain why.
5. If an alternative was eliminated due to its potential environmental effects, include that information here! Take credit for good project planning!

Permits and Approvals Needed

List all permits, licenses, agreements, and certifications (PLACs) that will be needed, including waters and wetland permits, threatened and endangered species approvals (biological opinions, determinations), freeway agreements, etc. Also, give the status of each approval as in the following example (this table reflects sample PLACs that the project may need but is not an exhaustive list). Make sure to update the status of the PLACS for the final environmental document (FED).

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

| **Agency** | **PLAC** | **Status** |
| --- | --- | --- |
| United States Fish and Wildlife Service (USFWS) | Section 7 Consultation for Threatened and Endangered SpeciesReview and Comment on 404 Permit | Non-jeopardy Biological Opinion expected from USFWS prior to FED/Non-jeopardy Biological Opinion issued on November 18, 2011. USFWS has actively participated in NEPA/404 process. |
| United States Army Corps of Engineers | Section 404 Permit for filling or dredging waters of the United States.  | Concurrence on the Least Environmentally Damaging Practicable Alternative (LEDPA) as part of NEPA/404 received on August 28, 2011. Application for Section 404 permit expected after FED approval. |
| California Coastal Commission | Coastal Development Permit (CDP) | Application for CDP expected after FED approval. |
| California Coastal Commission | Federal Coastal Consistency Certification | Consistency Certification expected after draft ED distribution. |
| California Department of Fish and Wildlife | 1602 Agreement for Streambed AlterationSection 2080.1 Agreement for Threatened and Endangered Species | Applications for 1602 permit and Section 2080.1 agreement expected after FED approval.  |
| California Water Resources Board | Water Discharge Permit | Application for Section 401 permit expected after FED approval. |
| Federal Highway Administration | Air Quality Conformity Determination | Request for determination to be submitted following selection of a preferred alternative /The Federal Highway Administration found that the project is consistent with the requirements of the Clean Air Act on December 3, 2012. |
| State Historic Preservation Officer | Memorandum of Agreement (MOA) | MOA expected following the circulation of the draft ED/ SHPO approved MOA on \_\_\_\_\_. |
| California Transportation Commission | CTC vote to approve funds; AND/ORCTC vote to approve a new public road connection; AND/OR CTC vote to approve a route adoption. | Following the approval of the FED, the California Transportation Commission will be required to vote to approve funding for the project, as well as approve the route adoption for State Route 111. |
| County of San Diego, City of Chula Vista, City of San Diego | Freeway Agreement | Freeway agreement will be completed after the route adoption by the California Transportation Commission. |
| United States Coast Guard | Bridge Permit | Application for Bridge Permit submitted October 3, 2011. |

Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Following is a list of potential topic areas for the Initial Study/Environmental Assessment (IS/EA). The IS/EA needs a full text discussion of only those topics that are relevant to the project. **DO NOT AUTOMATICALLY DISCUSS EVERY TOPIC IN THE OUTLINE IN THE IS/EA**.

For those topics considered but determined not to be relevant for the project, include the following header and summary statement:

Topics Considered but Determined Not to be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

List topics and briefly (in one or two sentences) describe why there is no potential for adverse environmental impacts. Cite technical studies as appropriate. Note: The intent of this section is for resources that are not present or that clearly have no impact. If a lengthy discussion is necessary to explain why there are no adverse impacts, do not include here, provide discussions in the body of the document under the appropriate section. For resources with only minor construction-related impacts, you may dismiss those topics here and discuss them in a separate “construction impacts” section. Include any measures or project features intended to minimize those impacts (e.g., dust control, etc.). Resources with potentially significant construction-related impacts should not be dismissed in this section.

**Land Use**

When placing land use under this section, the project must be consistent with land use plans. At a minimum, provide information on the [project’s consistency with land use plans](#Land_Use).

**Coastal Zone**

If the project is not located within the coastal zone, simply state that there will be no effects to coastal resources because the project is not located within the coastal zone.

**Environmental Justice**

If no minority or low-income populations have been identified in the project area, summarize that here including the efforts undertaken to identify those populations and conclude with the following language [Do not modify statement below]:

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

**Cultural Resources**

Do not dismiss cultural resources in this section even if it is a Screened Undertaking under the Programmatic Agreement or a No Historic Properties Affected finding was made.  Include a brief discussion in the body of the document.  See the Cultural Resource section for further instruction.

**Floodplains**

If the project is not located within the 100-year base floodplain, state that there will be no effects to the 100-year floodplain because the project is not located within a 100-year base floodplain.

If the project is located within a 100-year base floodplain and a Location Hydraulic Study was prepared for the project, then include a Hydrology and Floodplain section in the body of the document; don’t dismiss Floodplains as an issue here even if the project will not result in a significant encroachment on the 100-year base floodplain.

**Air Quality**

If the project is exempt from air quality conformity, explain why the project is exempt per 40 CFR 93.126 or 93.128. Describe the specific category used in 40 CFR 93.126, and any interagency consultation done as some exemptions need concurrence by interagency consultation.

**Noise**

If it is determined that there is no potential for adverse traffic noise impacts and noise is dismissed as a relevant topic to the project, identify whether or not the project is a Type 1 and explain why it is exempt from the traffic noise analysis requirements.

**Threatened and Endangered Species**

If a project will have a Section 7 No Effect Finding on all listed threatened and endangered species or critical habitat, that can be stated here. It must be made clear that both a USFWS and NOAA Fisheries species list were obtained (and are included either in the “Threatened and Endangered Species” section below or as an appendix) and that the effect finding was “No Effect” for EACH species and critical habitat on the lists.

For projects outside of NOAA Fisheries Service jurisdiction, where a species list is not required, please include the following statement:

This project is located outside of NOAA Fisheries Service jurisdiction; therefore, a NOAA species list is not required and no effects to NOAA species are anticipated.

**Section 4(f)**

If there are no potential Section 4(f) properties (i.e., there are no historic sites, parks and recreational resources, or wildlife or waterfowl refuges) within the project vicinity, clearly state that here using the language below.  Note: If any potential Section 4(f) properties are located within the project vicinity, do not include 4(f) in this section, even if the properties are determined not to meet the definition of a Section 4(f) resource or there is no use; they must be discussed in Appendix A, under the heading “Resources Evaluated Relative to the Requirements of Section 4(f).”

There are no historic sites, parks and recreational resources, wildlife or waterfowl refuges, which meet the definition of a Section 4(f) resource, within the project vicinity.  Therefore, this project is not subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

If a given topic is relevant, the discussion of that topic should include the following subheadings:

1. Regulatory Setting (if applicable)

The regulatory setting language explains why we analyze issues the way we do in an environmental document. If the topic is important enough to be discussed in the document, cut and paste the regulatory setting language into the environmental document.

1. Affected Environment

Provide a concise description of the existing social, economic, and environmental setting for the area affected by all alternatives presented in the IS/EA. Under the California Environmental Quality Act (CEQA), the baseline for environmental impact analysis usually consists of the existing conditions at the time the environmental studies began. If a different baseline is used, ensure that the environmental document clearly explains why. Consult with your HQ Environmental Coordinator and the legal office before using a baseline other than the time environmental studies began. Under the National Environmental Policy Act (NEPA), the no-build alternative can be used as the baseline for comparing environmental impacts. It is important that the baseline is clearly and consistently identified throughout the document. Where possible, there should be one description for the general project area rather than a separate description for each alternative.

For projects in the coastal zone, the baseline is not always the existing conditions at the time the time environmental studies began. For more information on “baseline conditions” under the Coastal Act, please see Chapter 4, Section 4.3.2, in Volume 5 of the SER.

Limit your discussion to data, information, issues, and values that will have a bearing on possible impacts, environmental commitments, or alternative analysis. The importance of the impact should determine the length and complexity of data and analyses, with less important material summarized or referenced rather than be reproduced. Use photographs, illustrations, and other graphics to give readers a clearer understanding of the area and the important issues.

1. Environmental Consequences

Discuss the impacts of each build alternative and the no-build alternative. This includes permanent, temporary (usually construction-related), and direct and indirect impacts. Construction-related impacts and cumulative impacts must be discussed either under each resource or in separate sections at the end of the chapter. Cross-reference between sections as appropriate. When discussing impacts, it is important to take into account project features that have been incorporated into the project that may avoid or minimize impacts. Project features can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions. These features should be considered as elements of the project in the impact analysis, even if these measures are environmentally beneficial.

1. Avoidance, Minimization, and/or Mitigation Measures

Discuss any proposed avoidance, minimization, and/or mitigation measures. Do not include standardized measures which are considered to be part of the project or project features in this discussion. These features should have already been taken into account in the “Environmental Consequences” discussion. In other words, the effects of the project should be assessed **AFTER** consideration of those measures or project features.

When writing the environmental document, limit the use of the terms “mitigation” and “mitigate.” For NEPA, use them to refer to only those impacts that are adverse. Address all other measures as avoidance and/or minimization. Remember the first priority is avoidance, then minimization, and lastly mitigation. If avoidance, minimization, and/or mitigation measures vary between alternatives, discuss which measures are proposed for each alternative.

Follow the same guidance in the CEQA chapter, limiting the use of “mitigate” to impacts that are “significant” or “less than significant with mitigation incorporated.” Otherwise, discuss the measures in terms of avoidance, minimization, enhancement, compensation, etc. Remember to state what the measure would do and why we are proposing it. Keep in mind that for CEQA, you must first identify the impact and explain why it is significant, and then explain how the proposed mitigation will reduce the impact to less than significant.

If these measures vary for each alternative, discuss what measures are proposed for each alternative.

Guidance on Mitigation

The California Environmental Quality Act (CEQA) requires that a Negative Declaration or a Mitigated Negative Declaration include any mitigation measures included in the project to avoid potentially significant effects (CEQA Guidelines Section 15071). Note: If the impact is identified as “Significant and Unavoidable” on the CEQA checklist, you should not be preparing an IS; you need to prepare an EIR.

The Federal Highway Administration (FHWA) requires the project to incorporate measures to mitigate adverse impacts caused by the action and requires the project applicant to be responsible for the implementation of the mitigation measures (23 Code of Federal Regulations Part 771 [23 CFR 771]).

1. Formulation of mitigation measures shall not be deferred until some future time. However, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)). For example, measures to revegetate can include replanting ratios, types of vegetation, and contingency plans if the replanting is not successful, but need not specify exact details of the revegetation plan.
2. The mitigation proposed for a project must have a “nexus” and “rough proportionality” (CEQA Guidelines Section 15126.4[a]).
* Nexus: A connection between the impact and the mitigation measure.
* Rough proportionality: The amount of mitigation should roughly correspond in size, degree, or intensity to the project impact.
1. Mitigation measures must be fully enforceable through permits, licenses, agreements, and certifications (PLACs) or other measures (special provisions) (CEQA Guidelines Section 15126.4[a]).
2. Proposed mitigation measures must be constructible. It is important to discuss the various items with the Project Development Team (PDT) members and Construction staff to decide whether or not all measures are feasible.
3. Mitigation measures must be able to be legally imposed (CEQA Guidelines Section 15126.4[a]).
4. Specific limitations exist for historical resources (CEQA Guidelines Section 15126.4[b]), school impacts (CA Government Code [CGC] Section 65995), housing density (CGC Section 65589.5), and trip reduction programs (CA Health and Safety Code Sections 40929[a], 40717.6).

Regulatory agencies may require additional measures beyond those required for compliance with CEQA/NEPA. Any measure required by a permit or other approval should be identified as such.

Monitoring and Reporting

1. When an agency makes adopts an MND, the agency must adopt a program for monitoring and/or reporting on the mitigation measures that were adopted or made conditions of project approval. The monitoring and/or reporting program shall be designed to ensure compliance during project implementation. The lead agency is responsible for ensuring that the mitigation measures are implemented (CEQA Guidelines Section 15097).
2. Project PLACs often require monitoring and/or reporting and often require the success of the mitigation to be monitored (e.g., requirement of a certain re-growth rate, which if not met will require additional planting).
3. Monitoring is suited to all but the most simple projects and is especially suited to projects with complex mitigation measures, such as wetland restoration or archaeological protection, which may be implemented over a period of time or require careful implementation to assure compliance. Monitoring ensures that project compliance is checked on a regular basis during and, if necessary, after implementation. (CEQA Guidelines Section 15097[c][2-3]).
4. Reporting generally consists of a written compliance review (written reports) and is best suited to projects that have readily measurable or quantitative mitigation measures (CEQA Guidelines Section 15097[c][1]). The reporting requirement can be met by obtaining the required signatures on the individual commitments included in the project’s [ECR](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#cert_compliance) (or equivalent) or the completion of the [Certificate of Environmental Compliance (CEC)](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#cert_compliance) at Construction Contract Acceptance (Milestone 600) and/or at Project Closeout (Milestone 800).

Human Environment

GUIDANCE

Writing the Document

Many of the topics in this section can use the Community Impact Assessment as an information source. Note: the [SER](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#cia) has a template for writing Community Impact Assessments, with detailed guidance for addressing Community Impacts.

List applicable technical report(s) along with completion date(s) in each section as appropriate.

Existing and Future Land Use

1. Describe the existing land use in the project area. Land use types include: residential, commercial/industrial, recreational, institutional/public services, transportation, utilities, agriculture, and undeveloped land. Discuss housing prices and job information as relevant.
2. Discuss development trends in the project vicinity and the community at large. Provide a cross-reference to the Growth section as applicable. Include:
3. Name of each development.
4. Jurisdiction of development.
5. Status of each development (built, under construction, or proposed).
6. Size of each development.

Example table:

| **Name** | **Jurisdiction** | **Proposed Uses** | **Status** |
| --- | --- | --- | --- |
| Jet Air | City of … | 24 industrial lots on 48 acres | Final map being developed. No construction. |
| Telegraph Canyon Estates (St. Claire) | County of … | 345 single-family dwellings, 30 acres open space, and 2 park sites | Construction complete.  |
| East Lake Greens SPA |  | Mixed residential, commercial, schools, park, golf course, open space | Under construction. |
| Salt Creek 1 |  | 219 single-family and 331 multiple units and 15 acres open space on 124 acres | Construction complete (now part of Rolling Hills Ranch).  |

1. Provide a map showing existing and planned land use in the project vicinity.
2. Sources for land use information include:
3. Community Impact Assessment (if one is prepared for the project).
4. The county or city general plan, local specific area plans, local coastal programs/plans, and local planning department staff. Keep in mind that general plans may be out of date and planned developments may not have happened. In addition, certain state or local jurisdictions (e.g., San Francisco Bay Conservation and Development Commission, Tahoe Regional Planning Agency, Santa Monica Mountains Conservancy, etc.) may have different land use designations and developments standards that apply within their jurisdictions.

In the coastal zone, a city or county’s certified LCP is the standard of review for coastal development permits issued by the local government agency.
5. Land use maps and aerial maps.
6. Environmental documents for other types of projects.
7. Area Chambers of Commerce.
8. Newspaper articles on growth, housing, land use, or other topics of a similar nature.
9. District or local agency Right of Way staff members.

Consistency with State, Regional, and Local Plans and Programs

Provide a subheading for each plan.

1. The project’s consistency with the following types of plans needs to be considered and discussed either at the beginning of Chapter 2 under topics considered but not relevant or in this section:
* Transportation plans/programs (MTPs/RTPs and MTIPs/RTIPs).
* Regional growth plans (if proposed or adopted).
* Habitat conservation plans or similar regional conservation plans.
* General and community plans (both city and county).

Often, the number of adopted plans and policies for a particular area can be quite large. Care should be given to analyze only those plans or policies that are relevant to the project. When preparing the environmental document, it is typically necessary to analyze only the consistency of the project with the required elements of the General Plan for cities and counties, which include:

* + Land Use
	+ Housing
	+ Noise
	+ Circulation and Transportation
	+ Public Services and Facilities
	+ Economic Development
	+ Conservation and Open Space
* Specific development proposals or specific plans (specific planning area maps, tentative maps, etc.).

Environmental Consequences

1. Assess and discuss the consistency of the alternatives with the applicable state, regional, and local land use, transportation, and habitat conservation plans and programs adopted for the area. Analyze each project alternative separately, including the no-build, and consider using a table or matrix to present a comparison of the alternatives for each plan or program. The cells of the table or matrix should contain a conclusion regarding consistency and a brief explanation to justify the findings. Be certain to discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences. If an alternative was modified to achieve consistency with an adopted land use plan, policy, or program, describe that here.

Example table:

**Consistency with State, Regional, and Local Plans and Programs**

|  |  |  |  |
| --- | --- | --- | --- |
| Policy | Alternative A | Alternative B | No-Project Alternative |
| **County General Plan** |
| *Policy 2.5: To sustain the viability of county agriculture by restraining division and use of land which is harmful to continued agricultural use of non-replaceable land resources.* | **Consistent.** Alternative A has been designed to acquire only narrow strips of farmland along the sides of the existing roadway. These acquisitions would not result in the subdivision of agricultural parcels; substantially diminish the size of agricultural parcels; or change the existing use, designation, or zoning of agricultural parcels. | **Not Consistent.** Alternative B would require the acquisition of two agricultural parcels resulting in a permanent conversion of farmland to non-agricultural uses. Alternative B would also require fragmentation of two agricultural parcels leaving small remnants that would not be practical for agriculture. | **Consistent.** The No-Project Alternative would not result in conversion of farmland to non-agricultural uses. |
| **City Redevelopment Plan for Project Area** |
| *Policy 6.1: Designate expeditious routes for freight trucks between industrial and commercial areas and the regional and state freeway system to minimize conflicts with automobile traffic and incompatibility with other land uses.* | **Consistent.** Implementation of Alternative A would create an efficient route for freight trucks between the state highway and industrial areas to the south that would reduce conflicts with automobile traffic and reduce truck traffic on residential streets. | **Consistent.** Implementation of Alternative B would create an efficient route for freight trucks between the state highway and industrial areas to the south that would reduce conflicts with automobile traffic and reduce truck traffic on residential streets. | **Not consistent.** Under the No-Project Alternative, no changes to the existing roadways would occur in the project area. This alternative would not provide an efficient route for freight trucks between the state highway and industrial areas that would minimize conflicts with automobile traffic and incompatibility with other land uses. |

If the project is expected to result in growth-related effects, discuss them here only to the extent that those effects are either consistent or inconsistent with state, regional, and local plans. Otherwise, refer the reader to the Growth section below.

Avoidance, Minimization, and/or Mitigation Measures

1. Identify measures that are being proposed to avoid, minimize, and/or mitigate land use impacts. When an alternative is found to be inconsistent with an adopted land use plan, policy, or program, consider modifying the alternative, or developing measures to address the inconsistency. Avoidance measures may include modification of an alignment to achieve consistency with planned development under an applicable land use plan. Another option is to work with local agencies to update existing land use plans. Early collaborative planning between federal, state, and local agencies will tend to increase opportunities to develop measures to avoid, minimize, and/or mitigate land use impacts. See the [Standard Environmental Reference (SER), Vol. 4, Chapter 4, “Land Use, Farmlands, and Growth”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-4-community-impacts-assessment) for more information.

Coastal Zone

If the proposed project is located within the coastal zone, include the following boilerplate language and discuss the location of the project (include maps if available) with respect to the coastal zone and regulatory jurisdiction (statewide and/or local), expected impacts within the coastal zone (summarize and cross-reference other sections as appropriate), consistency of the project with the management program, and any needed PLACs.

Regulatory Setting

This project has the potential to affect resources protected by the Coastal Zone Management Act (CZMA) of 1972. The CZMA is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state’s management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA: They include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Include if project will require a coastal development permit (and potentially associated LCP Amendment) by the local government agency, approval of a coastal development permit by the CCC for projects within the CCC’s original jurisdiction (e.g. tidelands), or a consolidated coastal development permit processed by the CCC (if project crosses CCC and local agency jurisdiction). Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments to enact their own local coastal programs (LCPs). This project is subject to [insert name of jurisdiction]’s local coastal program. LCPs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals. A Federal Consistency Certification will be needed as well. The Federal Consistency Certification process will be initiated prior to final environmental document (FED) and will be completed to the maximum extent possible during the NEPA process.

Include if project is in SF Bay Area. The Bay Conservation and Development Commission (BCDC), created prior to the California Coastal Act, retains oversight and planning responsibilities for development and conservation of coastal resources in the Bay Area. The regulatory authority for BCDC is the McAteer-Petris Act and the Suisun Marsh Protection Act.

GUIDANCE

For projects in the coastal zone, detailed technical data is often necessary to support Coastal Act/and or LCP policy consistency findings and should be prepared during the development of the IS/EA and evaluated to the extent possible within each resource chapter of the IS/EA. Further, the following list shows how each resource of this document correlates to Coastal Act resource protection policies:

* Farmlands/Timberlands: This section provides information to support findings related to the Agricultural Resources policies of the Coastal Act (Sections 30241-30243).
* Visual/Aesthetics: This section provides information necessary to support findings related to the Visual Resources policy of the Coastal Act (Section 30251).
* Cultural Resources: This section provides information necessary to support findings related to the Archaeological and Paleontological Resources policy of the Coastal Act (Section 30244).
* Traffic and Transportation/Pedestrian and Bicycle Facilities: This section provides information to support findings related to the Public Access & Recreation policies and New Development policies of the Coastal Act (Sections 30210-30214, 30220-30224, and 30252).
* Water Quality and Stormwater Runoff: This section provides information necessary to support findings related to the Water Quality policies of the Coastal Act (Sections 30230-30232).
* Geology/Soils/Seismic/Topography: This section provides information necessary to support findings related to the Coastal Hazards policies of the Coastal Act (Sections 30235, 30236, and 30253).
* Paleontology: This chapter provides information necessary to support findings related to the Archaeological and Paleontological Resources policy of the Coastal Act (Section 30244).
* Natural Communities/Plant Species/Animal Species/Threatened and Endangered Species/Invasive Species: These chapters provide information necessary to support findings related to the Environmentally Sensitive Habitat Area (ESHA) and Special Status Species policies of the Coastal Act (Sections 30240 and 30236).
* Wetlands and Other Waters: This chapter provides information necessary to support findings related to the wetlands policy of the Coastal Act (Section 30233).

Refer to each resource section in this document (Farmlands/Timberlands, Visual/Aesthetics, Cultural Resources, etc.)for additional guidance on the technical studies and analysis often requested to support coastal policy consistency findings.

Early and continuous coordination with CCC, BCDC, and/or local jurisdictions is intended to facilitate project delivery and can reduce undue delays in processing coastal permits, including the potential for the permit to be subject to conditions that affect the feasibility of the project or that the permit will be denied. Emphasis should be placed on early involvement to avoid delays, redesign, additional costs, or permit denials. In addition, if federal funds, permits, and/or approvals are required for a project, a Federal Consistency Certification review will be necessary and therefore early assessment of project consistency with the policies in Chapter 3 of the Coastal Act is warranted. Concurrence in a Federal Consistency Certification should be completed before approval of the FED.

Affected Environment

1. Describe known, significant coastal resources, such as lagoons or upland riparian habitats, which may be affected by the project. Identify the coastal zone jurisdiction for the entire project area, including any potential local certified LCP areas, areas of original Coastal Commission jurisdiction (e.g., tidelands), or any areas of deferred certification. Consider including a location map identifying the areas of coastal jurisdiction.

Environmental Consequences

A Coastal Act Chapter Three Policy Consistency Summary Table should be included here to help the reader understand anticipated impacts to coastal resources. An example of this table can be found at the beginning of Vol. 5 of the SER. This table should reflect the coastal resource analysis as written in the Environmental Consequences section for each resource, as applicable. Be certain to discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences.

Avoidance, Minimization, and/or Mitigation Measures

1. In addition to helping the reader to understand impacts to coastal resources, the Coastal Act Chapter Three Policy Consistency Table should also list avoidance, minimization and/or mitigation measures, and how these measures have been incorporated into the project for consistency with Coastal Act policies.

Note: Regulatory agencies such as CCC may require additional measures beyond those required for compliance with CEQA/NEPA. Any measure required by a PLAC should be identified as such.

Note: For the final environmental document refer the reader to Chapter 4 for information regarding coordination with the appropriate coastal agency. The Federal Coastal Consistency Certification should be obtained prior to the circulation of the final environmental document, must be referenced in Chapter 4, and must be included as an appendix to the final document.

Additional Guidance

[SER, Vol. 5, “Coastal Requirements”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-5-coastal-requirements)

[Coastal Act Resource Policy Information](http://www.dot.ca.gov/env/coastal/coastal-act-policy.html)

Wild and Scenic Rivers

Regulatory Setting

Projects affecting Wild and Scenic Rivers are subject to the National Wild and Scenic Rivers Act (16 United States Code [USC] 1271) and the California Wild and Scenic Rivers Act (CA Public Resources Code [PRC] Section 5093.50 et seq.).

There are three possible Wild and Scenic River Designations:

1. Wild: Undeveloped, with river access by trail only.
2. Scenic: Undeveloped, with occasional river access by road.
3. Recreational: Some development is allowed, with road access.

Affected Environment

1. If the project could affect a Wild and Scenic River or a river under study for designation as a Wild and Scenic River:
2. Describe the river.
3. Identify its designation.

Environmental Consequences

1. List expected impacts. Be certain to discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences. Is there a feasible avoidance alternative? Describe it here and in the “Alternatives” section. If the project was modified to avoid impacts to Wild and Scenic Rivers, discuss that here and in the “Alternatives” section.
2. Would the project have an adverse effect on the free-flowing characteristics of the river?
3. Would the project alter the river segment’s designation of wild, scenic, or recreational?
4. Include coordination efforts to date. Agencies responsible for managing listed or studied rivers include the National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and U.S. Forest Service (USFS). Document your coordination with the river’s responsible managing agency and the results of the consultation. For more information, see [SER, Vol. 1, Chapter 19, “Wild and Scenic Rivers](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-19-wild-scenic-rivers).” Note: Publicly owned waters of designated Wild and Scenic Rivers and public lands next to a Wild and Scenic River may be subject to Section 4(f) or Section 6(f) protection under certain conditions (see notes on Section 4(f) Evaluation in Appendix A).

Avoidance, Minimization, and/or Mitigation Measures

1. List any additional avoidance, minimization, and/or mitigation measures here.

Parks and Recreational Facilities

GUIDANCE

If there are no parks or recreational facilities within the Section 4(f) study area, you may dismiss parks and recreational facilities under Topics Considered but Determined Not to be Relevant. However, do not dismiss Section 4(f) unless there are also no cultural resources within the APE.

Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

Affected Environment

1. Describe any parks and recreational facilities within the Section 4(f) study area, including wildlife and waterfowl refuges, equestrian trails, recreational bikeways, and other recreational trails in this section of the document. The Section 4(f) study area should include properties within and immediately adjacent to the project limits, and nearby properties to ensure that proximity impacts can be considered.
2. Identify whether any of the facilities are protected by the Park Preservation Act. As defined by the Park Preservation Act, “public park” means any park operated by a public agency.

Environmental Consequences

1. Discuss how each alternative would affect the facilities. If an avoidance alternative was developed to avoid parks and recreational facilities, describe that here.
2. If the proposed project will acquire land in use as a public park at the time of acquisition, describe that acquisition here. Right of Way Right-of-Way staff will coordinate with the park’s operating agency to provide the required compensation for the acquisition. The following sample text may be inserted into the document:

The Department’s Division of Right of Way and Land Surveys will coordinate with the [insert the name of the public agency operating the park] to provide the compensation required under the Park Preservation Act.

1. Analyze all parks, recreational facilities, and wildlife and waterfowl refuges within the Section 4(f) study area to determine if they are protected Section 4(f) resources. Briefly discuss and refer the reader to Appendix A. Sample language provided below. Chose the most appropriate text for your project and modify as needed.
* If the project results in a Section 4(f) use including *de minimis*, state that here and document in Appendix A.
	+ There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966. This project will result in a “use” of those facilities as defined by Section 4(f). Please see Appendix A, Section 4(f), for additional details.
* If there are Section 4(f) resources within the project vicinity but no use of these resources, clearly state that here and document in Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f).”
	+ There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966. However, this project will not “use” those facilities as defined by Section 4(f). Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.
* If there are potential Section 4(f) resource types within the project vicinity, but they do not meet the definition of a Section 4(f) resource clearly state that here and document in Appendix A.
	+ Section 4(f) of the Department of Transportation Act of 1966 provides protection for publicly owned parks and recreational resources. However, it has been determined that the facilities within the project vicinity do not meet the definition of a Section 4(f) resource. Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.

Avoidance, Minimization, and/or Mitigation Measures

Discuss any proposed measures to avoid, minimize, and/or mitigate impacts. Remember to state what the measure would do and why we are proposing it. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Additional Guidance

* [Park Preservation Act](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-2-state-requirements#Special)

Farmlands

Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 United States Code [USC] 4201-4209; and its regulations, 7 Code of Federal Regulations [CFR] Part 658) require federal agencies, such as the Federal Highway Administration (FHWA), to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

GUIDANCE

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, United States Code [USC] 4201-4209, and its regulations, 7 Code of Federal Regulations [CFR] Part 658) require the lead (federal) agency to coordinate with the Natural Resources Conservation Service (NRCS) to examine the effects of farmland conversion before approving any federal action. The coordination process is described in the act, and if an adverse effect is found, the agency must consider alternatives to lessen the impacts. Projects where farmland may be adversely affected require close coordination with the NRCS and the completion of a “Farmland Conversion Impact Rating for Corridor-Type Projects” Form NRCS-CPA-106 or “Farmland Conversion Impact Rating” (for non-corridor type projects) Form AD-1006. The rating form provides a way to assess the extent of farmland impacts based on federally established criteria.

According to the CEQA Guidelines Section 15206, cancellation of Williamson Act contracts for parcels exceeding 100 acres is considered to be “of statewide, regional, or area wide significance,” and subject to additional noticing and review requirements under CEQA. The Williamson Act of 1965 is the state’s primary law for the preservation of agricultural and open space land. The program encourages landowners to work with local governments to protect important farmland and open space. Landowners can enroll parcels for a minimum of 10 years. This program helps local governments restrict land to agricultural and compatible open space use. In doing so, land is assessed for property taxes at a rate consistent with its actual use, rather than the potential value of the land. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth.

Williamson Act lands are discussed in the Regulatory Setting section above and are classified as prime or non-prime. These lands can also be considered as Open Space of Statewide Significance. For farmland definitions, go to [Vol. 1, Chapter 23](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-23-farmlands) of the SER.

If the project has the potential to affect coastal agricultural resources, additional technical information may include a coastal agricultural resource impact evaluation for any project located within a site designated and zoned for agricultural use and actively used for agricultural purposes, containing designated prime farmland and/or active agricultural uses, or containing any other prime agricultural land that meets the Coastal Act definition (Coastal Act Section 30113, referencing Section 51201 of the Government Code). The Coastal Act and regulations generally define prime agricultural lands as: 1) lands consisting of Class I or II soils as defined by the Natural Resource Conservation Service, 2) soils with a Storie Index Rating of 80 through 100, 3) lands with the ability to support livestock (at least one animal-unit per acre as defined by the United States Department of Agriculture), and/or 4) lands planted with fruit- or nut-bearing trees, vines, bushes, or crops. An agricultural viability analysis may also need to be provided, including, but not limited to consideration of an economic feasibility evaluation containing at least both of the following elements: 1) analysis of the gross revenue from the agricultural products grown in the area for five years, and 2) analysis of the operational expenses, excluding the cost of land, associated with the production of agricultural products grown in the area for five years. This information can be obtained from a variety of sources including, NRCS, general plan land use maps, Department of Conservation land use conversion information, and county farmland or crop reports. It is also recommended that planners check with coastal staff to confirm what information is needed for permit processing.

Additionally, a current map and description of known agricultural lands (as defined by the Coastal Act and LCPs) and proposed development location may also need to be provided.

Early Agency Coordination

Except in cases where it is obvious there is no farmland, the Department’s District Environmental Branch submits Form NRCS-CPA-106 or AD-1006 to the NRCS office that handles the county in which the project is located, and requests a determination on whether the project location has farmland that is subject to the Farmland Protection Policy Act. Key issues to discuss with the NRCS begin with whether or not there are farmlands in the project area. If there are, then:

1. Will the project convert or affect any farmland?
2. Is the affected farmland considered “prime, unique, statewide or local important farmland”?
3. How much farmland will be converted?
4. Will any agricultural parcels be bisected, making one or more not practical for continued agricultural uses?
5. What is the percentage of the county’s total prime farmland that will be lost or affected by the project?
6. Are there alternatives that will reduce or avoid impacts to farmlands?

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. The Farmlands and Williamson Act section of the Community Impact Assessment should be summarized here.
3. When a project would result in a substantial amount of farmland conversion, provide a general discussion of the agricultural resources and character of agriculture in the project area. This discussion might include the amount of land under cultivation, the number of acres in Williamson Act contracts, important crops, the value of agricultural production, a description of trends in farmland conversion in the particular county, and a description of applicable general plan elements, ordinances, and other policies related to agriculture in the project area.
4. Provide a map or maps showing the location of all farmlands in the project area including prime or unique farmlands, coastal agricultural lands, Williamson Act land, and timberland in the project area.

Environmental Consequences

1. Be certain to discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences. Discuss any alternatives that were developed to reduce or avoid impacts to farmlands here and in the “Alternatives” section.
2. Compare farmland conversion from the project to farmland conversion locally (in the county or in the region) and statewide. Discuss impacts to agricultural land in general, impacts to farmland by category (prime, unique, coastal, etc.), and impacts to Williamson Act contract land. This information can be shown in a comparison table, which should also include the percentage of the county’s total agricultural land and prime farmland that would be lost or affected by the project. See the sample table below.

|  |
| --- |
| **Farmland Conversion by Alternative** |
| **Alternatives** | **Land Converted****(acres)** | **Prime and Unique Farmland****(acres)** | **Percent of Farmland in County** | **Percent of Farmland in State** | **Farmland Conversion Impact Rating** |
| A | 242 | 131.4 | 0.47 | 0.25 | 153.2 |
| B | 713 | 139.1 | 0.15 | 0.05 | 188.0 |
| C | 226 | 59.0 | 0.20 | 0.05 | 136.4 |
| *Source:* Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor-Type Projects). |

1. Discuss any conflicts with existing zoning for agricultural use or Williamson Act contract land.
2. Include the following information in the discussion:
3. Identification of impacts on agricultural lands and on prime, unique, statewide or local important farmland in the project area, mentioned above.
4. Identification of any agricultural parcels that would be bisected, making them not practical for continued agricultural uses.
5. Completion of a Form NRCS-CPA-106 or AD-1006, if appropriate. See the [SER, Vol. 4](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-4-community-impacts-assessment), Chapter 4 for more information about ratings and mitigation. Include the completed NRCS-CPA-106 or AD-1006 form in the environmental document. If the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g., alternative sites, modifications, or mitigation).
6. Evidence of coordination with local agriculture commissioner and/or the NRCS, as appropriate.
7. If the project has the potential to affect coastal agricultural resources, discuss impacts and discuss consistency with applicable coastal policies and ordinances.

Avoidance, Minimization, and/or Mitigation Measures

1. Identify measures that are being proposed to avoid, minimize, and/or mitigate impacts to farmlands. Measures may include establishing agricultural conservation easements or contributing funds to the CA Department of Conservation’s Farmland Conservancy Fund or stockpiling prime soils for other applications in the project area. Other measures could include reconfiguring parcels for resale, and/or leasing the land back to farmers. It is important to consider and disclose the feasibility for each measure that is proposed.

Additional Guidance

* [SER, Vol. 1, Chapter 23, “Farmlands”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-23-farmlands)
* [Farmland Protection Policy Act](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#community)
* [SER, Vol. 4 Community Impact Assessment](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-4-community-impacts-assessment)

Timberlands

GUIDANCE

The California Timberland Productivity Act (TPA) of 1982 (CA Government Code Sections 51100 et seq.) was enacted to help preserve forest resources. Similar to the Williamson Act, this program gives landowners tax incentives to keep their land in timber production. Contracts involving TPZs are on 10-year cycles.

Writing the Document

Regulatory Setting

Include as applicable: Impacts to timberland are analyzed as required by the California Timberland Productivity Act of 1982 (CA Government Code Sections 51100 et seq.), which was enacted to preserve forest resources. Similar to the Williamson Act, this program gives landowners tax incentives to keep their land in timber production. Contracts involving Timber Production Zones (TPZs) are on 10-year cycles. Although state highways are exempt from provisions of the Act, the California Secretary of Resources and the local governing body are notified in writing if new or additional right-of-way from a TPZ will be required for a transportation project.

Affected Environment

1. Although existing state highways are exempt from the TPA, if new or additional right-of-way will be required from a TPZ for the project, the California Secretary of Resources and the local governing body should be notified in writing. Coordinate with the CA Department of Forestry and the USFS as appropriate. Discuss this coordination in the document.

Environmental Consequences

1. If the project would result in a substantial amount of timberland conversion, evaluate the timberland resources, the number of acres designated as TPZ, and describe the trends in timberland conversion as you would for farmland (see Farmlands Affected Environment). Discuss any modifications to the project design to avoid or minimize impacts to timberlands. However, consider that for most, if not all, Department or local assistance projects, there are generally not impacts to timberland resources.

Avoidance, Minimization, and/or Mitigation Measures

1. Identify avoidance, minimization, and/or mitigation measures if there will be an impact to timberland resources.

Additional Guidance

* [California Timberland Productivity Act of 1982](https://www.fire.ca.gov/media/1505/timberlandact.pdf)

Growth

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project’s potential to induce growth. The CEQA guidelines (Section 15126.2[d]) require that environmental documents “…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…”

GUIDANCE

**In 2006, the Department, in conjunction with the FHWA and the United States Environmental Protection Agency (U.S. EPA), developed a guidance document entitled** [Guidance for Preparers of Growth-Related, Indirect Impact Analyses](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#gri)**.** The guidance, which was prepared to address California’s specific challenges relating to growth-related impacts, focuses on the influence that transportation projects may have on growth and development and provides a phased approach (see “first-cut screening” below).

In the past, there was often uncertainty about whether to characterize growth-related impacts as “inducing growth” or “accommodating growth.” The guidance steers clear of this debate, focusing instead on whether and how transportation projects “influence” growth. The guidance recognizes that some transportation projects will have no influence, others will have a moderate influence, and still others may greatly influence growth. The guidance also describes the possible ways in which a transportation project may influence the location, type, and rate of future growth and development.

Since different transportation projects will influence growth in different ways, the guidance adopts a two-phase approach to the evaluation of growth-related impacts.

Writing the Document

1. The first phase, called “*first-cut screening,*” is designed to help the environmental planner decide if there is potential for growth-related effects and whether further analysis is necessary.
2. If the first-cut screening reveals that no further analysis is required, document that here by discussing the following:
3. How, if at all, does the project potentially change accessibility?
4. How, if at all, do the project type, project location, and growth-pressure potentially influence growth? Some transportation projects may have very little influence on future growth, while others may have a great influence. Some geographic locations are more conducive to influencing growth, while others are highly constrained. These differences may result from physical constraints, planning and zoning factors, or local political considerations.
5. Determine whether project-related growth is “reasonably foreseeable” as defined by NEPA. Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.
6. If there is project-related growth, how, if at all, will that affect resources of concern? Identify which resources of concern are likely to be affected by the foreseeable future growth. If a project is likely to influence future growth, but no resources of concern will be affected, then state that here and indicate that no further growth analysis is necessary.
7. If the first-cut screening demonstrates that further analysis is required, document that here by discussing:
8. Step 1: How the “right-size” for the analysis was determined and what the right-size was. This means choosing an analysis approach and the appropriate tools to answer the questions and accomplish the goals of the analysis. The comparison of the build/no-build alternatives will range in complexity depending on the project.
9. Step 2: Identify the potential for growth for each alternative. Predict the land use and development patterns in the geographic area for each alternative, including the no-build alternative (without project). If a future development scenario without the transportation project was produced, discuss that here.
10. Step 3: Assess the growth-related effects of each alternative to resources of concern. Identify if and to what extent the change in growth would affect resources of concern. If a change in growth would not affect resources of concern, then the analysis is complete and findings should be documented in the environmental document.
11. Step 4: Document measures that were taken to avoid and minimize growth-related impacts. Some commonly considered project modifications include alignment choices, the location and/or configuration of access points, traffic impact fees, and mode choices. If project alternatives were modified to avoid or minimize growth-related impacts, describe that here.

Additional avoidance, minimization, and/or mitigation measures that may be required should be discussed only after consideration of any project features that were incorporated in order to avoid or minimize impacts. Conservation easements can be established to protect resources in perpetuity. Other strategies might include land banking and developing habitat conservation plans or resource conservation plans.

1. Step 5: Compare the results of the analysis for all alternatives. Summarize how and to what extent growth associated with the no-build and build alternatives would affect resources of concern. The results of this comparison will contribute to the identification of the preferred alternative. If a Section 404 permit will be required, the results also will be used for identifying the least environmentally damaging practicable alternative (LEDPA).
2. Step 6: Document the process and findings of the analysis. Include information in the environmental document about the methods and assumptions used, the agencies and experts consulted, and any other research.
3. The guidance emphasizes that early communication, coordination, and involvement among federal, state, and local agencies helps avoid conflict and delay, and allows for the early consideration of avoidance and minimization opportunities to reduce growth-related effects to resources of concern.

Additional Guidance

There are several valuable publications that can help you complete a growth-related impact analysis. The intent of this annotation is to provide a brief, simple explanation of this type of analysis. For more information, please use any of the following:

* [Guidance for Preparers of Growth-Related Indirect Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#gri)
* [NCHRP Report 466—Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects](http://www.trb.org/Publications/Blurbs/161023.aspx) (2002), prepared for the National Cooperative Highway Research Program by The Louis Berger Group
* [A Review and Synthesis of the Requirements for Indirect and Cumulative Impact Analysis and Mitigation under Major Environmental Laws and Regulations](https://environment.transportation.org/environmental_topics/indirect_effects/) (2006), prepared for the American Association of State Highway and Transportation Officials (AASHTO) by the Transportation Research Board under the National Cooperative Highway Research Program (NCHRP)

Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project’s effects.

**GUIDANCE**

Community character and cohesion are subtle, often hard-to-identify qualities, particularly if you are not familiar with the community. First develop a community profile—a summary of the social and economic characteristics of the area where the project will be built (the “affected area”). Information sources may be primary (interviews, field work, and public meetings) or secondary (minutes of public hearings, newspaper articles, etc.).

1. Steps to profile a community are:
2. Define community boundaries and neighborhood or subdivision boundaries. Aerial and road maps from local jurisdictions as well as from the Department are good sources for this information.
3. Locate businesses, homes, and activity centers that may be affected, especially those bordering the highway alternatives and near interchanges.
4. Determine demographic characteristics, economic base, location of community facilities, and other relevant characteristics. See the 2010 census at <http://www.census.gov/2010census/>. It may be useful to include a map showing the census tracts in the project area.
5. Demographic data to describe the project area may come from the U.S. Census—local sources such as Chambers of Commerce and a city’s general and specific plans should also be consulted. Most cities have a web page that can provide helpful information. Useful data on income and other financial matters can be found at the CA Department of Finance website. It’s at <http://www.dof.ca.gov/Forecasting/Demographics/>.
6. Talk to residents and business owners. Invite community leaders (both elected and informal) to scoping meetings or public hearings, and ask for their comments and opinions. These are the people in touch with the community. Other good sources may include social service agencies and community websites.

Note: California has a very diverse population. Be sure to conduct outreach efforts in other languages (at a minimum, Spanish and any Asian language predominant in the area), and have interpreters available at hearings and meetings.

1. What are some indicators that the community has a high degree of cohesion?
2. Long average residency tenures: Long-term residents are likely to feel more connected. Both Right of Way staff and the U.S. Census are potential sources for this information.
3. Households of two or more people: A high percentage of single-person households tends to correlate with lower cohesion.
4. Although subject to debate and dependent upon the geographic location and other social factors, look at the percentage of home ownership over rentals, and single-family homes over higher density housing.
5. Frequent personal contact: This would be observed in field reviews or in interviews with residents.
6. Ethnic homogeneity.
7. Lots of community activity: Determined primarily through interviews with residents. If there’s a park in the neighborhood, field visits after regular work hours might be helpful. Look for notices and handbills describing activities (neighborhood yard sales, farmer’s markets, etc.).
8. Stay-at-home parents: Also a possible indicator of community activity, and a resource for finding out the degree of cohesiveness.
9. Elderly: Like the stay-at-home parents, they’re more active in their community; plus they have the time to become involved.

**Writing the Document**

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Describe community boundaries and neighborhood or subdivision boundaries in the study area.
3. Describe businesses, homes, and activity centers of potential impact, especially those bordering the highway alternatives and near interchanges.
4. Describe demographic characteristics, economic base, location of community facilities, and other relevant characteristics.

Environmental Consequences

1. Keep the following in mind:
2. The discussion in the environmental document should focus on the effects of each alternative on the community’s character (“setting”) and on the cohesiveness of the community and/or segments within the community.
3. Pay particular attention to areas of the community that have elderly persons, disabled persons, transit-dependent individuals, and minority groups.
4. Increasing or decreasing public access.
5. Dividing neighborhoods.
6. Separating residences from community facilities.
7. Growth.
8. Changes in quality of life.
9. Increasing urbanization or isolation.
10. Include a discussion of any project features that will avoid or minimize community impacts. Examples include providing pedestrian or bicycle overcrossings or cut-and-cover tunnels, reducing the visibility of structures, reducing right-of-way width, providing street lighting or buffers for noise or visual effects, and/or providing signage.
11. If there are potential economic impacts to the community, these should be addressed where relevant. These impacts may include but are not limited to:
* Loss of parking
* Business relocation
* Loss of employment
* Loss of tax base
* Loss or change in access to established businesses (both temporary and permanent)

Under CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project’s effects. Volume 4 of the SER covers Economic Impacts in detail (Chapter 6).

1. If homeless individuals will need to be relocated from the right of way prior to construction of the proposed project, describe the established procedures that will be followed.  These procedures, which are usually carried out by District Maintenance staff accompanied by state or local law enforcement, include providing a “Notice to Vacate” which provides advance notice of the date on which belongings will be removed, information on where belongings will be stored and for how long, and information on community services available.

In the case of our projects affecting homeless individuals within third party right-of-way, please note that the third party usually has responsibility, and local cities and counties have legal responsibility for providing services and assistance for the homeless.

Avoidance, Minimization, and/or Mitigation Measures

List any additional avoidance, minimization, and/or mitigation measures such as adding public artwork to the project, setting aside land for a park, or enhanced landscaping.

Additional Guidance

* [SER, Vol. 4](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-4-community-impacts-assessment) covers community characteristics in greater detail.
* See also the [FHWA Community Impact Assessment website](https://www.fhwa.dot.gov/livability/cia/index.cfm).

Relocations and Real Property Acquisition

Regulatory Setting

The Department’s Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of the Department’s Title VI Policy Statement.

GUIDANCE

Please refer to Appendix C for information on the Department’s Relocation Assistance Program (RAP) procedures and guidelines.

Writing the Document

1. If a Draft Relocation Impact Document or Memorandum is prepared for the project, summarize those findings in the draft environmental document and then incorporate the report by reference. For the final environmental document, summarize the findings of the Final Relocation Impact Document or Memorandum.
2. Whenever possible, use tables as they are easier for the reader to absorb. Note: Avoid use of the word “take” in describing property to be acquired.

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Describe the study area, focusing on any areas where right-of-way will need to be acquired for the project.
3. Include a discussion of any affected neighborhoods, public facilities, non-profit organizations, and families having special composition (e.g., ethnic, minority, elderly, disabled, or other factors) that may require special relocation considerations.

Environmental Consequences

1. Using data from the Relocation Impact Document, list the proposed acquisitions in a table showing an estimate of acquisitions per alternative. Note that Assessor’s Parcel Numbers can be disclosed but property owner’s names should not be included. Differentiate residential and business acquisitions, and define each as either full or partial acquisition.

Example table:

**Estimated Displacements by Alternative**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Alt. A | Alt. B | Alt. C |
| RESIDENTIAL |
| Owner Occupants of Single Family Residences | 5 | 7 | 3 |
| Tenant Occupants of Single Family Residences | 2 | 6 | 0 |
| Owner Occupants of Mobile Homes | 7 | 5 | 3 |
| TOTAL RESIDENTIAL UNITS | 14 | 18 | 6 |
| TOTAL PERSONS | 30 | 44 | 16 |
|  |
| NON-RESIDENTIAL |
| Commercial Businesses | 2 | 4 | 2 |
| Industrial/Manufacturing Businesses | 1 | 3 | 0 |
| Agricultural/Farms | 0 | 0 | 1 \*PA |
| TOTAL NON-RESIDENTIAL UNITS | 3 | 7 | 3 |
|  |
| TOTAL RESIDENTIAL AND NON-RESIDENTIAL UNITS | 17 | 25 | 9 |

\*PA=Partial Acquisition

1. Discuss the characteristics of the displaces:
2. Include a general discussion of the family characteristics (e.g., minority, ethnic, disabled, elderly, large family, income level, and owner/tenant status). However, where there are very few residents being displaced, information on race, ethnicity, and income levels should not be included in the environmental document to protect the privacy of those affected.
3. Include descriptions of the businesses and farms to be displaced, types of occupancy (owner/tenant), and sizes (number of employees).
4. Discuss the requirements of the Department’s Relocation Assistance Program and refer the reader to Appendix C. Give consideration to the availability of replacement housing, which must be decent, safe, and sanitary.
	1. Compare available (decent, safe, and sanitary) housing in the area with the housing needs of the displacees. The comparison should include: (1) price ranges; (2) sizes (number of bedrooms); and (3) occupancy status (owner/tenant).
5. Identify: (1) sites available in the area to which the affected businesses may relocate; (2) likelihood of relocation; and (3) potential impacts on individual businesses and farms caused by displacement or proximity of the proposed highway if not displaced.
6. Propose measures to resolve any special relocation concerns.
7. Discuss the measures to be taken where the existing housing inventory is insufficient, does not meet relocation standards, or is not within the financial capability of the displacees. Include a commitment to last resort housing when sufficient comparable replacement housing may not be available.

Avoidance, Minimization, and/or Mitigation Measures

Include any avoidance, minimization, and/or mitigation measures for relocations and real property acquisitions that go above and beyond what is required by the Uniform Act and/or the Department’s Relocation Assistance Program. Work with local government and community organizations to identify other financial and incentive programs or opportunities (beyond those provided by the Uniform Act) that may be available to residential and business relocatees. Discuss the measures to be taken where the existing housing inventory is insufficient, does not meet relocation standards, or is not within the financial capability of the displacees. Include a commitment to last resort housing when sufficient comparable replacement housing may not be available. Note: If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Environmental Justice

Regulatory Setting

**NOTE:** If an Environmental Justice section is included in the body of the document (i.e., not dismissed under “TOPICS CONSIDERED BUT DETERMINED NOT TO BE RELEVANT”), the following Regulatory Setting language must be included in the NEPA document:

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For [year], this was [##,###] for a family of four.

EO 14096—"Revitalizing Our Nation’s Commitment to Environmental Justice for All” was enacted on April 21, 2023. EO 14096 on environmental justice does not rescind EO 12898 – “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” which has been in effect since February 11, 1994 and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new EO 14096 on environmental justice.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department’s commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

GUIDANCE

Follow the guidance in the [FHWA Guidance on Environmental Justice and NEPA](http://environment.fhwa.dot.gov/projdev/guidance_ej_nepa.asp) and the [FHWA Environmental Justice Reference Guide](https://www.fhwa.dot.gov/environment/environmental_justice/publications/reference_guide_2015/section11.cfm) to ensure all important points have been covered.

Writing the Document

Affected Environment

1. Identify whether there are any minority or low-income populations in the project area.

How do you know whether a project will cause a disproportionate impact on minority and/or low-income residents? Gather data first:

1. The U.S. Census provides median income, housing and demographic information to the “block” level.  Metropolitan Planning Organizations and Council of Governments are good sources for census information and often have demographers on staff to assist. You can also access data on the [U.S. Census Data website](https://data.census.gov/cedsci/).
2. Field reviews may help identify minority or low-income populations not readily apparent in the census data. Housing tracts or structures for the elderly may be an indicator of fixed, often low, incomes.
3. Local newspapers and advertising flyers can give you a feel for housing costs in the area. Check foreign language newspapers in the neighborhood, if any. You can compare average or median rentals in the area with median rentals for the city or region as a whole, information readily available from the census. While this won’t pinpoint low-income populations, it’s a useful indicator.
4. If no minority or low-income populations are identified, see the beginning of Chapter 2 for the required discussion and “boilerplate” language to be included there.

Environmental Consequences

1. If there are minority or low-income populations in the project area, are there disproportionately high and adverse impacts to those populations? Consider and discuss the following in the environmental document:
2. The beneficial and adverse impacts on the overall population and on minority and low-income populations or communities, in particular, need to be discussed. Cross-reference other sections of the environmental document instead of repeating information. Potential Topics include, but are not limited to, air quality, noise, water pollution, hazardous waste, aesthetic values, community cohesion, economic vitality, employment effects, displacements/relocations, farmland impacts, accessibility, traffic congestion, safety, and construction impacts.
3. Be certain to discuss any modifications that have been made to the project to minimize the effects of the project, including alternate alignments and/or reducing right-of-way acquisitions. Remember that you are looking for *disproportionate impacts* on minority and low-income populations, not every possible impact. It may be useful, when analyzing demographic tables, to include city-, county-, or region-wide percentages (depending upon project size) of minority and low-income populations, so that “disproportionate” can be established.
4. If a project includes an alternative which would add a price the public must pay for use of a road, bridge, or lanes within a facility, discuss the potential impacts. Examples of such projects include High Occupancy Toll (HOT) lanes and congestion pricing. There may be public controversy, and there may be community impacts such as equity issues, or impacts affecting traffic (such as re-direction of traffic onto other streets, which may affect neighborhoods). Guidance for dealing with toll projects is available from [Environmental Justice and Tolling: A Review of Tolling and Potential Impacts to Environmental Justice Populations (FHWA, December 2016)](https://www.fhwa.dot.gov/environment/environmental_justice/publications/ej_and_tolling/index.cfm).

Avoidance, Minimization, and/or Mitigation Measures

1. If the project widens an existing road, alternatives are limited. Typically, impacts that may be disproportionate are relocations and temporary, partial acquisitions for construction easements. If these impacts appear to affect minority or lower-income households more, calculate the costs of avoidance alternatives (see next bullet).
2. If the preferred alternative **will** cause disproportionate impacts to the protected populations, the project is not doomed! Follow the steps in the [FHWA Guidance on Environmental Justice and NEPA](https://www.environment.fhwa.dot.gov/env_topics/ej/guidance_ejustice-nepa.aspx). The guidance describes the conditions under which a project may go forward despite its disproportionate impact on protected populations. One condition is the “extraordinary magnitude” of project costs for other alternatives, which is why costs are calculated in the previous step.
3. As appropriate, include the following concluding statement: [Do not modify red text]

Based on the above discussion and analysis, the [XYZ] alternative(s) will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

Utilities/Emergency Services

Regulatory Setting

Not needed.

GUIDANCE

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s). This section should include a description of all utility systems that could be affected by the project, including water, sewer, electric power, and telecommunication systems.

Environmental Consequences

1. Include any transmission lines, pump stations, or other infrastructure facilities that are affected. The Project Engineer and Right of Way staff can help identify impacts.
2. Also, include a brief description of all law enforcement, fire, and other emergency services that could be affected by the project. Describe all temporary and long-term impacts to utilities and emergency services. Include impacts caused by detours and roadway closures. Also include positive impacts, such as improvements to access for emergency services. Scoping the project with the locals can be very helpful.
3. Discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences. One example would be the relocation of a power line to avoid affecting power service. Describe coordination efforts that will be needed to carry out the measures.
4. Note: If utility relocations are proposed, then describe (either in this section or in the appropriate resource sections) the impacts that would be caused by relocating the utilities and the proposed measures to lessen those impacts.

Avoidance, Minimization, and/or Mitigation Measures

Include a brief statement of any avoidance, minimization, and/or mitigation measures that will be included.

**Additional Guidance**

* [Memorandum Regarding PUC General Order 131-D, Relocation of 50kV or Higher Power Lines](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/policy-memos#LinkTarget_654)

Traffic and Transportation/Pedestrian and Bicycle Facilities

This section discusses the project’s impacts on traffic and circulation, both during construction (construction impacts) and after completion of the project (long-term or operational impacts). Note: Recreational trails, such as equestrian trails, are covered in the Parks and Recreational Facilities section of the document.

Regulatory Setting

Include the following two paragraphs if the project proposes or has impacts on pedestrian or bicycle facilities:

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

GUIDANCE

Discuss how the project would affect traffic and transportation/pedestrian and bicycle facilities, reflecting both existing and design-year (project open-to-traffic year plus 20 years) traffic. Most Metropolitan Planning Organizations (MPOs), Regional Transportation Planning Agencies (RTPAs), and Councils of Governments (COGs) have a future year that their documents reflect; adopt theirs. Be aware that if there is enough lag time between issuing the draft and final environmental documents, it may be necessary to show forecasts for a later date than shown in the draft. Get future estimates from Transportation Planning’s modelers and forecasters. Other sources of information include:

1. Highway Capacity Manual (Special Report 209 from the Transportation Research Board, Washington, D.C.). This is where the concept of Level of Service (LOS) originates. While most of it is geared to engineers, it can help clarify how the data, especially LOS, are derived.
2. The circulation element of the local general plan of the jurisdiction(s) in which the project is located. As with other local planning documents, the project must be consistent with the plan(s).
3. TASAS: The Traffic Accident Surveillance and Analysis System tabulates collision rates for all highways in California, identified by post mile. Data are shown based on the number of lanes, whether the collision occurred on wet or dry pavement, whether it occurred during night or day, and whether the collision resulted in fatalities. The engineer writing the technical study will obtain the TASAS data. Note:Safety data are also used to support the purpose and need discussion in Chapter 1 for safety projects.
4. Various Transportation Demand Management (TDM) guidance materials. These are useful when a project involves multi-modal infrastructure, such as for buses, carpools, rail, cycles. These documents can help support projects involving High Occupancy Vehicle (HOV) lanes, transit ways (barricade-separated HOV lanes), bicycle lanes, and other work on conventional highways, and even some Transportation System Management (TSM) tools such as closed circuit TV. Check with Transportation Planning for these materials.
5. Regional traffic demand models.
6. Pavement management systems.
7. See the [*Highway Design Manual*](https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm) for more information.
8. **Senate Bill 743** (2013) amended CEQA to allow the Governor’s Office of Planning and Research (OPR) to develop new guidelines under CEQA establishing alternative metrics to levels of service (LOS) for the analysis of transportation impacts.  On December 28th, 2018, the Office of Administrative Law approved the amendments to the CEQA Guidelines including changes related to Senate Bill 743. The amended CEQA Guidelines add a new section on determining the significance of transportation impacts, and generally specify vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts.

Writing the Document

Affected Environment

1. List applicable technical report(s) with their completion date(s). Define the study area for the transportation and traffic analysis, and describe existing conditions in the study area. Include tables and figures as described above to aid the reader in understanding concepts such as LOS.

All data should be shown for both directions of travel and for morning and evening peak periods.

Show modeled data for all these categories for 20 years beyond the completion of project construction.

1. Coordinate with local jurisdictions to see if there is a master bicycle trails plan.
2. If bicycle and pedestrian studies were conducted, discuss the results.
3. If the project has the potential to affect coastal access, additional technical information related to coastal public access and/or coastal recreation areas may be needed, such as traffic and parking demand studies, inventories, and maps of existing and planned public access and recreation areas. Projects that may affect coastal access and recreation include projects located along or near the shoreline or coastal recreation area (including beaches, parks, trails, and inland waterbodies) and/or projects that have the potential to temporarily or permanently impact access and recreation opportunities due to physical displacement of land or parking resources used for such uses, public pullouts or viewing areas or changes in traffic patterns along critical access corridors.

Environmental Consequences

1. Compare the existing, future no-build, and design-year traffic for Traffic and Transportation/Pedestrian and Bicycle Facilities. If the project is a safety project, how will it improve safety? Provide a discussion of the project’s impacts on traffic and circulation, both during construction (construction impacts) and after completion of the project (long-term or operational impacts). Quantify impacts if possible (estimate time delays, for example). The description of traffic must include the following items. Note: It is essential to compare Single Occupancy Vehicle (SOV) and HOV numbers if the project includes building HOV facilities.
2. **Travel time comparison** (existing and modeled): Usually expressed as time saved by comparing vehicle miles traveled (VMT) and vehicle hours traveled (VHT), shown as total time saved annually. Compare all build alternatives to the existing and the future no-build or no-project alternative.
3. **Peak period performance**: Show modeled top speeds during the period(s) of highest demand. A slower speed during the peak period is a strong indicator of need. Be sure to show all peak periods, including mid-day, if appropriate. A table to show **average speeds** may also be helpful to the reader. Again, compare all build alternatives to both existing conditions and the future no-build alternative.
4. **Corridor travel time**:Comparisons between origin and destination (O/D) pairs are helpful to the lay reader. Transportation planners can help obtain these data.
5. **Volume/capacity (v/c) ratio and level of service**: Show density of traffic on the freeway or roadway. This is another item the layperson will be keenly interested in. Including photos that show the various levels is very reader-friendly.
6. **Measures to lessen traffic/circulation impacts**: If these are proposed, provide a table showing the improved v/c ratios, modeled for the future year, including a comparison of all build alternatives to the no-build alternative.
7. **Freeway connector volumes**: Compare all build alternatives to the existing and the future no-build or no-project alternative if the project includes connector improvements.
8. **Arterial impacts** **and** **intersection impacts** (existing and modeled): If the project will create any impacts to local streets and intersections, describe them.
9. Describe improvements to circulation (such as installing loop sensors and signals at intersections on conventional highways, or at on-ramps on freeways, adding turning lanes, adding an auxiliary lane to a freeway, building a barrier to impede unsafe turning, etc.).
10. Will the project improve or negatively alter traffic patterns for residents and businesses?
11. Is there a Transportation Management Plan (TMP)? Strategies of a TMP include public information, motorist information, incident management, construction, demand management, and alternate routes or detours. Note: For projects on the SHS, the plan should be written by Traffic Operations staff. Examples of individual TMP elements include:
12. Public Information – Brochures and mailers, press releases/media alerts, paid advertisements, project website, public meetings/hearings, etc.
13. Motorist Information – Traffic radio announcements, changeable message signs, temporary motorist signs, etc.
14. Incident Management – Traffic management teams, Intelligent Transportation Systems (ITS), surveillance equipment, tow/freeway service patrol, etc.
15. Construction – Lane requirement charts, construction staging, traffic handling plans, full facility closures, etc.
16. Lane Modifications – Reduced lane widths or lane closures, reduced shoulder width or shoulder closures, lane shifts, ramp closures, night work, incentives and disincentives, innovative construction techniques, etc.
17. Demand Management – Telecommuting, ramp metering, variable work hours, truck/heavy vehicle restrictions, transit service improvements or incentives, ridesharing/carpooling incentives, etc.
18. Alternate Routes/Detours – Offsite detours and use of alternate routes, signal timing/coordination improvements, temporary traffic signals, turn restrictions, parking restrictions, etc.
19. Transportation Management Plans may also include agreements with local agencies to provide enhanced infrastructure on arterial roads or intersections to deal with detoured traffic. We may also contract with local agencies for traffic personnel, especially for special event traffic through or near the construction zone. The enhancements *must* be temporary if federal funds are used.
20. Describe the public input process: How has the public been involved in learning about the project, including impacts and proposed measures to minimize harm? The cycling and pedestrian public should also be included as part of the scoping process to ensure the inclusion of bike- and pedestrian-friendly design elements in the project. Note this participation here.
21. What impacts will occur during construction (accessibility for vehicles, bicycles, and pedestrians)? Be sure that bicycling advocacy groups are included in planning the detour.
22. Discuss compliance with the ADA.
23. Discuss impacts to access to coastal resources and/or coastal recreation areas such as beaches, parks, trails (including existing and planned segments of the California Coastal Trail) and inland waterbodies. Evaluate consistency with applicable coastal policies and ordinances. For example, explain how the project facilitates non-motorized modes of transportation and maximizes public access to the shoreline. The status of the Coastal Trail in the vicinity should be discussed, as well as consideration for interconnecting trail systems and for providing safe roadway crossings. This section should characterize unavoidable permanent or temporary access impacts caused directly or indirectly by the project. Describe how public access for pedestrians and bicyclists would be provided under each alternative. Information may also need to address whether the impact is to “low cost visitor and recreational facilities.”

Avoidance, Minimization, and/or Mitigation Measures

1. Describe any additional measures (beyond design elements and standardized measures) that have been identified to lessen adverse impacts. Remember to state what the measure would do and why we are proposing it. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities” (CA Public Resources Code [PRC] Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

GUIDANCE

A Visual Impact Assessment (VIA) should be considered for every project that has the potential to change the visual environment, for example by removing vegetation, or constructing cut and fill slopes or structures such as bridges and walls, or installing signs or lighting, etc. . The VIA will be prepared by, or under the direction of, a licensed Landscape Architect. The level of VIA to be prepared is determined using the [VIA Questionnaire](https://dot.ca.gov/programs/design/lap-visual-impact-assessment/lap-via-questionnaire). For detailed information about visual analysis, see the [SER, Vol. 1, Chapter 27, “Visual and Aesthetics Review.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-27-visual-aesthetics-review)

The FHWA *Visual Impact Assessment for Highway Projects* provides detailed guidance on how to conduct a visual assessment for federal or Federal-aid highway projects. Note: The process outlined in the guidance does not address CEQA specific requirements for determining potential impacts to scenic resources within an officially designated scenic highway and those impacts caused by light and glare.

The basic steps in the process are:

1. Define the project location and setting.
2. Identify visual assessment units and key views and define these terms for the reader.
3. Analyze existing visual resources, changes to those resources, and viewer response (attributes such as form, line, color, texture, dominance, scale, diversity, and continuity that are used to describe visual character—and vividness, intactness, and unity that are used to describe visual quality—should be defined for the reader).
4. Depict or describe the visual appearance of project alternatives.
5. Assess the visual impacts of project alternatives.
6. Propose measures to offset visual impacts. The purpose of these measures is to avoid, minimize, and/or mitigate adverse visual impacts. Measures proposed for replanting must follow the guidance in Section 92.3 of the Streets and Highways Code.
	1. Landscaping shall be drought resistant whenever feasible.
	2. Caltrans shall use recycled water for irrigation when practicable.
7. When appropriate and consistent with integrated pest management strategies as defined in subdivision (d) of Section 14717 of the Government Code, landscaping shall include California native wildflowers and native and climate-appropriate vegetation as an integral and permanent part of the planting design, with priority given to those species of wildflowers and native and climate-appropriate vegetation that will help rebuild pollinator populations.

Detailed information about each step in the process can be found in FHWA’s [*Visual Impact Assessment for Highway Projects*](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#visual). In the IS/EA, summarize the steps and results of the FHWA visual impact assessment.

Writing the Document

Affected Environment

1. List all applicable technical report(s) along with completion date(s). Using the information in the VIA, describe the project’s visual setting, and identify visual assessment units, key views, and viewers in the study area. Discuss the visual resources, including the visual character and visual quality.
2. Indicate whether any portion of the project is within an *officially* designated scenic highway and if this segment includes scenic resources (e.g., a tree that displays outstanding features of form or age; a unique or massive rock formation; a historic building that is a rare example of its period, style, or design). Refer to the Scenic Resource Evaluation (SRE) for this information.

Note: The Department Landscape Architect may also be called on to help determine whether the proposed project would affect the setting of a historic and/or Section 4(f) resource. Include this in the Cultural Resources and/or Section 4(f) sections of the document. The discussions can be cross-referenced in the Visual/Aesthetics section.

Environmental Consequences

1. Using information from the VIA, describe the visual appearance of the project alternatives and how the project would affect the visual assessment units and key views. Discuss the resource change, viewer response, and visual impact. Include visual simulations, if applicable, in the environmental document to show the before and after conditions.
2. Discuss temporary construction impacts.
3. If context sensitive solutions have been included in the proposed project, describe those here. Explain how these contextual elements such as textured noise barriers, colored concrete or asphalt, highway plantings, etc., help generate public acceptance of the project, reflect the unique character of the community, and provide compatibility with the existing visual resources (see “good design” elements providing in the Project Description section of the VIA). For information on context sensitive solutions, please see [FHWA’s Context Sensitive Solutions website](http://contextsensitivesolutions.org/) and [FHWA’s Context Sensitive Solutions Primer](https://www.fhwa.dot.gov/context/css_primer/).
4. Discuss whether the project has the potential to affect any identified scenic resources within an *officially* designated scenic highway. The scenic highway program protects and enhances California’s natural scenic beauty by allowing county and city governments to apply to the Department to establish a scenic corridor protection program. If the project is within the boundaries of a scenic corridor protection program, the environmental document must discuss whether the project is consistent with that program. For more information about scenic highways, please see the Department’s [Scenic Highway Program](https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways) website.
5. Discuss potential visual effects of public views to shoreline and inland coastal resources, if applicable, and discuss consistency with applicable coastal policies and ordinances. For projects that may affect coastal resources or that are in the coastal zone, additional technical information may be necessary to evaluate potential effects on public views to and along the shoreline, recreation and open spaces areas, significant landforms, waterbodies, and inland mountains, as well as changes in visual character of the project area. Information necessary may include a visual impact assessment, including but not limited to, line-of-site analyses, visual simulations, sketches and photographic examples of project features including signage, bridge sections, railings, retaining walls, sound walls, and landscaping. In some instances, changes in visual character and/ or views to developed areas that consist of special communities, usually designated as such in LCPs, must also be considered. A visual assessment, along with visual simulations of the proposed project, is often prepared by a landscape architect and required for any project located in a visual protection overlay area as identified in a certified LCP, or for a project located within an area adjacent to the shoreline or parkland, areas consisting of steep terrain and/or significant vegetation, or for projects that have the potential to block public views to shoreline or inland scenic resources. The visual assessment should include public views both to and from the proposed project. For example, the evaluation may include a discussion of: impacts of bluewater views, loss of views to open space areas and inland hillsides and mountains, substantial change in the visual character of the area, etc.

Avoidance, Minimization, and/or Mitigation Measures

1. Consistent with the guidance, propose methods to avoid, minimize, and/or mitigate adverse visual impacts. State how the proposed measure would avoid, minimize, and/or mitigate each visual impact that has been identified. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Additional Guidance

* [SER, Vol. I, Chapter 27, “Visual and Aesthetics Review”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-27-visual-aesthetics-review)

Cultural Resources

Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

Include as applicable: As the project is [partially] located on lands administered [owned] by the [name of tribe/federal agency], the Caltrans First Amended Section 106 Programmatic Agreement [does not apply/was requested not to be used by the federal agency] and consultation will occur under the National Historic Preservation Act implementing regulations at 36 CFR § 800.

Include as applicable: The Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. The ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources.  California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource.  Historical resources are defined in PRC Section 5020.1(j).  In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them).  Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe.  Tribal cultural resources must also meet the definition of a historical resource.  Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Include the following sentence as applicable. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)[[1]](#footnote-1) between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

Generally, PRC Section 5024 does not apply to Local Assistance projects unless a project includes state-owned historical resources.

Other federal and state laws and regulations also apply to cultural resources. See the [SER, Vol. 2, Chapter 1, “General Information,”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-2-cultural-resources) for a more complete listing and descriptions. Include those other laws and regulations as applicable to the project.

GUIDANCE

This section of the environmental document discloses the project’s effects, or impacts, on cultural resources listed in or eligible for listing in the NRHP and/or the CRHR, how those impacts were determined, and whether and how impacts can be avoided or lessened.

Not all information about cultural resources can be fully disclosed to the public. The location of archaeological sites and confidential information provided by California Native American tribes are exempt from disclosure to the public by law in part, to protect sites from looters. Prior written consent to disclose information provided by a California Native American tribe during the environmental review process is necessary before some or all of that information can be disclosed to the public. A tribally-approved confidential appendix or summary may be included in the document.

Writing the Document

If a proposed project involves several different types of cultural resources, the clarity of the document may be improved if the discussion is divided by resource type— built environment, archaeological sites—or those with cultural or traditional values—although these types may overlap.

Affected Environment

1. Briefly list cultural resources studies completed for the project along with completion dates— Screened Undertaking, Historic Property Survey Report (HPSR), Finding of Effect (FOE), etc.
2. Briefly discuss the methods used to support studies—records searches, field surveys, testing, Native American consultation, etc.—and describe the Area of Potential Effects (APE).
3. Using the HPSR and other cultural resources technical studies, discuss the cultural resources (historic properties, historic sites, historical resources, and/or tribal cultural resources) evaluated within the APE (omitting confidential information provided by California Native American tribes and specific location information for archaeological sites as discussed above). If there are no cultural resources within the APE, there’s no need to write a lengthy Cultural Resources section, briefly describe the studies completed, methods used, and the finding. In Section 106 language, if no historic properties are present, there is a finding of “No Historic Properties Affected.”
4. Discuss the significance of each evaluated cultural resource within the APE (i.e., whether it is listed in or eligible for listing in the NRHP or the CRHR (including tribal cultural resources), and whether it is a significant resource for the purposes of CEQA). Note that a cultural resource determined *eligible* for listing in the NRHP or CRHR is considered to have the same status as a listed resource for purposes of the project or undertaking.

Environmental Consequences

1. Using information from the cultural resources technical reports (HPSR, FOE, etc.), discuss the anticipated effects finding for each resource and for the project as a whole. There are four possible findings when cultural resources are present within the project limits:

	1. No Historic Properties Affected
	2. Finding of No Adverse Effect with standard conditions (FNAE-SC)
	3. Finding of No Adverse Effect (FNAE)
	4. Finding of Adverse Effect (FAE)

If the APE contains more than one historic property, it is possible that the project may have no adverse effect on some historic properties, but an adverse effect on others. Discuss the potential effects of each alternative on each identified significant cultural resource. For each resource listed in or eligible for listing in the NRHP, discuss whether the project would alter the characteristics that make the resource eligible, and whether or not the project will have an effect on the resource.

In addition to discussing the effects on each resource, clearly state the Section 106 finding for the project (undertaking) as a whole. The finding for the undertaking will be at the highest level of effect found for any one historic property within the APE. For example, if the project would have “no adverse effect” to one resource but have an “adverse effect” to another, then the Section 106 finding for the project (undertaking) as a whole would be “adverse effect.” See sample text below:

Within the project APE, there are three cultural resources that have been determined eligible for inclusion to the National Register of Historic Places.  Two of the historic properties are prehistoric archaeological sites and the third is a 1920s residence.  The two prehistoric archaeological sites will be avoided and protected by using an ESA for each.  Thus, the project has a “no adverse effect with standard conditions” finding for the two prehistoric historic properties.  The original stamped sidewalks and wrought iron fencing at the 1920s residence, which are contributing elements to the overall eligibility of the historic property, will be removed, therefore altering and removing characteristics that helped to qualify the historic property for the National Register.  The project has an “adverse effect” on the 1920s residence/historic property, and a Memorandum of Agreement has been prepared, outlining the mitigation agreed to by Caltrans and the SHPO. Overall, the project (undertaking) as whole has an adverse effect on historic properties.

1. Regardless of the determinations of eligibility, the following provisions dealing with the discovery of cultural materials or human remains must be included:

If cultural materials are discovered during construction, all earth-moving activity 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, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact [insert the project contact, e.g., District Environmental Branch] 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.

1. Discuss the results of consultation with SHPO and/or if applicable (i.e., if project is partially or entirely on tribal lands), the Tribal Historic Preservation Officer (THPO) and any other consulting parties (e.g., Native American tribes and interested parties (USACE, historical societies, etc.)). Discuss the status of SHPO and/or THPO concurrence with the findings under Section 106. Include concurrence documentation in either a separate appendix or in Chapter 4, “Comments and Coordination.” Include confidential information obtained from California Native American Indian Tribes in a Confidential Appendix or in the document itself as agreed to in writing by the California Native American Tribe.
2. Within the project vicinity, analyze all historic properties within the Section 106 APE to determine whether they are protected Section 4(f) resources. Briefly discuss and refer the reader to Appendix A. Sample language provided below. Chose the most appropriate text for your project and modify as needed.
* If the project results in a Section 4(f) use, state that here and document it in Appendix A.
	+ There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project vicinity. The proposed project would result in a “use” of those properties as defined by Section 4(f). Please see additional details in Appendix A.
* If there are Section 4(f) resources within the project vicinity but no use of these resources, clearly state that here and document in Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f).”
	+ There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project vicinity. However, this project will not “use” those properties as defined by Section 4(f). Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.
* If there are potential Section 4(f) resource types within the project vicinity, but they do not meet the definition of a Section 4(f) resource clearly state that here and document in Appendix A.
	+ Section 4(f) of the Department of Transportation Act of 1966 provides protection for historic properties. However, it has been determined that the properties within the project vicinity do not meet the definition of a Section 4(f) resource. Please see Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.
* If no historic properties are present state that here:
	+ Section 4(f) of the Department of Transportation Act of 1966 provides protection for historic properties. There are no historic properties present within the APE; therefore, there are no Section 4(f) historic sites affected by the proposed project.
1. If the project has the potential to affect cultural resources in the coastal zone,discuss impacts and discuss consistency with applicable coastal policies and ordinances.

Avoidance, Minimization, and/or Mitigation Measures

1. Discuss proposed avoidance, minimization, and/or mitigation measures for each identified significant cultural resource. Remember to state what the measures would do and why we are proposing them. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.
2. If the project would result in a Finding of Adverse Effect (FAE), then an approved signed Memorandum of Agreement (MOA) is required before circulation of the final environmental document. An MOA stipulates the responsibilities of FHWA, SHPO, the Department (as assigned by FHWA), and, if participating, ACHP, THPO, or other consulting parties on measures that will be taken to avoid, minimize, and/or mitigate the effects of the undertaking on historic properties. Summarize those measures here.

A signed FOE is required for the final environmental document unless there are limiting factors (e.g., a large project with several different alternatives or difficulties accessing private property for the necessary studies). If the project is to be phased in order to achieve Section 106 compliance, as agreed to by CSO, then a project-level PA must be executed before circulation of the final environmental document (just like the MOA) and included in the final environmental document.

The MOA process is described at the [ACHP’s Guidance on Agreement Documents website](https://www.achp.gov/initiatives/guidance-agreement-documents). The ACHP’s main website is located at <http://www.achp.gov/>.

For the final environmental document, documentation of SHPO or THPO concurrence or the signed MOA must be included as an appendix or in Chapter 4, “Comments and Coordination.”

Physical Environment

Hydrology and Floodplain

Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

* The practicability of alternatives to any longitudinal encroachments.
* Risks of the action.
* Impacts on natural and beneficial floodplain values.
* Support of incompatible floodplain development.
* Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

GUIDANCE

Hydraulic information for the environmental document is provided in the Location Hydraulic Study, Summary Floodplain Encroachment Report, and/or a Floodplain Evaluation Report. A Location Hydraulic Study (LHS) is prepared by a registered engineer who has hydraulics expertise. If, based on the results of the LHS, either: (1) a significant encroachment on a floodplain, or (2) an inconsistency with existing watershed and floodplain management programs, or (3) uncertainty exists about what impacts will occur, then a Floodplain Evaluation Report must be prepared. If no encroachment or impacts to the floodplain will occur, then a Summary Floodplain Encroachment Report will be prepared. Note: For local agency transportation projects off the State Highway System (SHS), the Location Hydraulic Study (LHS), the Summary Floodplain Encroachment Report, and the Floodplain Caltrans Reviewers Checklist are available for use at: <https://dot.ca.gov/programs/local-assistance> with appropriate local agency signature approval forms.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s). Where applicable, the Affected Environment section should include a description of the existing floodplain; its natural and beneficial values and policies; and procedures and orders relating to hydraulics.

2. The base 100-year floodplain can be shown using Federal Emergency Management Agency (FEMA) maps, National Flood Insurance Program (NFIP) maps, or other maps developed by the highway agency. The maps must be included in the document. If the NFIP maps do not exist, the agency must develop the needed maps so the floodplain can be identified.

1. If the project is not located within a 100-year base floodplain, state this at the beginning of Chapter 2.

Environmental Consequences

1. If an increase in the base floodplain elevation (BFE) is expected, a hydraulic computer model must be run to establish the amount of increase to determine the floodplain encroachment impacts.

A “significant encroachment” as defined in 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood-related impacts:

* A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route;
* A significant risk (to life or property), or;
* A significant adverse impact on natural and beneficial floodplain values.

The document MUST state whether or not there is a significant floodplain encroachment. Include a summary of any coordination with local, state, and/or federal water resources and floodplain management agencies (especially FEMA) because of an encroachment on a regulatory floodway, increase in the base flood elevation, and any subsequent actions such as the need for a floodplain map revision. When there is a significant encroachment and an “Only Practicable Alternative Finding” is required (see below), FHWA must approve the significant floodplain encroachment, even under NEPA Assignment. For the final environmental document, this concurrence must be included in Chapter 4 “Comments and Coordination” or included as an appendix.

Be certain to discuss the relevant project features (including selection of alternate sites for improvements, elevated structures, etc.) that have been incorporated into the project to avoid or minimize the project’s environmental consequences. Additional measures may include basins and the number of drainage inlets.

Note: [Executive Order (EO) 11988](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1EO11988) requires that when a floodplain risk assessment (Floodplain Evaluation Report) is prepared, the public must be given the opportunity for early review and comment. It also requires that the risk assessment be filed with the State Clearinghouse. A reference to encroachments on the base floodplain must be included in public notices, and any encroachments must be identified at public hearings.

Avoidance, Minimization, and/or Mitigation Measures

1. List any avoidance, minimization, and/or mitigation measures here. Refer to the Water Quality section, which may provide measures to lessen impacts on natural and beneficial floodplain values.

Only Practicable Alternative Finding

This section is required in the final environmental document only when there is a significant encroachment into the base or 100-year floodplain.

If the preferred alternative causes significant encroachment in the floodplain, then a finding must be made that it is the only practicable alternative as required by [23 CFR 650](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1EO11988), Subpart A. The finding should refer to EO 11988 and 23 CFR 650, Subpart A. It should be included in a separate subsection entitled "Only Practicable Alternative Finding" and must be supported by the following information:

1. The reasons the proposed action must be located in the floodplain.
2. The alternatives considered and why they were not practicable.
3. A statement indicating whether the action conforms to applicable state or local floodplain protection standards. Standard concluding language is provided below.

Based on studies carried out by the California Department of Transportation, as assigned by the Federal Highway Administration (FHWA), no practicable alternative to the proposed alternative exists (23 CFR 650, Subpart A) and FHWA has concurred with this finding. All other potential alternatives are not possible within reasonable natural, social, and economic constraints. In addition, all measures to minimize potential harm within the floodplain, consistent with regulations issued under Section 2(d) of Executive Order (EO) 11988, have been taken. Further, a public notice, as required by EO 11988, has been circulated containing an explanation of why the action is proposed to be located in the floodplain.

Additional Guidance

* [SER, Vol. 1, Chapter 17, “Floodplains](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-17-floodplains)”
* [Revised Guidance on Co-operating Agencies](https://flh.fhwa.dot.gov/resources/design/pddm/extras/CooperatingAgencies199203.pdf) (March 1992)
* [Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents, October 30, 1987 (FHWA)](http://environment.fhwa.dot.gov/projdev/impTA6640.asp)
* [National Flood Insurance Act of 1968 (42 USC Sections 4001 *et seq.*)](http://www.gpo.gov/fdsys/granule/USCODE-2010-title42/USCODE-2010-title42-chap50-sec4001/content-detail.html)

Water Quality and Storm Water Runoff

Regulatory Setting

**Federal Requirements: Clean Water Act**

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[[2]](#footnote-2) unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

* Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
* Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
* Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
* Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[[3]](#footnote-3) standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the [Wetlands and Other Waters](#Wetlands) section.

**State Requirements: Porter-Cologne Water Quality Control Act**

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined, and this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

**State Water Resources Control Board and Regional Water Quality Control Boards**

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

* **National Pollutant Discharge Elimination System (NPDES) Program**

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department’s MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department’s SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Local Agency Construction Activity Permitting

For local agency transportation projects off the State Highway System (SHS), the local agency (as owner of the land where the construction activity is occurring) is responsible for obtaining the NPDES permit if required and for signing certification statements (when necessary). Local agencies contact the appropriate RWQCB to determine what permits are required for their construction activity. The local agency is also responsible for ensuring that all permit conditions are included in the construction contract and fully implemented in the field.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

Local Assistance

For local assistance projects off the SHS, local agencies may follow their local design standards, if they meet AASHTO standards.

Because the local agency is the owner/operator of the transportation facility, the local agency is responsible for:

1. Obtaining all necessary permits, agreements, and approvals from resource and regulatory agencies (401/404, Encroachment, and U.S. Coast Guard (USCG) Bridge Permit, etc.) before advertisement for construction.
2. Fully complying with the conditions of permits.
3. Achieving all performance standards.
4. Preparing all required reports.
5. Providing a copy of each permit to the Department’s District Local Assistance office for recording in LP2000.

Permits are typically applied for following NEPA approval and when the design is far enough along to determine and calculate specific impacts. Since two to three months are normally required to process a routine permit application involving a public notice, local agencies are strongly encouraged to apply for permits as early as possible to allow enough time to obtain all necessary approvals before beginning construction.

For large and complex projects, local agencies should request a “pre-application consultation” or informal meeting with the USACE during the early planning phase of their project, and coordinate with Caltrans District Local Assistance liaison to minimize the potential for delays later.

GUIDANCE

 The Water Quality section of the environmental document will rely heavily on input from District Environmental Engineering staff and other functional units, including Hydraulics, Biology, Design, and Geotechnical.

 For local assistance projects off the SHS, the local agency will determine whether or not its project has the potential to impact water resources (rivers, streams, bays, inlets, lakes, drainage sloughs) within or immediately adjacent to the project area. If the project has potential to impact water resources, the local agency prepares a “Water Quality Assessment Report;” conducts the necessary coordination with USACE, USCG, California Department of Fish and Wildlife (CDFW), RWQCB, etc.; and applies for all required permits. Note: Because local agencies are the owner of the land where the construction activity is occurring, they are responsible for obtaining all permits and for signing certification statements (when necessary). Local agencies contact the appropriate RWQCB to determine which permits are required for their construction activity.

 For capital and locally sponsored projects on the SHS during the Project Initiation Document (PID) phase, a decision will be made on whether or not a more detailed technical study of storm water quality issues is necessary. If so, a water quality assessment report will be prepared by qualified staff (usually Environmental Engineering). The report will identify water quality concerns such as applicable storm water regulations, receiving water bodies and their beneficial uses, existing water quality, project-related discharges, including storm water, and potential water quality and storm water impacts. The assessment should be conducted for each reasonable alternative to determine if there are any potential water quality impacts. The report would reference and generally describe both construction and permanent post-construction BMPs, other mitigation measures, and implementation procedures included in the SWMP as the appropriate measures to avoid or minimize project-related storm and non-storm water impacts to water quality. Specific BMPs will be selected during later phases of project development, but should be determined well in advance for projects requiring a Section 401 Water Quality Certification from the RWQCB or a permit from the USCG under the Rivers and Harbors Act.

 For projects that will apply for a 404 Standard permit from the USACE, the Section 404 (b)(1) Guidelines require that the PDT provide an alternative analysis to illustrate that the LEDPA has been selected. For local assistance projects off the SHS, the local agency or its consultant will provide an alternatives analysis. For more information, see the SER, [Vol. 1, Chapter 15, “Waters of the U.S. and the State”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-15-waters-of-the-us-and-state) and [Vol. 3, Chapter 3, “Waters of the U.S. and the State.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-3-waters-of-the-us-and-state)

For local assistance projects off the SHS, the local agency is responsible for preparing the SWMP (if required by the RWQCB). For capital and locally sponsored projects on the SHS, the Department has a SWMP to control, reduce, or eliminate pollutants from storm water runoff from entering the Department’s drainage conveyances. The SWMP is the framework for developing and implementing storm water permit requirements for the Department’s storm water discharges. The SWMP addresses not only temporary impacts to water quality from construction activities, but long-term water quality impacts from new construction and major reconstruction. Some of the long-term water quality impacts may result from adding new net impervious surface to the project or changes in grade or hydraulics. While many of these issues may be addressed later in project development by Design (through use of the Project Planning Design Guide), the environmental document should address the reasonably foreseeable impacts to water quality from construction as well as permanent impacts from the finished project.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. The Affected Environment section discusses the project setting as it relates to water quality. The section should include a discussion of watersheds and receiving waters that are potentially affected by the project. A description of the watersheds and receiving waters for a project is included in the water quality assessment report. See the [Water Quality Assessment Report](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#water-quality) Recommended Content and Format guidelines.

Environmental Consequences

1. Information in the Environmental Consequences section will also be drawn from the project water quality assessment report. The majority of the discussion on impacts relating to water quality will be qualitative in nature. However, some projects located in watersheds with established TMDLs, or identified by the RWQCB or the SWRCB as high quality waters (sources of municipal or domestic water supplies) or projects located in the Lake Tahoe Hydrologic Unit, the Mono Lake Hydrologic Unit, or projects with discharges into an Area of Special Biological Significance (ASBS) will probably require a quantitative analysis as well. Potential water quality impacts include increased concentrations of pollutants such as suspended solids, nutrients, pesticides, metals, pathogens, litter, biochemical oxygen demand, and total dissolved solids. Environmental consequences may include short-term and long-term impacts to aquatic life. This section should provide a simple discussion of the effects of water quality impacts to aquatic organisms and how impacts are recognized through aquatic bioassessments.
2. If the project has the potential to impact coastal water quality, discuss potential impacts and consistency with applicable coastal policies and ordinances. This analysis may need to include information such as the amount of existing versus new impervious surface and opportunities to treat runoff from both existing and new impervious surfaces.
3. Be certain to discuss the relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences.

Avoidance, Minimization, and/or Mitigation Measures

For projects requiring a 404 permit, the District Biologist must document that a sequence of avoidance, minimization, and/or compensation measures have been followed, in that order.

Additional Guidance

* [FHWA Environmental Review Toolkit: Stormwater Management and Water Quality](https://www.environment.fhwa.dot.gov/env_topics/water/stormwater.aspx)
* [Department Statewide Storm Water Management Plan](https://dot.ca.gov/programs/environmental-analysis/stormwater-management-program)
* [Department Storm Water Homepage](https://dot.ca.gov/programs/environmental-analysis/stormwater-management-program)
* [Department Construction Storm Water Links](https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control)
* [Department Design Storm Water Links](https://dot.ca.gov/programs/design/hydraulics-stormwater)
* [Department Storm Water Project Planning and Design Guide](https://dot.ca.gov/programs/design/hydraulics-stormwater)
* [Department Local Assistance Procedures Manual](https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/local-assistance-procedures-manual-lapm), Chapter 6, “Environmental Procedures,” Exhibits 6-A and 6-B, Question #10.
* [SER, Vol. 1, Chapter 4, “Environmental Consequences During Transportation Planning”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-4-environmental-considerations-during-transportation-planning)
* [SER, Vol. 1, Chapter 15, “Waters of the U.S. and the State”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-15-waters-of-the-us-and-state)
* [SER, Vol. 3, Biological Resources, Chapter 1, “General Information”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-1-general-information)
* [SER, Vol. 3, Biological Resources, Chapter 3, “Waters of the U.S. and the State”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-3-waters-of-the-us-and-state)
* [33 CFR 320-330](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#CWA)
* [40 CFR 230](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#CWA)
* [Section 404(b)(1) Guidelines](https://www.epa.gov/cwa-404/section-404b1-guidelines-40-cfr-230)
* [SWRCB website](http://www.swrcb.ca.gov/)
* [RWQCB websites and Basin Plans](http://www.swrcb.ca.gov/plans_policies/#plans)
* [SWRCB Resolution 68-16](http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf)
* [33 USC § 401](http://www.gpo.gov/fdsys/granule/USCODE-2011-title33/USCODE-2011-title33-chap9-subchapI-sec401/content-detail.html) (Rivers and Harbors Act)
* [33 USC § 1341](http://www.gpo.gov/fdsys/granule/USCODE-2000-title33/USCODE-2000-title33-chap26-subchapIV-sec1341/content-detail.html) (Clean Water Act Section 404)

Geology/Soils/Seismic/Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department’s Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the [Department’s Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria](https://dot.ca.gov/programs/engineering-services).

Note: Local regulations may apply as well. The general plan of the jurisdiction(s) affected should include references to local standards on this topic area and identification of hazards.

GUIDANCE

A preliminary geotechnical report is prepared by Geotechnical staff and should be the basis for this section.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Describe the geologic setting, physiography and topography, surface and groundwater, rock/soils, and geologic hazards including seismic hazards (strong ground shaking, liquefaction, fault rupture, tsunami, seismically-induced landslides, rock falls, settlement, and subsidence), non-seismically induced earth movement, volcanic hazards, and economical resources/mineral hazards.
3. If the project is in the coastal zone, additional technical information may be necessary such as wave run-up studies, evaluation of potential sea level rise impacts, assessment of potential shoreline erosion issues during the useful life of the project, and analysis of structural and non-structural alternatives for responding to these potential shoreline hazard issues. Not all projects will require these additional studies, so early coordination with the CCC is critical to determine when such studies are appropriate and to avoid lengthy project delays.

Environmental Consequences

1. The more susceptible the project area is to erosion and geologic hazards, the greater the degree of impact from hazards such as earthquakes and liquefaction. Your evaluation should include the potential exposure of workers to these hazards during construction as well as the exposure of the traveling public once the project is completed.
2. Discuss design elements or measures needed to address geologic or topographic features as they relate to the structural integrity of the facility. Appropriate measures to protect structures from liquefaction include avoidance where possible, and soil and structural improvements where avoidance is not possible. Soil improvements may include mixing soils, vibro-compacting, and/or adding drainage to an area. Structural measures may include driving piles below liquefiable layers. The soil and structural improvements may be more suitably placed in the Project Description section of the document.
3. Refer to BMPs related to erosion control identified in the Water Quality section of the document.
4. Discuss measures to limit damage from seismic hazards such as improvements to structures for earthquake protection. These would include designing structures that are able to withstand a defined level of ground acceleration and fault offset, where applicable.
5. Discuss briefly and/or reference design elements intended to reduce visual impacts to geologic or topographic features.
6. Identify whether the project would result in the loss of a known mineral resource that would be or value to the region and the residents of the state; or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
7. Identify and discuss potential impacts to natural landmarks and landforms. Refer to the Visual/Aesthetics section of the document as appropriate.
8. If the project is in the coastal zone, discuss impacts from potential coastal hazards and discuss consistency with applicable coastal policies and ordinances.

Avoidance, Minimization, and/or Mitigation Measures

Discuss any avoidance, minimization, and/or mitigation measures here.

Additional Guidance

* [SER, Vol. 1, Chapter 7, “Topography/Geology/Soils/Seismic”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-7-topography-geology-soils-seismic)
* [42 USC Section 7704 National Earthquake Hazards Reduction Program](http://www.gpo.gov/fdsys/granule/USCODE-2011-title42/USCODE-2011-title42-chap86-sec7704/content-detail.html)
* [Historic Sites and Building Act of 1935](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1HSBA1935)
* [36 CFR 62 National Natural Landmarks Program](https://www.govinfo.gov/app/details/CFR-2012-title36-vol1/CFR-2012-title36-vol1-part62)
* [Division of Engineering Services, Office of Earthquake Engineering](https://dot.ca.gov/programs/engineering-services)

Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

Include as applicable: A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

Include as applicable: 16 United States Code (USC) 431-433 (the “Antiquities Act”) prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered “objects of antiquity” by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.

Include as applicable: 16 United States Code (USC) 461-467 established the National Natural Landmarks (NNL) program. Under this program property owners agree to protect biological and geological resources such as paleontological features. Federal agencies and their agents must consider the existence and location of designated NNLs, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under NEPA.

Include as applicable: 16 United States Code (USC) 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands.

Include as applicable: 23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

Include as applicable: 23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

**GUIDANCE**

Add language to the Regulatory Setting section that specifically explains how the laws listed apply to this project. For example, some federal laws apply only if the project includes certain federal lands, and the Federal-Aid Highway Act of 1960 applies only if there is federal funding for the project.

Projects that involve ground disturbance (e.g., excavating, scraping, grading, digging, drilling, blasting) have the potential to impact paleontological resources if these resources are located within the project area. A Paleontological Identification Report (PIR) is prepared to determine whether there is the potential for resources to be affected by the project. If the PIR indicated that the potential does exist and ground disturbance is an aspect of the project, a Paleontological Evaluation Report (PER) should be prepared by qualified personnel concurrent with the preparation of the environmental document. In some cases, the PIR and PER are combined into one document. The PER should include a brief outline of the Paleontological Mitigation Plan (PMP) if one will be needed. In many cases, once paleontological resources are identified on a project, the assessment work is contracted out. Please see the [SER, Vol. 1, Chapter 8, “Paleontology”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-8-paleontology) for more details about these reports.

The PIR and PER are not required for Local Assistance projects and are optional formats that may be used.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Identify the geologic units in the project area and discuss any geologic formations or features that may indicate the presence of paleontological resources. Note: It is the Department’s policy not to include the exact location of specific fossil localities on project maps, but a general geologic map that shows the formations and rock units described in the document or a generalized paleontological sensitivity map must be included in the document.
3. Discuss the scientific value and sensitivity of the geologic formations in the project area.

Environmental Consequences

1. Identify and discuss the potential for disturbing scientifically important paleontological resources. Be as specific as possible about the anticipated location, depth, and lateral extent of subsurface disturbances and the expected depth of sensitive formations. Will “original ground” be disturbed? Will the construction activities extend to a great enough depth to encounter the formations defined as paleontological resources? Are there areas of fill where original ground will not be disturbed?
2. Compare the alternatives. Explain whether each alternative is more or less likely to impact paleontological resources than the other alternatives considered.
3. If the project has the potential to affect paleontological resources in the coastal zone, discuss impacts and consistency with applicable coastal policies and ordinances.
4. If the project was modified to avoid impacts to paleontological resources, discuss that here and in the “Alternatives” section. Be certain to discuss the relevant project features (including standardized measures) that have been incorporated into the project to avoid or minimize the project’s environmental consequences.

Avoidance, Minimization, and/or Mitigation Measures

1. Indicate whether avoidance, minimization, and/or mitigation measures for paleontological resources are warranted.
2. Discuss the specific avoidance, minimization, and/or mitigation measures for paleontological resources appropriate for the project. Include cost estimates for the different alternatives. Remember to state what the measure would do and why we are proposing it. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3. *Mitigation is the most common response since true avoidance or impact minimization measures are often difficult to implement because geologic formations extend for large distances and large enough design changes cannot be made*. In most cases, mitigation measures are implemented when action must be taken to protect a paleontological resource. However, if there is a specific resource area limited in size and currently being studied by scientists or used for public education, design changes should be considered to avoid or minimize impacts to this specific area. The PER should include an outline of the Paleontological Mitigation Plan (PMP) with mitigation measures that are appropriate for the project. Some examples of mitigation measures include:
3. A project-specific Paleontological Mitigation Plan will be prepared by a qualified principal paleontologist (MS or PhD in paleontology) once adequate project design information regarding subsurface disturbance location, depth, and lateral extent is available.
4. The qualified principal paleontologist will be present at pre-construction meetings to confer with contractors who will be performing ground-disturbing activities.
5. Paleontological monitors, under the direction of the qualified principal paleontologist, will be on site to inspect cuts for fossils at all times during original ground disturbance involving sensitive geologic formations.
6. When fossils are discovered, the paleontologist (or paleontological monitor) will recover them. Construction work in these areas may be halted or diverted by the Resident Engineer to allow the prompt recovery of fossils.
7. Fossils collected during the monitoring and salvage portion of the mitigation program will be prepared to the point of identification, sorted, and cataloged.
8. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will be deposited in a scientific institution with paleontological collections.
9. A Paleontological Mitigation Report will be completed that outlines the results of the mitigation program.
10. Where feasible, selected road cuts or large finished slopes in areas with critically interesting paleontological features may be left exposed to serve as important educational and scientific features. This may be possible if no substantial adverse visual or safety impacts result.
11. Specify whether permits will be necessary if paleontological mitigation is required. Permits are required when the transportation project involves property under the jurisdiction of certain governmental agencies such as the U.S. Department of Agriculture, the U.S. Department of Interior, the CA Department of Parks and Recreation, and the California Coastal Commission.

Additional Guidance

* [SER, Vol. 1, Chapter 8, “Paleontology”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-8-paleontology)
* [Omnibus Public Land Management Act of 2009 (16 USC 470aaa)](http://www.gpo.gov/fdsys/pkg/PLAW-111publ11/pdf/PLAW-111publ11.pdf)

Hazardous Waste/Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the [Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980,](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1CERCLA) and the [Resource Conservation and Recovery Act (RCRA) of 1976](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1RCRA1976). The purpose of CERCLA, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

* Community Environmental Response Facilitation Act (CERFA) of 1992
* Clean Water Act
* Clean Air Act
* Safe Drinking Water Act
* Occupational Safety and Health Act (OSHA)
* Atomic Energy Act
* Toxic Substances Control Act (TSCA)
* Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the [CA Health and Safety Code](http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=HSC&tocTitle=+Health+and+Safety+Code+-+HSC) and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

GUIDANCE

Under federal and state environmental laws, acquisition of contaminated property creates permanent liability for the new property owner. Project proponents must exercise due diligence to prevent acquisition of contaminated property that may create long-term liability or detrimentally affect project cost, scope, or schedule.

An Initial Site Assessment (ISA) must first be prepared to identify any potential sources of hazardous materials, waste, and substances in, and adjacent to, the project area. Sources of hazardous materials, waste, and substances that must be identified include, but are not limited to, active, inactive or abandoned gas stations, repair shops, dry cleaners, sites of industrial activity, vehicle dismantlers and recyclers, landfills of any type (whether permitted or unpermitted), and certain geologic formations that can contain naturally occurring asbestos. The ISA must also investigate past land uses on all alternatives to determine if there were activities on or adjacent to the project area that could result in contamination that would affect the project or cause long-term liability for the state. The ISA should also address asbestos or lead paint that may be found in older bridge structures and buildings and the potential presence of aerially deposited lead in roadside soils. Finally, the ISA should state whether or not treated wood is expected to be encountered.

The ISA typically begins with an electronic regulatory record search, often conducted by a contractor, that identifies possible land uses or environmental conditions that may be of concern. The hazardous waste technical specialist must conduct a field inspection of the parcels in and adjacent to the project area to look for and document land use, disturbance, materials, or facilities that may indicate past or current releases or activities that may release or use hazardous materials. The specialist should evaluate old maps (Sanborn maps, topographic maps, etc.), aerial photographs and as-built plans to identify facilities or sites that may potentially contain hazardous materials. The specialist must also review regulatory files for any reports of hazardous materials releases, cleanup, or use permits. The specialist may also interview current and past property owners, occupants, or users to determine if hazardous materials were used or released. Consult with the historian working on the project to determine past businesses and land uses on the parcel(s) in question. All of this information is compiled into the ISA document for your use.

The ISA has a shelf life and an ISA older than one year is considered out-of-date by federal regulations.

If hazardous materials are suspected to have been released within the footprint of the project, and have not been adequately investigated by the property owner or a regulatory agency, invasive testing is necessary. A Preliminary Site Investigation (PSI) must be completed to create a report confirming the presence of any suspected hazardous materials. If hazardous materials are known to be present, or found to be present by the PSI, a Detailed Site Investigation (DSI) may be required to further define the lateral and vertical extent of the contamination, the physical state of the contamination, and the volume and concentration of hazardous materials. If contaminants are present in the construction zone, a Remedial Actions Options Report (RAOR) may be necessary to address its proper handling, cleanup, and disposal. The ISA, PSI, DSI, and RAOR support the environmental document by generating adequate information to estimate hazardous material effects to project cost, scope, and schedule. For information about the scheduling of the development of these reports, see the [SER, Vol. 1, Chapter 10, “Hazardous Materials, Hazardous Waste, and Contamination.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-10-hazardous-materials-hazardous-waste-contamination)

When preparing the Hazardous Waste/Materials section of the environmental document, the ISA, PSI, DSI, and/or RAOR will provide the information you need to complete the Affected Environment section. The impacts and avoidance, minimization, and/or mitigation measures, if present and needed, will be explained in the detailed site investigation report. Information about the type (and level) of contamination and location (extent) of any hazardous materials and how it will be affected by each alternative (including avoidance, minimization, and/or mitigation measures and their costs) must be placed in the environmental document along with maps showing the location of the contaminated sites relative to each alternative. In addition, information about the proper handling of the materials, safety for workers, cleanup of the site, and disposal must be included in the Environmental Consequences and the Avoidance, Minimization, and/or Mitigation sections of the document.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Describe the type and scope of site assessments and investigations conducted.
3. Disclose any limitations of the site assessments or investigations.
4. Summarize the findings of the site assessments or investigations for each alternative considered. Include the types of contaminants, their concentration(s), and the level and extent of contamination in relationship to the project. (Note: The summary must address all alternatives considered.)
5. Document coordination or consultation with regulatory agencies, local entities, or property owners that was conducted during preparation of the reports, or that will be needed to address the contamination. Agencies may include the U.S. EPA and/or state agencies such as the Department of Toxic Substances Control (DTSC) and RWQCBs, and local agencies such as county environmental health departments. Regulatory oversight can have huge impacts to a transportation project schedule as well as to the project scope and cost. These issues must be addressed in the document.

Environmental Consequences

1. Disclose the presence of known or suspected hazardous materials, contamination, and contaminant concentrations that may be found during construction of each alternative and explain how it may impact project scope, schedule, and costs for each alternative. Include maps identifying the properties with known or suspected contamination and cross-sections identifying the extent of contamination of these properties. Include summary tables identifying contaminants and concentrations on each parcel, regulatory agencies involved, and the magnitude of expected impacts to project scope, schedule, and cost.
2. Discuss justification for avoiding or not avoiding known or suspected hazardous materials contamination within the preferred alternative or corridor alignment. Justify acquisition of contaminated parcels. Please note that any acquisition of contaminated property must comply with the approval process defined in [Project Delivery Directive 02](https://dot.ca.gov/programs/project-delivery/directives).
3. State whether further investigation or monitoring is needed, and who will do it (a property owner, the project proponent, etc.). Further investigation may be necessary to develop contract special provisions addressing the contamination before and/or during construction, and to satisfy environmental or worker health and safety requirements, or both. Discuss the expected scope of that investigation or monitoring, plus the timing and duration of any needed work.
4. Justify any postponement or elimination of further identified investigations.
5. Discuss the relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences. Examples include standard specifications for addressing hazardous waste and contamination, solid waste disposal, material containing aerially deposited lead, removal of yellow traffic stripe, etc.
6. For projects on the SHS, include a paragraph that defines aerially deposited lead (ADL), explains that Caltrans must follow the ADL Agreement with DTSC, and states that soil containing ADL can be reused on the project.  After consultation with the Hazardous Waste Technical Specialist choose one of the following paragraphs for this purpose:

Use this paragraph for urban projects and all projects expected to involve ADL over the action levels (80 mg/kg total lead or 5 mg/l soluble lead):

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California.  There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project alternatives.  Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

OR

Use this paragraph for extremely rural projects where it is less likely to encounter ADL exceeding action levels:

Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California.  If encountered, soil with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

Avoidance, Minimization, and/or Mitigation Measures

1. List any avoidance, minimization, and/or mitigation measures here including any special considerations, contingencies, or provisions needed to handle known or suspected hazardous material contamination during right-of-way negotiation and acquisition, property management, design, and/or construction. Note that property owners are legally responsible to cleanup regulated contamination on their properties. For projects on the State Highway System, in accordance with Department policy, these responsibilities must not be accepted by the Department as these are not transportation project costs.
2. Include a rough estimate of the added costs of avoiding, minimizing, and/or mitigating hazardous materials impacts (in terms of both dollars and time).
3. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3. Note: If the impact is identified as “significant and unavoidable” on the CEQA checklist, you should not be preparing an Initial Study (IS); you need to prepare an Environmental Impact Report (EIR). Otherwise, discuss the measures in terms of avoidance, minimization, enhancement, compensation, etc. Remember to state what the measures would do and why we are proposing them.
4. Describe any required further coordination, approvals, permits, and site closure negotiations needed with regulatory agencies. Define what efforts or submittals will be necessary, and estimate the duration needed to develop and submit these materials, and to obtain regulatory approvals.
5. Justify any postponement of coordination with regulatory agencies.

Reminder: The Notice of Availability (under CEQA) for the IS must clearly document the presence of any contaminated properties listed under Section 65962.5 of the CA Government Code (a.k.a. Cortese list) including, but not limited to, lists of hazardous waste facilities, land designated as hazardous waste property, and hazardous waste disposal sites. It must also include the information in the Hazardous Waste and Substances Statement required under subsection (f) of Section 65962.5.

Additional Guidance

* [SER, Vol. 1, Chapter 1, “Federal Requirements](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements)”
* [SER, Vol. 1, Chapter 10, “Hazardous Materials, Hazardous Waste, and Contamination.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-10-hazardous-materials-hazardous-waste-contamination)
* [Hazardous Waste Management website](https://dot.ca.gov/programs/environmental-analysis/hazardous-waste)

Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM) —which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM10) and particles of 2.5 micrometers and smaller (PM2.5), Lead (Pb), and sulfur dioxide (SO2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

*Conformity*

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM10 and PM2.5), and in some areas (although not in California), sulfur dioxide (SO2). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[[4]](#footnote-4) that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

Guidance

Writing the Environmental Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Discuss the general climatic and meteorological conditions in the study area. Include prevailing winds, inland/coastal influences, prevalence of stagnant conditions or low inversions, geographic effects, etc. from the air quality technical report.
3. Document the air quality attainment and nonattainment status of the study area for all criteria pollutants, and document the status of the SIP and the state-level Air Quality Attainment Plan. The status should be documented in a table in most cases. SIP status information can be obtained from the U.S. EPA’s web page – [Status of SIP Requirements for Designated Areas](https://www.epa.gov/air-quality-implementation-plans/sip-status-reports). In designated nonattainment areas for the criteria pollutants, the [(U.S. EPA Green Book)](https://www.epa.gov/green-book%20%20%20%20) provides detailed information about area NAAQs designations, classifications and nonattainment/maintenance status. Attainment and nonattainment information for all national and state standards can be found at the [ARB’s Air Quality Standards and Area Designations web page](http://www.arb.ca.gov/desig/desig.htm) and mapping for the national standards is available at the [U.S. EPA’s Region 9 website](http://www.epa.gov/region09/air/). Status information should be available in the air quality technical report.
4. The [Air Pollution Standards Table](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#conformity), found on the Forms and Templates page of the SER, can be inserted into the environmental document to summarize air quality standards, the effects and typical sources of pollutants, and the attainment/nonattainment status of the project area. It may be most useful for areas that are nonattainment for a large number of pollutants, but could also be used to ensure that all applicable pollutants are identified. Summarizing this information in a table reduces the need for extensive narrative discussion of health effects and sources. Be sure to check and update the standards based on the current ARB [State and National Air Ambient Quality Standards](http://www.arb.ca.gov/research/aaqs/aaqs2.pdf) table for both the draft and final document as well as reevaluations; changes affecting the environmental document and/or conformity analysis can occur at any time.

**TABLE ##: STATE AND FEDERAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

**Insert the current “**[**Air Pollution Standards Table**](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#conformity)**” from the SER Forms and Templates page.**

Always check the ARB’s “[State and National Air Ambient Quality Standards](http://www.arb.ca.gov/research/aaqs/aaqs2.pdf)” table and the [U.S. EPA’s National Ambient Air Quality Standards web page](https://www.epa.gov/criteria-air-pollutants/naaqs-table) and update the information contained in the table used in the environmental document as needed before the circulation of the draft or final document and prior to the final NEPA decision.

Environmental Consequences

1. Regional Conformity

For federal or joint projects, the air quality analysis and technical report must show compliance with the FCAA and NEPA (see the [SER, Vol. 1, Chapter 11](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-11-air-quality) for general air quality information and [Vol. 1, Chapter 38](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-38-nepa-assignment) for NEPA Assignment requirements), and the environmental document must also include a regional and a project level conformity statement, unless the project is exempt. Note: Unless located in an attainment/unclassified area, most projects requiring an EIS or EA will not be fully exempt (see [40 CFR 93](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1LawFCAA), 126 and 128), and exemption from any more than regional analysis ([40 CFR 93](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1LawFCAA).127) is rare for projects processed with a Finding of No Significant Impact (FONSI). Exemption from conformity requirements (regional and/or project-level) generally indicates that the project has a neutral effect on air quality.

Unless exempt, the proposed project, in an area subject to conformity requirements, **must** be consistent with the design, concept, and scope of the project as described in the most recent RTP and FTIP. The “open-to-traffic” delivery date must be within the same conformity analysis time period that the project is listed in for the RTP and FTIP conformity analysis.

If the project is in an “isolated rural” nonattainment area – where there is no MPO in the nonattainment area – there will be no RTP and TIP conformity to which to refer. In this case for regionally significant projects, regional analysis must be done and documented for the project itself using procedures (including interagency consultation and public involvement) and criteria similar to those used by an MPO. See [40 CFR 93](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1LawFCAA).109(g) for more information.

**The final document must include FHWA’s Conformity Determination in Appendix G or in Chapter 4, “Comments and Coordination.”**

**Use the flow chart on the following page to determine which regional conformity language to put in your document.**

Is the project exempt from conformity? 40 CFR 93.126 or is it signal synchronization 40 CFR 93.128

Briefly state in the document that the project is exempt per 40 CFR 93.126 or 93.128 and why it is exempt. Describe the specific category used in 40 CFR 93.126, and any interagency consultation done.

Is the project exempt from regional conformity requirements? 40 CFR 93.127

Insert the following text in the ED:

This project is exempt from regional (40 CFR 93.127) conformity requirements. Separate listing of the project in the Regional Transportation Plan and Transportation Improvement Program, and their regional conformity analyses, is not necessary. The project will not interfere with timely implementation of Transportation Control Measures identified in the applicable SIP and regional conformity analysis.

Is the project in an area that has a Metropolitan Planning Organization (MPO)?

Insert the following text in ED:

The proposed project is listed in the [insert title and year] financially constrained Regional Transportation Plan [include amendment number if applicable] which was found to conform by [insert Metropolitan Planning Organization (MPO) or Regional Transportation Planning Agency (RTPA)] on [date], and FHWA and FTA made a regional conformity determination finding on [date]. The project is also included in [insert MPO or RTPA] financially constrained [year] Regional Transportation Improvement Program [include amendment number if applicable], pages [#]. The [insert MPO or RTPA and year] Regional Transportation Improvement Program was determined to conform by FHWA and FTA on [date]. The design concept and scope of the proposed project is consistent with the project description in the [year] RTP, [year] RTIP, and the “open to traffic assumptions of the [MPO’S or RTPA’S] regional emissions analysis.

Insert the following text in the ED:

A regional conformity analysis covering the [insert name of nonattainment area] for [identify pollutant(s) – ozone, PM2.5, and PM10 are the only pollutants in these areas in California as of 1/2018] was carried out that includes this project, and all reasonably foreseeable and financially constrained regionally significant projects for at least 20 years from the date that the analysis was started. The analysis used the latest planning assumptions, and the most recent emission models and appropriate analysis methods, as determined by Interagency Consultation on [date of meeting]. Based on this analysis, the region will be in conformity with the SIP, including this project, based on the [emission budget, project/no project, and/or project/baseline] conformity test(s) and analysis procedures, as described in 40 CFR 93.109(l) [or the most recent section number]. The design concept and scope of the proposed project is consistent with the project design concept and scope used in the regional conformity analysis. Transportation Control Measures Timely Implementation evaluation was reviewed and concurred with by Interagency Consultation on [date of meeting].

**Yes**

**Yes**

**Yes**

**Yes**

**No**

**No**

**No**

Is the project in an area that is subject to conformity?

If area is [non-attainment](https://www3.epa.gov/airquality/greenbook/anayo_ca.html) or maintenance for—ozone, CO, NO2, PM 2.5, PM 10, then conformity applies.

Insert the following text into the ED:

The project is located in an attainment/unclassified area for all current National Ambient Air Quality Standards (NAAQS). Therefore, transportation conformity requirements do not apply.

**No**

1. Project Level Conformity
2. On June 1, 2018, Transportation Conformity requirements under CCAA section 176 (c)(5) for specified CO maintenance areas (Refer to: EPA’s CO Maintenance Letter) ended. This date marks 20 years after the effective date U.S. EPA’s approval of the first 10-year maintenance plan and re-designation of areas from maintenance to attainment/unclassified for the CO (NAAQS). Under 40 CFR 93.102(b)(4) of the U.S. EPA’s regulations, transportation conformity applies to maintenance areas through the 20-year maintenance planning period, unless the maintenance plan specifies that the transportation conformity requirements apply for a longer time period. Pursuant to CCAA’s section 176(c)(5) and as explained in the preamble of the 1993 final rule, conformity applies to areas that are designated nonattainment or are subject to a maintenance plan approved under CCAA section 175A.
3. If a project does not meet the June 1, 2018, Transportation Conformity requirements and is located in a nonattainment or maintenance area for carbon monoxide (CO) and/or particulate matter (PM2.5 and/or PM10), then additional hot-spot analysis and possible emission reduction measures for that pollutant may be required. Refer to the [CO Protocol](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-11-air-quality) and the [U.S. EPA PM Hot-Spot Analysis Guidance](https://www.epa.gov/state-and-local-transportation/project-level-conformity-and-hot-spot-analyses) documents for full details of hot-spot data and analysis needs; the following is only a summary.
4. Include a map and table showing the project alternatives and receptor sites or grids used for any quantitative CO or PM hot-spot analysis. Qualitative analysis may consider land uses rather than specific receptors; if that is done include a map showing the sensitive land uses considered in relation to the project. Also show (this may be on a separate map) the location of the monitoring stations used to establish background pollutant concentrations.
5. For each “non-attainment” or “maintenance” pollutant, the environmental document must summarize the following information from the air quality technical report:
6. Briefly describe the analysis process. For both CO and PM, there is first a screening process and then a detailed analysis process.
7. State any assumptions made for the purposes of doing the analysis.
8. Provide results of the screening process, or of the detailed analysis with a comparison of the impacts and the proposed avoidance, minimization, and/or mitigation measures for each alternative.
9. State conclusions on whether the project will cause (or, in a nonattainment area, worsen) any violations.

Note: Analysis for CO is based on the Caltrans/University of California, Davis CO Protocol, which includes both a screening procedure and a quantitative analysis method. Analysis for PM10 and PM2.5 is governed by the U.S. EPA Hot-Spot Analysis Guidance. The hot-spot analysis requirements in the conformity process for both pollutants are outlined in 40 CFR 93.116 and 40 CFR 93.123. Details of the technical analysis, interagency consultation if required (for PM10 and PM2.5), and public notice must be documented in an Air Quality Conformity Analysis that supports this summary. [Example conformity language](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#conformity) required in certain public notices under NEPA can be found in on the SER Forms and Templates page.

NOTE: Please see the Construction Conformity section below for construction conformity considerations.

For the final environmental document, include the date of the FHWA Conformity Determination and direct the reader to the letter, which must be included in Chapter 4 “Comments and Coordination” or as an appendix.

1. Additional Environmental Analysis
2. CEQA and NEPA Studies: Environmental documents need to consider more than just conformity analysis. The primary factors for determining whether a project has substantial air quality impacts under NEPA are the NAAQS. State standards, however, are important when determining impacts under CEQA. Long-term (operational) environmental analysis should include regional (indirect or cumulative) pollutant analysis (for ozone, especially); this may be based on the regional conformity analysis, if available, or a separate regional analysis if conformity requirements do not apply for ozone in a particular area. Comparative criteria pollutant emissions analyses are recommended in all areas, not just nonattainment/maintenance areas, to ensure for NEPA and CEQA purposes that the project would not create a violation that could put the area into nonattainment.
3. Naturally occurring asbestos (NOA) and structural asbestos. If the project is in a known or suspected asbestos area, document the geologic or structural asbestos assessment and disclose measures for dealing with the material. Also document coordination with the local air district or the ARB and disclose any required permits or approvals. Cross-reference the Hazardous Waste/Materials discussion as appropriate. If the project is in an area where NOA is known not to be an issue, state this, and explain why it is not a concern. For more information please see the U.S. EPA’s "National Emission Standards for Hazardous Air Pollutants" (NESHAP) regulations for asbestos ([40 CFR 61](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1LawFCAA) Subpart M), and the [ARB’s NOA regulations](http://www.arb.ca.gov/toxics/asbestos/reginfo.htm).
4. Lead (Pb) is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead (ADL), or painting or modification of structures with lead-based coatings. In these cases, construction impact analysis should describe monitoring and mitigation requirements of the Department’s Standard Specifications and Standard Special Provisions for aerially deposited lead or for lead paint removal and sandblasting. Also disclose local and air district rules that may apply to sandblasting and other activities related to lead paint removal or disturbance.
5. Mobile Source Air Toxics (MSATs). CEQA and NEPA analysis may also need to consider MSATs and other specific health-related issues. The U.S. EPA has assessed an expansive list in their latest rule on the Control of Hazardous Air Pollutants from mobile sources and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS). In addition, U.S. EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA). For projects warranting MSAT analysis, these 9 priority [MSATs](https://www.epa.gov/urban-air-toxics/urban-air-toxic-pollutants) (Diesel PM, 1,3 Butadiene, Benzene, Formaldehyde, Acrolein(2-propenal), Naphthalene, Acetaldehyde, Ethylbenzene, and Polycyclic Organic Matter) should be considered. While FHWA considers these the priority MSATs, the list is subject to change and may be adjusted in consideration of future U.S. EPA rules. For guidance on how to address mobile source air toxics in an environmental document, please refer to the [*Updated FHWA Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*](https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/)(October 18, 2016).

Clearly state which FHWA MSAT category listed below relates to the proposed project. Provide a description of the project category.

* 1. Projects with No Meaningful Potential MSAT Effects, or Exempt Projects
	2. Projects with Low Potential MSAT Effects
	3. Projects with Higher Potential MSAT Effects

The following is sample text that can be used to indicate the project category:

According to the FHWA’s Interim Guidance this project is classified as a category 2 project (Projects with Low Potential MSAT Effects). This project is expected to meet this category for the following reasons:

Following is the MSAT chart for guidance.

**Analyzing Mobile Source Air Toxics (MSAT) in the NEPA Process for Highways**

California's vehicle emissions control and fuel standards are more stringent than federal standards, and are effective sooner, so the effect on air toxics of combined state and federal regulations is expected to result in greater emission reductions, more quickly, than the FHWA analysis shows. The FHWA analysis, with modifications related to use of the California-specific EMFAC model rather than the MOBILE model, would be conservative.

Appendices and other references marked with an asterisk (\*) are from FHWA’s [Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA.](https://www.fhwa.dot.gov/environMent/air_quality/air_toxics/policy_and_guidance/msat/)

MSAT analysis may differ for CEQA.

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic, and the associated changes in MSATs for the project alternatives, based on \*VMT, vehicle mix, and speed. \*Appendix B includes prototype language for a qualitative assessment. It would also discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by the U.S. EPA. In addition, quantitative emissions analysis of these types of projects will not yield credible results that are useful to project-level decision-making due to the limited capabilities of the transportation and emissions forecasting tools. In addition to the qualitative assessment, a NEPA document for this category of projects must include a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts, in compliance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information. This discussion would explain how air toxics analysis is an emerging field and current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts that would result from a transportation project in a way that would be useful to decision-makers. Also in compliance with 40 CFR 1502.22(b), it should contain a summary of current studies regarding the health impacts of MSATs. Prototype language for this discussion is contained in \*Appendix C.

California does not use the U.S. EPA’s MOBILE 6 or MOVES emissions models, but instead uses the latest version of the EMFAC model issued by the California Air Resources Board. Use of EMFAC for MSAT analysis requires “off-model” application of air toxic speciation factors and other information, or use of tools like CT-EMFAC (maintained by Caltrans).

Does the project produce no meaningful potential MSAT effects?

No MSAT analysis is required, regardless of the class of NEPA environmental document. However the project record should document the basis for the determination of "no meaningful potential impacts" with a brief description of the factors considered. Prototype language that could be included in the record is found in \*Appendix A of the FHWA Interim MSAT Guidance.

**Projects with Low Potential MSAT Effects**

These projects serve to improve operations of highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions or exposure to MSAT emissions of sensitive populations or land uses.

**Yes**

**No**

**No**

**Yes**

**Projects with Higher Potential MSAT Effects**

Does your project create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, or does your project create new or add significant capacity to urban highways, such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be 140,000-150,000 in any analysis year through the design year, and also proposed to be located in proximity to populated areas or in rural areas, in proximity to concentrations of vulnerable populations?

The California Air Resources Board "[Air Quality and Land Use Handbook](https://www.arb.ca.gov/ch/landuse.htm)" identifies the following land uses as particularly sensitive to MSATs: residential areas, schools, hospitals and other health care facilities, day care and other child care facilities, and parks and playgrounds).

You should contact your HQ Environmental Coordinator for assistance in developing a specific approach for assessing impacts.

This approach would include a quantitative analysis that would attempt to measure the level of emissions for the U.S. EPA’s priority MSATs for each alternative, to use as a basis of comparison. This analysis also may address the potential for cumulative impacts, where appropriate, based on local conditions. How and when cumulative impacts should be considered would be addressed as part of the assistance outlined above.

(\*Note that the organic-based MSATs listed by the U.S. EPA are also listed as toxic air contaminants by the California Air Resources Board. The particulate matter fraction of diesel exhaust (Diesel PM) has also been identified by the California Air Resources Board as a toxic air contaminant).

The NEPA document for this project would also include relevant prototype language on unavailable information included in \*Appendix C.

California does not use the U.S. EPA’s MOBILE 6 or MOVES emission models, but instead uses the EMFAC model issued by the California Air Resources Board. Use of EMFAC for MSAT analysis requires “off-model” application of air toxic speciation factors and other information, or use of tools like [CT-EMFAC](http://www.dot.ca.gov/hq/env/air/pages/ctemfac_license.htm) (maintained by Caltrans).

If the analysis for a project in this category indicates meaningful differences in levels of MSAT emissions, mitigation options should be identified and considered. See \*Appendix E for information on mitigation strategies.

Does your project not fall within any of these categories, but you think it has the potential to substantially increase future MSAT emissions?

Contact your HQ Environmental Coordinator for assistance in developing a specific approach for assessing impacts. Although not required, projects with high potential for litigation on air toxics issues may also benefit from a more rigorous quantitative analysis to enhance their defensibility in court.

**No**

**Yes**

**Yes**

1. Construction (Short-term) Impacts

If construction impacts are discussed under each resource heading instead of in a separate section, then temporary air quality impacts from construction activities need to be discussed here. While construction emissions need not be considered in conformity analysis where construction will last for less than five years, they may need to be considered for a wider variety of projects and shorter construction periods for both NEPA and CEQA.

The primary construction emission impacts will usually be associated with dust and equipment exhaust emissions. The Department’s Standard Specifications (Section 14) require compliance by the contractor with all applicable air quality laws and regulations, and also include a fugitive dust control specification. Watering and general dust control efforts will be adequate to meet typical “nuisance” and “visible emissions” rules. In the [San Joaquin Valley](http://www.valleyair.org/rules/1ruleslist.htm#reg8), [South Coast Air Basin, Coachella Valley](http://www.aqmd.gov/rules/rulesreg.html), [Imperial County](http://www.co.imperial.ca.us/AirPollution/), and some other areas, more specific rules that require certain procedures and recordkeeping practices are in place. In those areas, the rules should be reviewed and discussed in the environmental document as applicable.

If construction will last more than three years and/or will substantially impact traffic due to detours, road closures, and temporary terminations, then impacts of the resulting traffic flow changes may need to be analyzed. For NEPA analyses, analysts should compare emissions from the future year build scenario to those from the future year no-build scenario. If construction will last more than three years and/or will substantially impact traffic due to detours, road closures, and temporary terminations, then impacts of the resulting traffic flow changes may need to be analyzed. For CEQA analyses, analysts should compare emissions from the future year build scenarios to emissions from the Baseline (existing conditions). The difference between future no-build and build may help inform significance determinations, which will be made by the PDT.

***For NEPA compliance and for projects on the SHS, use of locally adopted CEQA thresholds of significance for construction emissions IS NOT MANDATORY.* Local air district CEQA guidelines may be used as guidance for scoping air quality studies. For more information, consult with the HQ Environmental Coordinator.**

Applicable laws and regulations in effect at the time the environmental document is prepared should be identified in the air quality technical study and environmental document. Some typical measures that may be related to local air district and other regulations are included in the sample text below. Other examples include truck idling limitations (ARB statewide rules limiting truck idling to five minutes, and possibly less near schools and in some areas that have local ordinances), ARB’s portable equipment regulations, and applicable public and private fleet regulations (such as South Coast Air Quality Management District’s and ARB’s requirements for diesel-powered sweepers and other public fleet vehicles, and ARB’s off-road mobile equipment fleet rules).

If an air district permit is likely to be needed for some part of the work, or for the use of certain types of equipment that appear likely to be used (such as crushers or batch plants installed at the project site, or portable equipment like generators that will be used for more than six months at one location), the need for a permit should be documented. If an air district permit is needed, use of local air district CEQA Guidelines may be considered (though it is ***not mandatory***) to minimize effort by the contractor and reduce the potential for delay when the permit must be obtained.

The following is sample text that shows a qualitative assessment of construction emissions:

*Environmental Consequences*

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs), directly-emitted particulate matter (PM10 and PM2.5), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM10, PM2.5, and small amounts of CO, SO2, NOx, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the United States Environmental Protection Agency (U.S. EPA) to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. The Department’s Standard Specifications (Section 14) on dust minimization require use of water or dust palliative compounds and will reduce potential fugitive dust emissions during construction.

In addition to dust-related PM10 emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO2, NOx, VOCs and some soot particulate (PM10 and PM2.5) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site. [Consider specifying areas within 500 feet of ARB-defined sensitive land uses as no-idle areas where material storage/transfer and equipment maintenance activities are not to occur. If this is done, mention it here as a control measure for equipment emissions related to diesel exhaust.]

SO2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 ppm sulfur), so SO2-related issues due to diesel exhaust will be minimal.

Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site(s). Such odors would quickly disperse to below detectable levels as distance from the site(s) increases.

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following standardized measures, some of which may also be required for other purposes such as storm water pollution control, will reduce any air quality impacts resulting from construction activities:

* The construction contractor must comply with the Department’s Standard Specifications in Section 14.
* Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
* Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.
* Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a “no visible dust” criterion either at the point of emissions or at the right-of-way line, depending on local regulations.
* Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.
* Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
* Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114.
1. A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
* Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.
* ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.
* Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.
* All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.
* Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.
* To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
* Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. [Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.]

Construction Conformity

Discuss whether or not construction will last for more than 5 years at one location. If not, state:

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

If construction will last for more than 5 years, include construction emissions in the conformity hot spot analysis above, verify that they are included in the regional conformity analysis, and state:

Construction activities will last for more than 5 years. Construction-related emissions have been included in any hot spot analysis performed for conformity purposes, and have been included in the regional conformity analysis (40 CFR 93.123(c)(5)).

Avoidance, Minimization, and/or Mitigation Measures

List any avoidance, minimization, and/or mitigation measures here.

Climate Change

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.  FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

Noise (and Vibration, if applicable)

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

|  |
| --- |
| **Table ##: Noise Abatement Criteria** |
| **Activity Category** | **NAC, Hourly A- Weighted Noise Level,** **Leq(h)** | **Description of activity category** |
| A | 57 (Exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B1 | 67 (Exterior) | Residential. |
| C1 | 67 (Exterior) | Active sport areas, amphitheaters, auditoriums,campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. |
| D | 52 (Interior) | Auditoriums, day care centers, hospitals, libraries,medical facilities, places of worship, public meetingrooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios. |
| E | 72 (Exterior) | Hotels, motels, offices, restaurants/bars, and otherdeveloped lands, properties, or activities not included in A–D or F. |
| F | No NAC—reporting only | Agriculture, airports, bus yards, emergency services,industrial, logging, maintenance facilities,manufacturing, mining, rail yards, retail facilities,shipyards, utilities (water resources, water treatment,electrical, etc.), and warehousing. |
| G | No NAC—reporting only | Undeveloped lands that are not permitted. |
| 1 Includes undeveloped lands permitted for this activity category. |

[Insert figure number] lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.



Figure ##: Noise Levels of Common Activities

According to the Department’s *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department’s *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible.  Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

GUIDANCE

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s). This includes the Noise Study Report and the Noise Abatement Decision Report.
2. Summarize the information in the Noise Study Report and the Noise Abatement Decision Report, identifying land uses and sensitive noise receptors, particularly areas of frequent human use that would benefit from reduced noise levels.
3. Include a map showing the locations of receptors and proposed barrier locations.

Environmental Consequences

1. Identify whether the project is a Type 1 project.
2. Identify whether the project will result in noise impacts that require the consideration of noise abatement. Document the following information:
3. Measure and model existing noise levels at receptors during worst traffic noise hour.
4. Model future noise levels for each alternative and the no-build using traffic from the design year, typically 20 years from the project opening date.
5. If there is a substantial increase (12 dBA) in noise with the project and/**or** if the noise approaches (within 1 dBA) or exceeds the NAC, then there is a noise impact that requires consideration of noise abatement. Include a table summarizing the results of the noise impact analysis for the project. A sample table is provided below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Receptor # and Location | Existing Noise Level (dBA) | Predicted Noise Level without Project (dBA) | Predicted Noise Level with Project (dBA) | Noise Impact Requiring Abatement Consideration | Predicted Noise Level with Abatement (dBA) | Reasonable and Feasible |
| 6-foot Wall | 9-foot Wall | 12-foot Wall |
| 1—A Street | 62 | 64 | 79 | Yes | 74 | 64 | 66 | Yes |

Avoidance, Minimization, and/or Abatement Measures

1. Consider noise abatement (include barriers of different heights and types). Determine and discuss whether proposed abatement is reasonable and feasible. Refer to the Noise Abatement Decision Report ([NADR](https://dot.ca.gov/programs/environmental-analysis/noise-vibration)) during the environmental process to document the following:
2. Acoustic feasibility of noise abatement.
3. Locations and dimensions of evaluated noise barriers.
4. Noise abatement reasonableness allowances.
5. Engineering estimates for acoustically feasible noise abatement.
6. Other construction considerations related to noise barriers—i.e., known utilities, etc.

Sample text:

Receptor 1 represents 10 homes located on A Street in the City of Alphabet. Measurements taken at Receptor 1 show that the existing noise level at that location is 62 dBA. The future noise level at Receptor 1 with the project is predicted to be 80 dBA. Because the predicted future noise level exceeds the Noise Abatement Criteria (NAC) for residential uses (67dBA), the 10 homes represented by Receptor 1 would be exposed to traffic noise impacts. To achieve a 5 dBA reduction at one or more receptors, a 6-foot high noise wall would be needed. An 8-foot wall would be needed to achieve the design goal of 7 dBA. If the total cost of the wall at this location is less than the total cost allowance, then the wall is considered reasonable from a cost perspective and would likely be incorporated into the project. The total cost allowance, calculated as directed by the Department’s Traffic Noise Analysis Protocol, is $175,000. The current estimated cost of the wall is $\_\_\_\_.

Where noise abatement may be included in the project, include the following statement:

Include this statement in the draft ED

Based on the studies completed to date, the Department intends to incorporate noise abatement in the form of (a) barrier(s) at: [\_\_\_\_\_\_\_\_\_\_\_\_], with respective lengths and average heights of [\_\_\_\_\_\_\_\_\_\_\_\_]. Calculations based on preliminary design data show that the barrier(s) will reduce noise levels by 5 to [\_\_] dBA for [\_\_\_\_] residences at a cost of [\_\_\_\_\_\_\_\_]. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

Include this statement in the final ED

Based on the studies completed to date and input from the public, the Department intends to incorporate noise abatement in the form of (a) barrier(s) at: [\_\_\_\_\_\_\_\_\_\_\_\_], with respective lengths and average heights of [\_\_\_\_\_\_\_\_\_\_\_\_]. Calculations based on preliminary design data show that the barrier(s) will reduce noise levels by 5 to [\_\_] dBA for [\_\_\_\_] residences at a cost of [\_\_\_\_\_\_\_\_]. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

1. **Include a map** showing receptors and proposed wall/berm locations.
2. **Do not use the words “mitigate” or “mitigation.”** For NEPA, use the terms “abate” or “abatement” or “attenuate” or “attenuation” in the Noise section of environmental documents. If mitigation for noise is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3. See [Special Note about Noise](#Special_Note_Noise) for guidance. Do not discuss the CEQA conclusions in this section.

Additional Guidance

* [23 CFR 772](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1NoiseAct1972)
* For more guidance on noise, please see the [SER, Vol. 1, Chapter 12, “Noise.”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-12-noise)
* For detailed information on noise analysis, see the Department’s [*Traffic Noise Analysis Protocol May 2011*](https://dot.ca.gov/programs/environmental-analysis/noise-vibration) and the [*Technical Noise Supplement*](https://dot.ca.gov/programs/environmental-analysis/noise-vibration).
* [*Highway Traffic Noise: Analysis and Abatement Guidance*](http://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/), U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch, Washington, D.C., December 2011, Document Number FHWA-HEP-10-025.

Energy

Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project’s energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

**GUIDANCE**

**Writing the Document**

An energy technical study will only be required under NEPA when an EIS is prepared and the project is a large-scale project with potentially substantial energy impacts. However, if an energy technical study has been prepared to comply with CEQA, the results of that study can be included in the document prepared for NEPA. An Environmental Impact Report (EIR) must include an analysis of energy use and must provide mitigation for significant effects if the project has the potential for a significant effect related to energy (CEQA Guidelines Section 21100(b)(3)). An energy analysis can be quantitative, qualitative, or both. An Initial Study however, must examine energy impacts in order to determine if a potentially significant impact may occur that requires the preparation of EIR.

Transportation energy is generally described in terms of direct and indirect energy, defined as follows:

**Direct Energy:** In the context of transportation**,** direct energy involves all energy consumed by vehicle propulsion (e.g., automobiles, trains, airplanes). This energy consumption is a function of traffic characteristics such as vehicle miles traveled (VMT) (volume X distance traveled), speed, vehicle mix, and thermal value of the fuel being used. Some projects may also include features such as new or replacement roadway lighting or other features requiring electricity which is an ongoing and permanent source of direct energy consumption. The one-time energy expenditure involved in constructing a project is also considered direct energy.

**Indirect energy** includes maintenance activities which would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway.

Project-level analyses of energy and GHG emissions use similar data to derive project emissions or energy consumption. However, energy and GHG emissions are distinct resource areas accounting for different types of environmental impacts. Energy in a resource context generally pertains to the use or conservation of fossil fuels, which are a finite resource, while GHG studies describe the potential of a project to contribute to climate change. Because each of these resource areas address different environmental concerns, both are studied in evaluation of overall environmental effects.

Affected Environment

This section should include a description of existing conditions in the project area that affect energy usage. For example, what are the existing traffic conditions? What mix of vehicles is currently using the facility (particularly if the project is expected to substantially change the vehicle mix)? Are there existing traffic management system (TMS) elements in place? What is the condition of the existing pavement surface? A poor driving surface can contribute to an increase in fuel consumption. Is there existing highway lighting and what type is it? Cross-reference the Traffic and Transportation and/or Air Quality sections of the document, as applicable.

Environmental Consequences

The analysis should include the project’s direct energy use during construction and long-term use of the facility, as well as indirect energy usage in terms of ongoing maintenance. This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project—a full “lifecycle” analysis that would account for energy used in building materials and consumer products will generally not be required.

This section should also include any energy-saving or conservation measures specifically incorporated into the design of the project. This could include reduction in grades and curvatures, and use of renewable energy sources in construction and operation of the project. Other examples might include the use of recycled materials, LED lighting[[5]](#footnote-5), solar power, or the installation of TMS elements.

**Capacity-Increasing Projects:** A quantitative analysis will generally be required for the following types of projects.

Capacity-increasing projects. Examples would include:

* New Roadway or Facility: Bypass, new or extended highway, new interchange
* Additional Lanes: HOV lanes, general purpose/mixed flow lanes, managed, express, or toll lanes
* Interchange Reconfiguration: ramp widening or increased through lanes on bridges
* Auxiliary lanes more than one mile in length

Capacity-increasing projects affect the capability of a roadway facility to address existing and future traffic demand. This results in changes to direct energy consumption (i.e., fuel usage) from vehicles using the facility.

A quantitative energy analysis for capacity-increasing project should consider direct but temporary fuel usage during construction as well as the direct operational fuel consumption (i.e., vehicles using the facility). Electricity usage can generally be discussed qualitatively, as can the energy requirements of long-term maintenance of the facility.

**Direct Energy (Mobile Sources):** The basic procedure for analyzing direct energy consumption from mobile sources is to calculate fuel consumption using CT-EMFAC2017. CT‐EMFAC2017 is an emission model developed by Caltrans that calculates project-level emissions and fuel consumption using data from the California Air Resources Board’s EMFAC model. The fuel consumption can be easily derived from the CT-EMFAC model run prepared for the criteria pollutant and GHG emissions analyses[[6]](#footnote-6).

**Direct Energy (Construction):** The basic procedure for analyzing direct energy consumption from construction activities is to obtain fuel consumption projections in gallons from the Caltrans Construction Emission Tool (CAL-CET). CAL-CET outputs both emissions and fuel consumption based on project-specific construction information. If CAL-CET-derived fuel consumption data is not available, fuel consumption converted from CO2 emissions generated by diesel and gasoline powered equipment may be estimated. These CO2 emissions can be obtained from the AQR or GHG analysis, where they have been quantified using any of the following models: the Sacramento Metropolitan Air Quality Management District’s (SMAQMD) Road Construction Emissions Model (RCEM), the FHWA Infrastructure Carbon Estimate (ICE), or the CalEEMod emissions model.

Example Table:

**Annual VMT, Vehicle Percentages, and Operational Fuel Consumption****[[7]](#footnote-7)**

|  |  |  |  |
| --- | --- | --- | --- |
| Analysis Year | Annual VMT | Vehicle Percentages | Annual Fuel Consumption (gallons) |
| Diesel | Gasoline |
| Existing (2016) | 74,572,790 | Regional default | 830,792 | 3,183,834 |
| Opening (2020) No Project | 127,114,720 | Regional default | 1,433,971 | 4,774,399 |
| Opening (2020) Alt. A | 126,444,580 | Regional default | 1,426,412 | 4,749,229 |
| Opening (2020) Alt. B | 126,158,780 | Regional default | 1,423,188 | 4,738,494 |
| Design (2040) No Project | 216,121,790 | Regional default | 2,299,608 | 5,183,095 |
| Design (2040) Alt. A | 218,693,950 | Regional default | 2,326,976 | 5,244,781 |
| Design (2040) Alt. B | 220,996,730 | Regional default | 2,351,479 | 5,300,007 |

Note: If truck and non-truck percentages are not available, energy consumption can be estimated based on the “regional default” percentages for the area obtained from EMFAC or CT-EMFAC.

Example Table:

**Annual Construction Fuel Consumption**

|  |  |
| --- | --- |
| Construction year | Fuel Consumption (gallons) |
| Diesel Equipment | Gasoline Equipment |
| 2018 | 382,587 | 27,774 |
| 2019 | 256,277 | 21,866 |
| **Total** | **638,863** | **49,640** |

If your project requires a quantitative energy analysis, *please contact the Division of Environmental Analysis, Hazardous Waste, Air, Noise and Paleontology (HWANP) Office for further direction.*

**Non-Capacity-Increasing Projects:** For projects that require an IS but are not roadway capacity projects, a qualitative discussion of energy usage will normally suffice or a combination approach can be used. Energy consumption used during construction may still be calculated using any of the tools noted above, especially for projects that may have a particularly long construction period.

Many non-capacity increasing projects may contribute to roadway improvements that would reduce emissions. For example, a pavement project may result in smoother pavement surfaces, which would improve vehicle operations, reduce emissions, and reduce energy consumption. Transportation Management Systems (TMS) infrastructure including Intelligent Transportation Systems (ITS) components such as traffic signals, ramp meters, changeable message signs, and real-time traffic monitoring can improve traffic flow without increasing the capacity of the highway. If traffic data is available for a project incorporating TMS elements, direct energy consumption from mobile sources may also be assessed qualitatively across project alternatives. Traffic data could include average vehicle speed, vehicle delay, level-of-service, volume-to-capacity ratios, and idling time. A comparison between these factors could allow for an evaluation of relative fuel consumption levels between alternatives, depending on how efficiently vehicles would be able to travel through the system.

The effect of the speed of vehicles traveling through a roadway system may also be appropriate to consider in a qualitative analysis. In general, there is an optimum traveling speed that will entail vehicles to perform at a more efficient fuel economy. Projects that improve traffic flow during peak travel demand periods or reduce stop-and-go conditions would improve vehicles’ fuel economies, and thus affect project energy consumption.

Another important consideration is that for operation of a project over the long term, newer and more fuel-efficient vehicles will enter the fleet, resulting in an overall lower potential for an increase in energy consumption due to vehicle traffic. Additionally, projects that include elements that would reduce VMT, such as transit improvements or providing facilities for pedestrians and bicyclists, would generally offset some of a project’s potential energy usage. Projects that directly support the use of electric vehicles, such as the installation of charging stations, would also reduce energy usage.

**For All Projects:**

The Environmental Consequences section should specifically address whether the project may result in wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources.

The discussion of environmental consequences must also describe the applicable Regional Transportation Plan (RTP) and other planning documents to demonstrate that the project does not obstruct or conflict with a state or local plan for renewable energy or energy efficiency.

Many projects will result in energy savings. As noted above, projects that make roadway improvements or that smooth existing traffic flow may result in reduced energy consumption. Projects that reduce VMT or incorporate active transportation elements may also lower or partially offset energy consumption. Replacing older highway lighting with newer energy efficiency lighting can result in energy savings over the long term. Projects that substantially reduce out-of-direction travel can also lessen energy consumption. Indirect energy savings through reduced maintenance needs (roadway, culverts, etc.) should also be discussed.

The guidance in section 15126.2(b) and Appendix F of the CEQA Guidelines, Energy Conservation, should be considered. Note that there is a focus on energy efficiency, savings, and conservation in the CEQA guidance. This is a good place to demonstrate a project’s long-term potential for energy savings and to document conservation measures to be employed during the construction, operation, and maintenance phases.

The following are some sample conclusions that can be used as applicable:

* The proposed project does not add roadway capacity. It will improve the flow of traffic entering the highway due to the installation of ramp metering. As such, it is unlikely to increase direct energy consumption though increased fuel usage.
* The proposed project includes the installation of stormwater culverts that are designed to more efficiently channel overflow water during storm events, and is being implemented through the State Highway Operation and Protection Program (SHOPP). The selection process for SHOPP projects is specified in the Transportation Asset Management Plan (TAMP) created by Caltrans, in consultation with the California Transportation Commission (CTC), pursuant to Senate Bill 486. The TAMP assesses the health and condition of the state highway system with which Caltrans is able to determine the most effective way to apply state’s limited resources. The goals and objectives established in the TAMP for SHOPP includes conserving natural resources and reducing GHG and other pollutants. As the proposed project is a part of the SHOPP, it has been identified by Caltrans, and approved by the CTC, as necessary to preserve and protect the assets of the state highway system. It will not result in a wasteful, inefficient, or unnecessary consumption of energy.
* The added Bus/Carpool lanes proposed as Alternative A would affect traffic operations and increase vehicle capacity along SR 26 in the project area. Annual fuel consumption was estimated using CT-EMFAC. Although annual fuel consumption for Alternative A is higher than both existing conditions and the no-build scenario for the 2040 design year due to the increase in Vehicle Miles Traveled (VMT), the difference between Alternative A and the no-build in 2040 is only 61,686 gallons. The proposed project is expected to increase both carpooling as well as transit use. Overall, the project is expected to increase travel speed for carpools, vanpools, and express bus services, which in turn is expected to cause some level of mode shift to carpools or transit. As such the proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy.
* Proposed project construction would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As indicated above, energy use associated with proposed project construction is estimated to result in the short-term consumption of 638,863 gallons from diesel-powered equipment and 49,460 gallons from gasoline-powered equipment. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy. While construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials will be used where feasible. Recycled products typically have lower manufacturing and transport energy costs since they do not utilize raw materials, which must be mined and transported to a processing facility. The new pedestrian-scale lighting fixtures would also be designed to provide low-level lighting and minimize energy consumption. Specifically, the project would install high efficiency LEDs, which consume about 75 percent less electricity than typical incandescent bulbs (U.S. Department of Energy 2014b). These energy conservation features are consistent with State and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Avoidance, Minimization, and/or Mitigation Measures

Discuss any avoidance, minimization, and/or mitigation measures here. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Biological Environment

GUIDANCE

The Biological Environment section of the environmental document is divided into the following subsections:

* Natural Communities
* Wetlands and Other Waters
* Plant Species
* Animal Species
* Threatened and Endangered Species
* Invasive Species

Natural Communities

Writing the Document

This section of the environmental document focuses on the issues covered in Chapter 4 of the [Natural Environment Study (NES)](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#faqs).

Include this introductory boilerplate:

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The emphasis of the section should be on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors [include fish passage as appropriate] and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value. Include any regulations relevant to the natural communities discussed (i.e., Oak Woodland protection, California Fish and Game Code, etc.).

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section [##]. Wetlands and other waters are also discussed below [##]. Fish passage should be included under the Threatened and Endangered Species section if part of the federal consultation.

Affected Environment

* 1. List applicable technical report(s) along with completion date(s).
	2. Discuss habitat not listed as critical habitat under the Federal Endangered Species Act (FESA) or not discussed under the Wetlands and Other Waters section. Examples of habitat types that could be discussed here include grasslands, oak woodlands, riparian forest, riparian scrub, and maritime succulent scrub.
	3. Describe any special resource protection areas, as identified in a certified LCP, or if the project is located within 100 feet of a potential environmentally sensitive habitat area (ESHA) as defined by the Coastal Act. Discuss whether the habitat is especially valuable in terms of sustaining a special–status species, providing habitat connectivity, wildlife movement corridors, etc. Also note if the area could be easily disturbed or degraded by human activities and development.

Environmental Consequences

1. For each habitat type, discuss the potential direct and indirect impacts (and cumulative impacts if not discussed in a separate section). Discuss, as needed, habitat fragmentation, potential impacts to wildlife corridors and/or fish passage, potential impacts to the natural communities related to the distribution of this community in the region or statewide, and function of the community in terms of services it provides for water quality, habitat, breeding, etc.
2. This is a good place to reference any regional conservation plans, such as habitat conservation plans (HCP), multiple species conservation plans (MSCP), or coastal plans. Such plans are usually developed to lessen habitat loss and fragmentation and to maintain wildlife corridors.
3. The NES discusses issues such as migration routes, fish passage, wildlife corridors, concentrations of animal strikes on the roadway, and habitat fragmentation. Regulatory agencies are likely to raise concerns over these issues, so discuss them in the environmental document as applicable.
4. If the project is in the coastal zone and has the potential to affect ESHA, discuss potential impacts and consistency with applicable coastal policies and ordinances.
5. Discuss the relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences. Examples might include standard revegetation efforts performed by the Contractor (and not required as mitigation or as a permit condition), fish passage or wildlife crossings included as part of the project design, and the establishment of environmentally sensitive areas (ESAs).

Avoidance, Minimization, and/or Mitigation Measures

1. Discuss any proposed avoidance, minimization, and/or mitigation measures. Remember to state what the measure would do and why we are proposing it. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Additional Guidance

* [SER Vol. I, Chapter 14, “Biological Resources”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-14-biological-resources)
* [SER Vol I, Chapter 15, “Waters of the U.S. and State”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-15-waters-of-the-us-and-state)

Wetlands And Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with [U.S. EPA’s Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230)](https://www.epa.gov/cwa-404/section-404b1-guidelines-40-cfr-230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the [Water Quality section](#Water_Quality) for more details.

GUIDANCE

The information needed to write this section of the environmental document can be pulled from Chapters 4 and 5 of the NES and other technical documents, such as the Biological Assessment (BA) and the Wetland Delineation Report/Aquatic Resources Delineation. Reference these studies and their completion dates in the environmental document.

A Wetland Delineation Report/Aquatic Resources Delineation is prepared according to the [1987 Corps of Engineers Wetlands Delineation Manual](http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf) and the appropriate [Regional supplement](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx) to identify wetlands and waters under USACE jurisdiction for the purposes of compliance with Section 404 of the CWA, and/or Sections 9 and 10 of the Rivers and Harbors Act. The Wetland Delineation Report/Aquatic Resources Delineation is submitted to the USACE requesting verification. The USACE will make a jurisdictional determination (JD) based on the Wetland Delineation Report/Aquatic Resources Delineation. [USACE Regulatory Guidance Letter (RGL) 16-01 issued October 2016, which supersedes RGL 08-02](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx) explains the differences between approved JDs and preliminary JDs, and explains when an approved JD is required, and when a preliminary JD can be prepared instead. An approved JD should be used for projects that will require a Standard (Individual) Permit or are likely to be contested in court for issues related to the delineation. A preliminary JD may be used for all other projects. For projects that require an approved JD, a verified JD is required for the final environmental document. For all other projects, a verified JD is recommended, but not required, for the final environmental document. The final environmental document should document project coordination with the USACE. Note that per RGL 16-01, approved JDs are valid for five (5) years, subject to limited exceptions specified in [RGL 05-02](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx). See [SER, Vol. 1, Chapter 15, “Waters of the U.S. and the State,”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-15-waters-of-the-us-and-state) [SER, Vol. 3, Chapter 3, “Waters of the U.S. and the State,”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-3-waters-of-the-us-and-state) RGL 05-02, and RGL 05-05 for further information.

Within the coastal zone, California Code of Regulations Title 14 ([14 CCR Section 13577](https://govt.westlaw.com/calregs/Document/I2EA4E8D32D044C78BF258B4F0DA30B08?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))) establishes a “one parameter definition” that only requires evidence of a single parameter to establish wetland conditions.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s) and specify if the report is for an approved JD or preliminary JD, and the date of approval by the USACE.
2. Describe the study area for wetlands and other waters.
3. If there are no waters of the U.S. in the project area, clearly state that and provide information in the discussion that supports this conclusion.
4. If there are waters of the U.S. in the project area, the discussion should include the following:
5. Copies of letters from the USACE and other appropriate agencies related to the Purpose and Need statement and the alternatives that were evaluated in the environmental document (not required for wetlands assumed to be covered by nationwide permits).
6. A concise description, including exhibits depicting the waters of the U.S. in the project area relative to the alternatives under consideration, and the location(s) of any associated sensitive species habitat or special aquatic sites.
7. If there are waters of the state (including ground water and isolated water bodies); rivers, streams, or lakes; and/or coastal wetland resources, be sure to describe as well.
8. If the project has the potential to affect coastal wetlands, additional technical information necessary for this section may include jurisdictional wetland delineations conducted consistent with CCC guidelines. These should include a current (typically less than 2 years old), detailed, temporary and permanent project feature impact analysis. Wetland delineations are commonly required for any project located within 100 feet of a potential wetland resource, including isolated wetlands. Note that in many instances, wetland delineation criteria as identified in California Code of Regulations Section 13577(b) of Title 14, Division 5.5, Article 18 will differ from criteria utilized by other resource agencies (e.g., USACE) for identifying wetlands.

Environmental Consequences

1. The alternatives discussion and comparison are the key component of this section of the document. Refer reader to the discussion of alternatives considered but withdrawn in Chapter 1, which describes why alternatives were withdrawn and not carried forward for analysis in the environmental document.
2. Document wetland avoidance alternatives here and in the “Alternatives” section. If the avoidance alternatives are not practicable, justify in detail how the cost, performance, socioeconomic impacts, or other factors would make these alternatives impracticable.
3. Discuss how all practicable measures to minimize harm to the affected wetland have been included in the proposed alternative(s). If a given minimization measure is not practicable, justify in detail how the cost, performance, socioeconomic impacts, or other factors would make the measure impracticable.
4. For alternatives that would affect other waters and wetlands:
5. Include maps or other drawings that show the other waters/wetlands and quantify how the project or alternatives would affect them.
6. Describe the quality and functions of the affected other waters/wetlands and any associated habitats.
7. Include a quantitative assessment of the impacts and discuss how the project will affect the function and value of the other waters/wetlands.
8. Discuss the relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences such as the establishment of ESAs, standard erosion control measures, and the use of temporary wetland protection mats (when approved by the applicable regulatory agencies).
9. A table summarizing the impacts on wetlands and other waters of the U.S./state by drainage location and impact type (permanent, temporary, direct, indirect) should be included to aid reviewers. Distinguish impacts to USACE jurisdictional waters (wetlands and other waters of the U.S.) from impacts to SWRCB or RWQCB waters (waters of the state) from coastal wetland resources. Also include any impacts to rivers, streams, or lakes which may require a CDFW Lake or Streambed Alteration Agreement. Summarize this information for each alternative discussed in the document so comparisons can be readily made. A text discussion should also be provided.
10. For a final environmental document, identify the least environmentally damaging practicable alternative (LEDPA) and support its selection. Note: The LEDPA may not always be the “biologically preferred alternative.” In determining the LEDPA, other environmental impacts, such as socioeconomic impacts, may be taken into account.
11. Document agency coordination. Briefly list all waters and wetlands permits needed for the proposed project and describe coordination with the relevant resource agencies. Refer the reader to Chapter 4 for a more detailed discussion of coordination and copies of correspondence with the agencies. Chapter 5 of the NES should include a coordination summary.
12. Remember that public notice must be given if wetlands would be affected by the proposed project. See the Project Development and Procedures Manual, Appendix HH, for more information (<https://dot.ca.gov/programs/design/manual-project-development-procedures-manual-pdpm>).
13. If the project has the potential to affect coastal wetlands, discuss potential impacts and consistency with applicable coastal policies and ordinances.

Avoidance, Minimization, and/or Mitigation Measures

1. Include avoidance, minimization, and/or mitigation measures here. For alternatives that would affect wetlands and other waters, discuss compensatory measures, including location, functions, plants, cost estimates, and success criteria.
2. Remember to state what the measure would do and why we are proposing it. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.
3. Define which measures apply to each jurisdictional water (waters of the U.S. vs. waters of the state, etc.) to avoid providing duplicative protection or compensation measures.

Wetlands Only Practicable Alternative Finding

1. For a final environmental document, include the following information under a separate “Wetlands Only Practicable Alternative Finding” subheading if the preferred alternative will permanently impact wetlands:
2. A reference to EO 11990.
3. An explanation of why there are no practicable alternatives to the proposed action.
4. An explanation about the inclusion of all practicable measures to minimize harm to wetlands.
5. A concluding statement (see the sample text below):

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

Additional Guidance

* [SER, Vol. 3, Chapter 3, “Waters of the U.S. and the State”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources/ch-3-waters-of-the-us-and-state)
* [SER, Vol. 1, Chapter 15, “Waters of the U.S. and the State](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-15-waters-of-the-us-and-state)”
* [USACE Regulatory Guidance Letter (RGL) No. 16-01](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx) – Jurisdictional Determinations
* [USACE RGL No. 05-02](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx) – Expiration of Geographic Jurisdictional Determinations of Waters of the United States
* [USACE Regional Supplement to the Corps of Engineers Delineation Manual: Arid West Region (Version 2.0)](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx)
* [USACE Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0)](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx)
* [1987 Corps Wetlands Delineation Manual](http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf)
* [Revised Guidance on Clean Water Act Jurisdiction Following the Supreme Court Decision in Rapanos v. U.S. and Carabell v. U.S. – 2 December 2008](http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/RelatedResources/CWAGuidance.aspx)
* [Standard Operating Procedure for Determination of Mitigation Ratios](http://www.spd.usace.army.mil/Portals/13/docs/regulatory/qmsref/ratio/12501-SPD.pdf)
* [USACE RG L05-05 - Ordinary High Water Mark](http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Guidance-Letters/)
* [USACE South Pacific Division Mitigation and Monitoring Plan Guidance](http://www.spd.usace.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf)

Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section [##] in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

**GUIDANCE**

Chapter 4 of the Natural Environment Study (NES) should provide all the necessary information on plants species for the preparation of the environmental document, including affected environment, environmental consequences, and avoidance, minimization, and/or mitigation measures. When writing the environmental document, summarize the information and incorporate the NES by reference as needed.

This section of the document presents a broader view of special-status plant species than the more focused discussion found in the Threatened and Endangered Species section. In this section, describe the dominant plant species in the biological study area.

Keep in mind that some local governments, special districts, and other land-management agencies may identify certain species of plants as important, although they may not be protected by the CDFW or the USFWS. These plants should be discussed in this section along with avoidance, minimization, and/or mitigation measures proposed for impacts to these species.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s). Remember to discuss/describe species that occur or have the potential to occur in the project area and the studies done to determine their presence or absence.
2. Present each species individually. Describe the dominant plant species, followed by the lesser dominant species, in the biological study area.
3. Include a discussion of the habitat conditions that were found and the species that would be supported.
4. Describe any special resource protection areas, as identified in a certified LCP, or if the project is located within 100 feet of a potential ESHA as defined by the Coastal Act, and/or where special-status species potentially occur.

Environmental Consequences

1. Discuss and quantify the potential direct and indirect, permanent and temporary, impacts of each of the project alternatives on the plants identified in the Affected Environment section using the environmental consequences documented in the NES. These should be discussed in detail here as they pertain to federally protected plant species (i.e., U.S. Forest Service) other than those listed under FESA, which are discussed in the Threatened and Endangered Species section. If work is being done on federal land (e.g., BLM or USFS), then those agencies’ regulations, policies, and Habitat Conservation Plans are followed.
2. If the project has the potential to affect ESHA or special-status species, discuss potential impacts and consistency with applicable coastal policies and ordinances.
3. Be certain that this discussion incorporates any relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences. Examples might include standard revegetation efforts performed by the Contractor (and not required as mitigation or as a permit condition), pre-construction surveys, standard erosion control measures, and the establishment of environmentally sensitive areas (ESAs).

Avoidance, Minimization, and/or Mitigation Measures

1. Identify applicable proposed avoidance, minimization, and/or mitigation measures as documented in the NES to address impacts on species identified in the Environmental Consequences section. Remember to state what the measure would do and why we are proposing it.

Potential measures can include but are not limited to:

1. Purchasing conservation easements.
2. Purchasing credits from established mitigation banks.
3. Mitigating directly on-site.

If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section [##] below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

* National Environmental Policy Act
* Migratory Bird Treaty Act
* Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

* California Environmental Quality Act
* Sections 1600 – 1603 of the California Fish and Game Code
* Sections 4150 and 4152 of the California Fish and Game Code

Include and discuss, as applicable, other federal and state laws such as the Marine Mammal Protection Act. In addition to federal and state laws regulating impacts to wildlife, there are often local regulations (county or city) that should be considered when developing projects. If work is being done on federal land (e.g., BLM or USFS), then those agencies’ regulations, policies, and Habitat Conservation Plans are followed.

GUIDANCE

Chapters 3 and 4 of the NES should provide all the necessary information on federally protected animal species for the preparation of the IS/EA, including affected environment, environmental consequences, and avoidance, minimization, and/or mitigation measures. When writing the environmental document, summarize the information on federally protected species and incorporate the NES by reference as needed.

This section presents a broader view of special-status animal species than the more focused discussion found in the Threatened and Endangered Species section.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Discuss the special status of each species included in this section. Describe any special resource protection areas, as identified in a certified LCP, or if the project is located within 100 feet of a potential ESHA as defined by the Coastal Act.
3. Discuss the common animal species that are described in Chapter 3 of the NES.
4. Discuss any survey results that will inform the Environmental Consequences section; quantify or use visuals where possible.

Environmental Consequences

1. Discuss the potential impacts to each species included in this section. Be certain that this discussion incorporates any relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences. Examples might include standard revegetation efforts performed by the Contractor (and not required as mitigation or as a permit condition), pre-construction surveys, bird protection measures, fish protection measures, and the establishment of environmentally sensitive areas (ESAs).
2. Where applicable, differentiate between temporary and permanent impacts and between alternatives.
3. Discuss possible effects to species covered by the Migratory Bird Treaty Act.
4. If the project has the potential to affect ESHA or special-status species, discuss potential impacts and consistency with applicable coastal policies and ordinances.

Avoidance, Minimization, and/or Mitigation Measures

1. Describe the proposed avoidance, minimization, and/or mitigation measures for each impact and each alternative. Highlight the important avoidance, minimization, and/or mitigation efforts taken by the PDT. Remember to state what the measure would do and why we are proposing it.

 Potential measures can include but are not limited to:

1. Purchasing conservation easements.
2. Purchasing credits from established mitigation banks.
3. Mitigating directly on-site.

If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

GUIDANCE

Threatened or endangered (T & E) species are species of plants and animals that are formally listed as endangered under FESA or CESA. The Department is required to determine if the proposed projects will involve—and possibly affect—proposed or listed species and/or their critical habitat.

As noted above, federally protected special-status animals are provided varying levels of regulatory protection. If a species is listed or proposed for listing, formal consultation must be initiated with the USFWS and/or NOAA Fisheries. Informal consultation should be conducted when animals are considered USFWS candidate species. Informal consultation is especially important because non-listed species can sometimes become listed as a project is being planned, designed, or constructed, and the regulatory agencies may impose new requirements on the project.

This section on T & E species should be focused on only FESA and CESA issues. A more general discussion of special-status species should be included in the Animal and Plant sections above.

Consult with the project biologist throughout the documentation and consultation processes. Together, develop and outline a tentative schedule of the processes. This is especially important as T & E consultation is often a critical path item for the PA&ED phase of the project development process.

Remember that for projects requiring a federal permit, involving federal land, or with federal funding, Section 7 consultation may be required. Remember also that consultation under Section 10 of FESA is not an acceptable substitute (Section 10 consultation results in a Habitat Conservation Plan).

The [SER, Vol. 3, Biological Resources](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources), includes a section on FESA and CESA documentation and consultation requirements. Space does not permit a detailed overview here. However, you should be aware of the basic steps.

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires federal agencies, such as the FHWA (and the Department, as assigned), to consult with the Secretary of Commerce on any action or proposed action authorized, funded, or undertaken by that agency may adversely affect essential fish habitat (EFH) as identified under the MSFCMA. Federal agencies and their delegates may use existing consultation/environmental review procedures, such as biological assessments, to satisfy the MSFCMA consultation requirements.

The biologist will complete a biological assessment (BA) where a “may affect” determination has been made. The BA is written under the direction of the federal agency having jurisdiction over the species, usually USFWS or NOAA Fisheries Service. The BA should provide all the necessary information on federal endangered species for the preparation of the environmental document, including affected environment, environmental consequences, and avoidance, minimization, and/or mitigation measures. Summarize the information and incorporate the BA by reference as needed. Remember that many of the terms used by technical specialists are not in the vocabularies of most general readers. Reword or explain difficult terms in the body of the document so the general reader can easily understand the information.

For state-only listed species, the NES (Chapter 4) will include the information necessary to write this section of the document.

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Summarize the federal consultation process (Section 7 consultation) and include information on any incidental take permit, under California Fish and Game Code Section 2081, or consistency determination, under California Fish and Game Code Section 2080.1, on the state level. Include a summary of the status of consultation to date. See Chapter 5 of the NES for this information.
* Reference any correspondence with the resource agencies, which must be included in Chapter 4 or as a separate appendix. A copy of a recent ([no more than 180 days](http://www.dot.ca.gov/ser/memos.htm#bio_issues) old) species list(s) requested for the proposed project must also be included in Chapter 4 or as a separate appendix. If the species list(s) are older than 180 days, request a new list, or the USFWS must verify, in writing, that the list(s) is valid. A separate species list must also be requested from NOAA Fisheries. Include copies of emails as needed to verify the date of lists obtained. If the project is outside NOAA Fisheries’ jurisdiction, state that either here or at the beginning of Chapter 2 (topics considered but not relevant).

For the final environmental document, include the Biological Opinion and/or any concurrence with “May Affect, Not Likely to Adversely Affect.” If available, copies of the 2081 Incidental Take Permit and the 2080.1 Consistency Determination, as applicable, should also be included.

1. Identify species within the project area and any survey results.

Environmental Consequences

1. Be certain that this discussion incorporates any relevant project features and standardized measures, including best practices that have avoided or minimized the project’s environmental consequences. Examples might include standard revegetation efforts performed by the Contractor (and not required as mitigation or as a permit condition), standard erosion control measures, pre-construction surveys, bird protection measures, fish protection measures, wetland protection measures, biological monitoring during construction, the inclusion of a natural resource protection plan as a contract bid item, and the establishment of environmentally sensitive areas (ESAs).
2. In this section, discuss the potential impacts to each species and/or critical habitat on the valid species list received from USFWS. Include all effect findings (No Effect; May Affect, Not Likely to Adversely Affect; May Affect, Likely to Adversely Affect) where they have been made. The final environmental document must include an effect finding for all listed/proposed species and designated or proposed critical habitat on both of the USFWS and NOAA Fisheries species lists. Note that at the draft environmental document stage, you should at a minimum be able to clearly state anticipated effects (No Effect or May Affect) related to listed/proposed species and/or critical habitat. Summarize the consultation process and provide the date of the BO and/or letter of concurrence. A table can be used to summarize effect findings or provide a statement that clearly identifies the species and effect finings (e.g. The project has no effect on all species listed in Appendix X, except for the San Joaquin Kit Fox. The project may affect, but is not likely to adversely affect the San Joaquin Kit Fox). Note that if a different table format is used (for example, one that includes threatened and endangered species under CESA as well), there MUST be a column which shows FESA effect findings (or preliminary effect findings for the draft environmental document).

Example table:

**FESA Effect Findings [or Preliminary Effect Findings for draft environmental document]**

**Note: For listed species where there is no designated critical habitat present, put N/A in the table.**

| **Common Name** | **Scientific Name** | **Status** | **Effect Finding** | **Effect Finding for Critical Habitat (if applicable).** |
| --- | --- | --- | --- | --- |
| **Plants** |
| Butte County Meadowfoam | *Limnanthes floccosa ssp. californica* | FE\* | No Effect | N/A |
| Sacramento Orcutt Grass | *Orcuttia viscida* | FE | No Effect | N/A |
| **Invertebrates** |
| Vernal Pool Fairy Shrimp | *Branchinecta lynchi* | FT | May Affect, Likely to Adversely Affect | May Affect, Likely to Adversely Affect |
| Conservancy Fairy Shrimp | *Branchinecta conservatio* | FE | May Affect, Likely to Adversely Affect | May Affect, Likely to Adversely Affect |
| **Amphibians and Reptiles** |
| California Red-Legged Frog | *Rana draytonii* | FT | May Affect, Not Likely to Adversely Affect | No Effect |
| Giant Garter Snake | *Thamnophis gigas* | FT | May Affect, Not Likely to Adversely Affect | No Effect |
| **Mammals** |
| Riparian Brush Rabbit | *Sylvilagus bachmani riparius* | FE | No Effect | N/A |

\*Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT)

1. Clearly state the environmental consequences in terms of the CESA regarding “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”, and describe the consequences for each species under this definition of take.

Avoidance, Minimization, and/or Mitigation Measures

1. Describe the proposed avoidance, minimization, and/or mitigation measures for each impact (reference the project description in the BA during the draft document and the BO terms and conditions in the final). Remember to state what the measure would do and why we are proposing it, and note where the measure was the outcome of consultation. If mitigation is determined to be necessary under CEQA, discuss the significance of the impact and the proposed mitigation measures in Chapter 3.

**Additional Guidance**

* [Clarification Regarding Federal Endangered Species List Validity, Phil Stolarski, January 9, 2017](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/policy-memos#bio_issues)
* [50 CFR Section 402.12 (Biological Assessments)](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1ESA1973)
* [SER, Volume 3, Biological Resources](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-3-biological-resources)
* [USFWS and NMFS BA Checklists](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#faqs)

Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the [California Invasive Species Council](http://www.iscc.ca.gov/) to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

GUIDANCE

Writing the Document

Affected Environment

1. List applicable technical report(s) along with completion date(s).
2. Identify and quantify any existing invasive species within the project area. Note: Invasive species include animals (invertebrates and vertebrates) as well as plants.

Environmental Consequences

1. Discuss the potential of the project to promote or inhibit the spread of invasive species. State that invasive species will not be used in any landscaping needed for the project. Discuss any additional measures that will be used to combat invasive species. See sample text below:

In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species is used by the Department for erosion control or landscaping in XYZ. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Avoidance, Minimization, and/or Mitigation Measures

1. Discuss any required avoidance, minimization, and/or mitigation measures.

Additional Guidance

* [FHWA Guidance on Invasive Species](http://www.environment.fhwa.dot.gov/ecosystems/wildlife/inv_guid.asp)
* [National Invasive Species Council](http://www.invasivespecies.gov/index.html)
* [California Invasive Species Council](http://www.iscc.ca.gov/)

Construction Impacts (optional placement)

If construction impacts have not been discussed above and/or the project is likely to have many construction impacts, consider adding a separate Construction Impacts section. Potential subjects include: construction phasing/schedule/work hours, noise, air quality (dust), access issues (pedestrian, cyclists, equestrians, etc.), utilities, detours, traffic delays, and emergency vehicle access. Be certain to discuss how standardized measures, including best practices will minimize these impacts. Remember to discuss proposed borrow/fill and optional disposal sites (see [Design Information Bulletin 85](https://dot.ca.gov/programs/design/design-information-bulletins-dibs)). Also, identify and assess impacts associated with the staging and storage of equipment. List applicable technical report(s) along with completion date(s).

Additional Guidance

* [Design Information Bulletin 85: Guidance for the Consideration of Material Disposal, Staging, and Borrow Sites, May 13, 2007](https://dot.ca.gov/programs/design/design-information-bulletins-dibs).
* [Disposal Site Quality Team Final Report](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#disposal). This report addresses Department and FHWA policies on disposal, staging, and borrow areas, including plant sites, contractor yards, and access roads.

Cumulative Impacts (optional placement)

If cumulative impacts have not been discussed under each resource section above, discuss them here.

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

GUIDANCE

In 2005, the Department, in conjunction with the FHWA and U.S. EPA, developed a guidance document entitled[Guidance for Preparers of Cumulative Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#cumulative)**.**

The information outlined here summarizes that guidance. Additional guidance can be found at the end of this section.

A cumulative impact analysis, while complex, can be broken down into several steps that will facilitate the overall analysis. Gathering the necessary information about each resource, pulling the needed specifics from the whole, and organizing this into a usable format for the analysis are generally the most time-consuming parts of a cumulative impacts analysis.

Note: It is helpful to keep in mind that an analysis of cumulative impacts looks at the effects on a resource by multiple actions, including the proposed project. This means that a cumulative impact analysis focuses on the resource. The analysis will be easier if you keep asking, “What will happen to the resource?”

Writing the Document

The following eight steps serve as guidelines for identifying and assessing cumulative impacts: Document and discuss each step in the IS/EA.

1. Identify/define the project-specific resources to consider in a cumulative effect analysis. Depending on the project, resources may have different degrees of impacts, ranging from none to significant. List each resource area for which the project could cause direct or indirect impacts. If a project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource, and need not be further evaluated. Document this conclusion in the environmental document.
2. Define the geographic boundary or resource study area (RSA) for each resource to be addressed in the cumulative impact analysis. There will be a separate resource study area for each resource, rather than a single study area for all resources combined, and the boundaries of RSAs for cumulative impacts analysis are also often broader than the boundaries used for analyzing the project’s direct impacts.

For more information on determining the correct geographic boundaries associated with an individual resource, refer to the issue paper entitled [*Defining Resource Study Areas*](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact-analysis-purpose) in the Guidance for Preparers of Cumulative Impact Analysis.

1. Describe the current health and the historical context of each resource. “Tell the story of the resource.” Describe its current health, condition, or status within the RSA, and provide historical context that explains how the resource got to its current state. Remember that a cumulative impact analysis considers the effects on a resource from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. It is not always practical or necessary to provide an exhaustive list of past projects that have affected the resource. Rather, the historical context should identify key historical patterns or a range of activities that have contributed to the current condition of the resource. This historical analysis should not be limited to transportation projects, but rather all types of activities that have contributed to the current condition of the resource. Describe the influence that these patterns or activities have had on the resource and the timeframe in which the notable changes have occurred.
2. Identify the direct and indirect impacts of each of the proposed project alternatives that might contribute to a cumulative impact on the identified resources. If the environmental impacts of the various project alternatives are similar, the discussion of project impacts may be represented by one alternative. If impacts vary substantially between alternatives, describe each alternative’s potential for cumulative impacts.
3. Identify other current and reasonably foreseeable future actions or projects and their associated environmental impacts. Reasonably foreseeable future projects are those that are likely to occur in the future and will add to the cumulative impact on a particular resource. If an impact is permanent and would occur to a resource indefinitely, a time frame of 20 years is recommended for analysis. Again, this discussion should not be limited to transportation projects.

Although there is no uniform established standard, generally, projects will be considered “reasonably foreseeable” if they:

1. Have applications pending with a government agency.
2. Are included in an agency’s budget or capital improvement program.
3. Are foreseeable future phases of existing projects.

Keep in mind that CEQ regulations, as explained in [FHWA guidance](https://www.environment.fhwa.dot.gov/nepa/QAimpact.aspx), require cumulative impact analyses to focus on actions “that are likely or probable, rather than those that are merely possible” (FHWA 2003). For more suggestions about how to gather the information for the analysis, refer to the [Data Gathering Issue Paper](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact-analysis-purpose).

1. Assess the potential cumulative impacts. A variety of analysis methods and tools can be used to compile and analyze the data. [Chapter 5 of CEQ’s Considering Cumulative Effects](https://ceq.doe.gov/publications/cumulative_effects.html) describes a variety of methods or tools ranging from preparing a matrix or a map overlay to conducting modeling or trends analysis. Determine for each resource (1) whether there is currently a cumulative impact on the resource in the resource study area; and (2) whether the impacts from your project would contribute to that impact, and if so, at what level.
2. Report the results of the cumulative impact analysis in the environmental document, identifying the RSA, its current health and historical context, project impacts that might contribute to a cumulative impact, other current and reasonably foreseeable actions considered in the cumulative impact analysis, information sources and methodology, and conclusions.
3. Assess the need for avoidance, minimization, and/or mitigation measures and/or recommendations for actions by other agencies to address a cumulative impact. Mitigation for a cumulative impact is often beyond the jurisdiction of the FHWA, the Department, or NEPA cooperating agencies. Successful mitigation measures might require actions by local or regional agencies that have authority for making land use decisions. Therefore, disclosure of mitigation for cumulative impacts is not based on or limited to specific mitigation measures that can be implemented by the lead agency.

If it was not possible to identify a mitigation measure that will be incorporated into the project, list the agencies that have regulatory authority over the resource and recommend actions those agencies could take to influence the sustainability of the resource. For more information about mitigation by others, see CEQ’s discussion of mitigation in [NEPA’s 40 Most Asked Questions](http://ceq.eh.doe.gov/nepa/regs/40/11-19.htm#19), Number 19b.

Additional Guidance

There are many publications in print that can help you with a cumulative impact analysis. The intent of this annotation is to provide a brief, simple explanation of this type of analysis. For more information, please visit and/or obtain any of the following:

* [Guidance for Preparers of Cumulative Impact Analysis](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#cumulative)
* [Considering Cumulative Effects under the National Environmental Policy Act](https://ceq.doe.gov/publications/cumulative_effects.html). Council on Environmental Quality. January 1997.
* [Guidance on the Consideration of Past Actions in Cumulative Effects Analysis](https://www.energy.gov/nepa/downloads/guidance-consideration-past-actions-cumulative-effects-analysis-ceq-2005). Council on Environmental Quality. June 2005.
* Environmental Protection Agency. [Consideration of Cumulative Impacts in EPA Review of NEPA Documents](https://www.epa.gov/nepa/cumulative-impacts-guidance-national-environmental-policy-act-reviews). U.S. Environmental Protection Agency, Office of Federal Activities. May 1999.
* McCold, L.N. and J.W. Saulsbury. Including Past and Present Impacts in Cumulative Impact Assessments. Environmental Management. Vol. 20 no.5 pp. 767-776. 1996.

Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

This chapter is used to document and discuss the Department’s significance determinations under CEQA. According to CEQA Guidelines, Section 15064(b), “the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.”

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the Project Development Team, based to the extent possible on the results of field surveys and technical studies. Because the significance of an effect may vary depending on the environmental setting, the context within which the impact takes place is critical and set rules for determining significance in every case have not been established. Some public agencies have established thresholds of significance for CEQA. Because the Department has statewide jurisdiction and the setting for projects varies so extensively across the state, the Department has not developed statewide thresholds of significance for CEQA and does not intend to. The determination of significance under CEQA is left to the internal Project Development Team, with particular deference paid to the expertise of environmental staff and other specialists.

This chapter is largely organized around the CEQA Checklist and includes guidance to ensure consistency with the Department’s posted guidance on [Mitigation under CEQA](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#ceqa).

Determining Significance under CEQA

If the project is a local assistance project, insert the following text at the beginning of this section:

The project is subject to federal, as well as [insert name of local jurisdiction] and state environmental review requirements because the [insert name of Local Agency] proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The [insert name of Local Agency] is the project proponent and the lead agency under CEQA. FHWA’s responsibility for 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 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

One of the primary differences between NEPA and CEQA is the way significance is determined.  Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required.  NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to “significantly affect the quality of the human environment.” The determination of significance is based on context and intensity.  Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA.  Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each “[significant effect on the environmen](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-36-environmental-impact-report#definition)t” resulting from the project and ways to mitigate each significant effect.  If the project may have a significant effect on any environmental resource, then an EIR must be prepared.  Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of “[mandatory findings of significance](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-36-environmental-impact-report#mandatory),” which also require the preparation of an EIR.  There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

If the project is a joint Department/FHWA project, insert the following text at the beginning of this section:

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA’s responsibility for 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 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans. The Department is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined.  Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required.  NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to “significantly affect the quality of the human environment.”   The determination of significance is based on context and intensity.  Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA.  Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each “[significant effect on the environmen](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-36-environmental-impact-report#definition)t” resulting from the project and ways to mitigate each significant effect.  If the project may have a significant effect on any environmental resource, then an EIR must be prepared.  Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of “[mandatory findings of significance](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-36-environmental-impact-report#mandatory)," which also require the preparation of an EIR.  There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

Mitigation Measures for Significant Impacts under CEQA

In the discussion areas below each resource in the CEQA checklist, list/discuss the proposed mitigation measures for each significant impact under CEQA. Mitigation measures listed here should be the same as those found on the Environmental Commitments Record under “Mitigation Measures for Significant Impacts under CEQA.” Remember to be careful not to use the term “mitigation” when the effect has been determined not to be significant. See the guidance on [Mitigation under CEQA](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/other-guidance#ceqa) for additional information.

The mitigation discussion should include the following (CEQA Guidelines Section 15126.4[a]):

1. Whether the mitigation measure will avoid or substantially reduce the environmental effect.
2. If a project proponent other than the lead agency (responsible agency, trustee agency, etc.) proposed the mitigation measure, discuss who proposed the mitigation.
3. If several measures are available to mitigate an impact, discuss each and why the chosen measure was selected.
4. If the implementation of a mitigation measure results in environmental effects, those effects must be discussed in the IS (this discussion does not need to be as detailed as the projects impacts).
5. Relevant energy conservation measures.
6. Who is responsible for implementing, monitoring and/or reporting on the mitigation measures (Resident Engineer, Department Biologist, contract biologist, etc.).
7. The above information will be used for the completion and update of the [Environmental Commitments Record](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#cert_compliance) during the Project Approval/Environmental Document (PA&ED); the Right of Way; the Plans, Specifications, and Estimate (PS&E); and/or the Construction phases of the project.

CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

Remember: if you check the box “Less than Significant with Mitigation,” you must prepare a Mitigated Negative Declaration and not a Negative Declaration.

NOTE: Example language has been provided following some of the checklist questions on the following pages. The examples given are not meant to represent any type of thresholds. Each project is unique and impacts must be analyzed on a case-by-case basis. Make sure to include discussions about the baseline environmental setting and compare the impacts to that baseline.

**Aesthetics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Except as provided in Public Resources Code Section 21099, would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Have a substantial adverse effect on a scenic vista? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Aesthetics**

Use this section to discuss and clarify the significance determinations for each question under Aesthetics. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined. See the sample text below:

**a)** **No Impact**

The proposed project would not have a substantial adverse impact on a scenic vista because the project area does not include any scenic vistas.

**b, c) Less Than Significant**

As discussed in the Visual/Aesthetics section in Chapter 2, the proposed project would remove 10 trees including Douglas firs and ponderosa pines. The project would also include the construction of several retaining walls along the project limits. The portion of State Route 34 within the project limits is eligible for designation as a scenic highway due to its views of rolling hills and mature trees. Viewer sensitivity in the area is considered high.

The proposed project includes context-sensitive design solutions, including replanting trees at a ratio of 2:1 within the project area, and also the use of earth tones and other aesthetic treatments on the retaining walls. These project features would result in no net loss of trees along the project site and would blend the retaining walls into the project setting. The retaining walls have also been designed to be as low in profile as possible.

The proposed project would not diminish the views that make the highway eligible for scenic status. Therefore, the project as designed would not substantially degrade the visual character and quality of the site and would have less than significant impacts to scenic resources and visual character. No mitigation is required.

**d) No Impact**

The proposed project would not include new lighting elements in an area in which there is currently no lighting.

**Agriculture and Forest Resources**

|  |
| --- |
| In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | [ ]  | [ ]  | [ ]  | [ ]  |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Agriculture and Forest Resources**

Use this section to discuss and clarify the significance determinations for each question under Agriculture and Forest Resources. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined. See the sample text below:

**a) Less Than Significant**

As discussed in the Farmland section in Chapter 2, the proposed project would convert unique farmland to non-agricultural land due to the curve realignment near Stonehill Road. The roadway alignment was shifted west to minimize the impacts to the farmland. With this modification to the project design, the amount of farmland needed for acquisition was reduced from 4.75 acres to 1.17 acres. There are approximately 249,000 acres of farmland in Stevens County. The 1.17 acres of farmland proposed for acquisition represents 0.00047% of the farmland in the county. In addition, this land is adjacent to the roadway and the acquisition would not affect the ability of the remaining portions of the parcel to be used for farming. These impacts are considered less than significant. No mitigation is required.

**b)** **No Impact**

There are no parcels under a Williamson Act contract within the project limits.

**c, d)** **No Impact**

There are no forest or timberlands within the project limits.

**e) No Impact**

There are no other changes anticipated to farmland or forest land.

**Air Quality**

|  |
| --- |
| Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Expose sensitive receptors to substantial pollutant concentrations? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Air Quality**

Use this section to discuss and clarify the significance determinations for each question under Air Quality. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined. See the sample text below:

**a, b, c) Less Than Significant**

The proposed project is located in the South Coast Air Basin and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with SCAG, local governments, and the private sector. The AQMP provides the blueprint for meeting state and federal ambient air quality standards. This project is not a capacity-increasing transportation project. It will have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the very short duration of project construction. The proposed project in included in SCAG’s most recent RTP and RTIP both of which were found to be conforming (see Air Quality section of Chapter 2). Therefore, the proposed project will not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. Impacts will be less than significant. No mitigation is required.

**d)** **Less Than Significant**

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The project will comply with construction standards adopted by the South Coast Air Quality Management District (SCAQMD) as well as Caltrans standardized procedures for minimizing air pollutants during construction. Impacts will be less than significant. No mitigation is required.

**Biological Resources**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?  | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?  | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?  | [ ]  | [ ]  | [ ]  | [ ]  |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | [ ]  | [ ]  | [ ]  | [ ]  |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Biological Resources**

Use this section to discuss and clarify the significance determinations for each question under Biological Resources. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined. See the sample text below:

**a)** **Less Than Significant with Mitigation Incorporated**

The proposed project would impact 0.38 acres of vernal pool habitat. Of this, 0.12 acres supports vernal pool fairy shrimp, which is a federally-listed threatened species. In addition, the federally- and state-endangered hairy Orcutt grass was also observed during field surveys. Because the affected habitat is of high quality and vernal pools within the project area have been on the decline, these impacts would be potentially significant. The following mitigation measures have been included (see the Threatened and Endangered Species section in Chapter 2 for a detailed discussion). With implementation of the measures below, the impacts to vernal pool habitat, vernal pool fairy shrimp, and hairy Orcutt grass would be less than significant with mitigation incorporated.

* **T and E-1:** Purchase mitigation credits for 0.12 vernal pool fairy shrimp habitat at a USFWS-approved conservation bank at a 5:1 ratio
* **T and E-2:** Salvage topsoil and transplant hairy Orcutt grass specimens prior to construction

**b) No Impact**

This project would not affect riparian habitat or other sensitive natural communities.

**c) Less Than Significant with Mitigation Incorporated**

As detailed in the Wetlands section in Chapter 2, the proposed project would impact 0.63 acres of wetlands, which includes the 0.38 acres of vernal pools (a seasonal wetland) discussed in question “a” above. This is a potentially significant impact due to the high quality of wetlands and the declining health of wetlands remaining in Stevens County. With implementation of the measures below, the impacts to federally-protected wetlands are less than significant with mitigation incorporated.

* **Wetland-1:** Purchase mitigation credits for 0.38 acres of vernal pool wetlands at a USACE approved conservation bank at a 3:1 ratio
* **Wetland-2:** Purchase mitigation credits for 0.25 acres of wetlands at a USACE approved conservation bank at a 1:1 ratio

**d)** **No Impact**

This project will not affect any migratory wildlife corridors or the movement of any native resident or migratory fish or wildlife species. This project will not impede the use of native wildlife nursery sites.

**e) No Impact**

This project will not conflict with any local policies or ordinances protecting biological resources.

**f) No Impact**

This project will notconflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

**Cultural Resources**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?  | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries?  | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Cultural Resources**

Use this section to discuss and clarify the significance determinations for each question under Cultural Resources. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined. See the sample text below:

**a)** **Significant and Unavoidable**

As detailed in the Cultural Resources section in Chapter 2, the 4th Street Bridge was determined eligible for listing in the NRHP for its association with the Red River Bridge program and its extraordinary Streamline Modern steel and reinforced concrete design. The viaduct was determined eligible for listing in the NRHP and is also eligible for the CRHR under criteria 1 and 3, and is a significant historical resource under CEQA. The proposed project would demolish the 4th Street Bridge to build a new structure. The demolition of the 4th Street Bridge would result in the significance of an historical resource being materially impaired and would affect its eligibility to the CRHR. Therefore, under CEQA, the proposed project would have a significant impact. In an effort to mitigate the significant impact, the following measures have been incorporated (see Chapter 2, Cultural Resources section for detailed discussion of measures):

* **Cultural-1**: Produce HABS/HAER documentation
* **Cultural-2**: Produce and publish a booklet on the Historic Red River Bridges

While these measures would be incorporated into the proposed project, given the fact that the bridge will be demolished and there are no similar bridges in the region, the measures do not reduce the proposed project’s impacts to a level of no significant impact or less than significant impact. Therefore, the proposed project’s impact to historical resources would be significant and unavoidable.

**b) Less Than Significant with Mitigation Incorporated**

There is an archaeological resource (STE-175) that will be affected by the cut/fill of the proposed project. STE-175 was determined a unique archaeological resource because of its potential to yield important information. Impacts to this site are potentially significant and the following mitigation measures are proposed:

* **Cultural-3:** Perform data recovery, analysis, and documentation as outlined in the Memorandum of Agreement (MOA) prior to construction.
* **Cultural-4**: Identify, analyze, catalog, and prepare recovered artifacts for delivery to Stevens County Historic Museum for curation.

With implementation of the above measures, the impacts to archeological resources are less than significant with mitigation incorporated.

**c)** **No Impact**

Human remains have been previously identified at an archaeological site within the project area, however, the establishment of an environmentally sensitive area (ESA) with fencing will be shown on the project’s plans and specifications, and used during construction to ensure that the area with remains is not disturbed. An ESA Action Plan has been developed and will be followed.

**ENERGY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Energy**

Use this section to discuss and clarify the significance determinations for each question under Energy. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Geology and Soils**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: |  |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | [ ]  | [ ]  | [ ]  | [ ]  |
| ii) Strong seismic ground shaking? | [ ]  | [ ]  | [ ]  | [ ]  |
| iii) Seismic-related ground failure, including liquefaction?  | [ ]  | [ ]  | [ ]  | [ ]  |
| iv) Landslides? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Result in substantial soil erosion or the loss of topsoil? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?  | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?  | [ ]  | [ ]  | [ ]  | [ ]  |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?  | [ ]  | [ ]  | [ ]  | [ ]  |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Geology and Soils**

Use this section to discuss and clarify the significance determinations for each question under Geology and Soils. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Greenhouse Gas Emissions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Greenhouse Gas Emissions**

Use this section to briefly describe the level of analysis that was completed in the Climate Change section and clarify the significance determinations for each question under Greenhouse Gas Emissions.  Remember that the determination of significance may vary with the setting of the impact; use relevant facts from the analysis to support and explain the significance determinations.  Briefly summarize and cross-reference the key facts from the Climate Change section in this chapter rather than simply repeating text.  If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.”  If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Hazards and Hazardous Materials**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?  | [ ]  | [ ]  | [ ]  | [ ]  |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?  | [ ]  | [ ]  | [ ]  | [ ]  |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | [ ]  | [ ]  | [ ]  | [ ]  |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?  | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Hazards and Hazardous Materials**

Use this section to discuss and clarify the significance determinations for each question under Hazards and Hazardous Materials. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Hydrology and Water Quality**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:  |  |
| (i) result in substantial erosion or siltation on- or off-site; | [ ]  | [ ]  | [ ]  | [ ]  |
| (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | [ ]  | [ ]  | [ ]  | [ ]  |
| (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | [ ]  | [ ]  | [ ]  | [ ]  |
| (iv) impede or redirect flood flows? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | [ ]  | [ ]  | [ ]  | [ ]  |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Hydrology and Water Quality**

Use this section to discuss and clarify the significance determinations for each question under Hydrology and Water Quality. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Land Use and Planning**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Physically divide an established community?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?  | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Land Use and Planning**

Use this section to discuss and clarify the significance determinations for each question under Land Use and Planning. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Mineral Resources**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?  | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Mineral Resources**

Use this section to discuss and clarify the significance determinations for each question under Mineral Resources. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Noise**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project result in:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Generation of excessive groundborne vibration or groundborne noise levels?  | [ ]  | [ ]  | [ ]  | [ ]  |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | [ ]  | [ ]  | [ ]  | [ ]  |

Special note about noise: When determining whether a noise impact is significant under CEQA, compare the baseline noise level and the build noise level. The CEQA noise analysis is completely independent of the NEPA/23 Code of Federal Regulations Part 772 (23 CFR 772) analysis discussed in Chapter 2, which is centered on noise abatement criteria. Under CEQA, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitivity of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level. You may use this paragraph as boilerplate in the environmental document. To illustrate the differences between CEQA and NEPA/23 CFR 772 analyses, consider the following example:

The existing noise level at residential site 1 is 67 dBA; the predicted noise level under build alternative 2 is 70 dBA. This 3 dBA increase between existing noise levels and the build alternative would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, because the noise levels at this receptor already approaches or exceeds the noise abatement criteria of 67dBA, noise abatement would need to be considered.

For more information, see [Traffic Noise Analysis Protocol May 2011](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-12-noise#guidance) Section 7.

**CEQA Significance Determinations for Noise**

Use this section to discuss and clarify the significance determinations for each question under Noise. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

Remember that under CEQA, unlike NEPA, if the noise impact is identified as significant and “mitigation” is proposed and feasible, that mitigation must be built or the environmental document may need to be re-circulated.

**Population and Housing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project:  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?  | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?  | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Population and Housing**

Use this section to discuss and clarify the significance determinations for each question under Population and Housing. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Public Services**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| Fire protection? | [ ]  | [ ]  | [ ]  | [ ]  |
| Police protection? | [ ]  | [ ]  | [ ]  | [ ]  |
| Schools? | [ ]  | [ ]  | [ ]  | [ ]  |
| Parks? | [ ]  | [ ]  | [ ]  | [ ]  |
| Other public facilities? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Public Services**

Use this section to discuss and clarify the significance determinations for each question under Public Services. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Recreation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Recreation**

Use this section to discuss and clarify the significance determinations for each question under Recreation. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Transportation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Result in inadequate emergency access? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Transportation**

Use this section to discuss and clarify the significance determinations for each question under Transportation. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Tribal Cultural Resources**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | [ ]  | [ ]  | [ ]  | [ ]  |
| b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Tribal Cultural Resources**

Use this section to discuss and clarify the significance determinations for each question under Tribal Cultural Resources. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

At the beginning of this section, provide details regarding compliance with AB 52, including:

* Which tribes requested consultation
* Details of any noticing, including which tribes were consulted and when
* Summary of responses by the tribes
* Whether or not any tribal cultural resources were identified during the AB52 process
* If tribal cultural resources were identified, what were they and what was the result in terms of eligibility for the California Register of Historical Resources
* Measures to avoid, minimize or mitigate impacts to the tribal cultural resource(s)

Cross-reference Chapter 4, Comments and Coordination, as appropriate.

**Utilities and Service Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?? | [ ]  | [ ]  | [ ]  | [ ]  |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Utilities and Service Systems**

Use this section to discuss and clarify the significance determinations for each question under Utilities and Service Systems. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**WILDFIRE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | [ ]  | [ ]  | [ ]  | [ ]  |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Wildfire**

Use this section to discuss and clarify the significance determinations for each question under Wildfire. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from the Wildfire section following this checklist rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

**Mandatory Findings of Significance**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | [ ]  | [ ]  | [ ]  | [ ]  |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | [ ]  | [ ]  | [ ]  | [ ]  |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | [ ]  | [ ]  | [ ]  | [ ]  |

**CEQA Significance Determinations for Mandatory Findings of Significance**

Use this section to discuss and clarify the significance determinations for each question under Mandatory Findings of Significance. Remember that the determination of significance may vary with the setting of the impact; use relevant facts about the project setting and magnitude of the project’s impacts to support and explain the significance determinations. Summarize and cross-reference the key facts from Chapter 2 rather than simply repeating text. If the impact is significant, state that and then apply mitigation measures; then explain in this section if the impact remains “significant and unavoidable” or if the mitigation has reduced the impact to “less-than-significant with mitigation incorporated.” If the same facts support the significance determinations for more than one question above, then the discussion of those questions can be combined.

Wildfire

Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

**GUIDANCE**

Most transportation projects, particularly those on existing alignments, will be unlikely to exacerbate wildfire risks or post-fire flooding/landslides. A primary consideration for work on existing alignments will be the potential to disrupt emergency response or evacuation routes during construction.

**Writing the Document**

**Affected Environment**

Determine if the project is located in or near a state responsibility area or land classified as very high fire hazard severity zone. The following website includes a list of California counties.

<https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>

Choose the county your project is located in and the “State Responsibility Area” map and the “Local Responsibility Area” maps will be available to download. If the project is located in a very high fire hazard area, include a figure showing the project location on the fire hazard severity map.

If the project is not located within or near a very high fire hazard severity zone, state that at the beginning of Chapter 2, under topics considered but not relevant.

**Environmental Consequences**

If the project is located within or near a very high fire hazard severity zone, consider the following:

* 1. Will the project impair an emergency response plan or emergency evacuation plan? Many cities and counties have web pages dedicated to emergency preparedness which will include that jurisdiction’s emergency response plan and/or emergency evacuation plan. If the information cannot be obtained online, contact the local city or county. Also consider contacting the California Highway Patrol and CalFire.
	2. Would the project have the potential to exacerbate wildfire risks? Projects on new alignments in very high fire hazard severity zones will need to examine the impacts of facilitating the entry of automotive and truck traffic as well as an increased human presence in these areas as the majority of fires are human caused. The project development team should consider ways to reduce these risks which could include providing paved shoulders and/or the use of fire-resistant plants for landscaping.
	3. Would the project require the installation of associated infrastructure that could exacerbate wildfire risks? Most transportation projects do not include associated infrastructure (such as power lines or other utilities) that could worsen fire risks. However, more analysis would be warranted if the project will install electrical systems where there is not currently one in place; for example, the installation of new lighting, conduits, and associated utility cabinet(s). Any environmental effects resulting from required fire setbacks should also be discussed in the appropriate section of the document.
	4. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? A transportation project on a new alignment or that creates a large area of new cut slope has the potential to contribute to increased runoff resulting from new or increased areas of impervious surface area. This, along with any changes to drainage patters, will need to be evaluated to determine if this could result in an increased risk of post-fire flooding or mudslides.
	5. Also consider the potential benefits the project may have in terms of lessening or mitigating wildfire risk:
* Projects to pave and/or widen median and shoulder areas which can increase the width of the road as a firebreak, reduce vegetation adjacent to the roadside, and provide additional areas for emergency response vehicle staging.
* Park and Ride lots can provide areas for emergency vehicle staging during wildfires and other emergencies.
* Projects that improve travel time can decrease emergency response time.
* Bioswales and detention basins can provide firebreaks.
* Changeable Message Signs can provide critical information during an emergency and can be used to alert the public during times of high fire danger.

**Avoidance, Minimization, and/or Mitigation Measures**

Include a brief statement of any avoidance, minimization, and/or mitigation measures that will be included.

Climate Change

This section is required for all CEQA documents. Please use the latest Climate Change section located on the [SER Forms and Templates page](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#aos).

Chapter 4 – Comments and Coordination

Regulatory Setting

Not required.

GUIDANCE

Writing the Document

1. Documenting Coordination
2. Provide a brief introduction to this chapter (sample text below).

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, Project Development Team (PDT) meetings, (continue list as needed). This chapter summarizes the results of the Department’s efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

1. Discuss the scoping process (informal and/or formal).
2. Describe the process, including meeting dates, attendees, issues raised and comments received.
3. Describe consultation and coordination with public agencies and tribal governments.
4. State which public agencies and tribal governments were contacted during the project’s development. For each entity, do the following:
5. Provide a chronology of all meetings, workshops, hearings, etc. that the agency participated in. If this is an extensive list, it can be a combined list for all agencies and be moved to the back of the chapter.
6. Describe the results of the coordination to date; in other words, document critical decisions. If the agency has taken a position on the project or an issue associated with the project, state the agency’s position.
7. Describe the status of any needed approvals or permits from the agencies.

Note: The level of detail provided for each item above should be commensurate with the controversy and complexity of the project.

1. Include correspondence with agencies (e.g., concurrence letters) at the end of this chapter. Larger approval documents such as the biological opinion, the Memorandum of Agreement (MOA) for cultural resources, Federal Coastal Consistency Certification, and others should be included in the back of the document as appendices.
2. Discuss public participation, including participation by Native American individuals.
3. Describe the public participation methods used for the proposed project. Methods could include PDT participation, citizen advisory committees, mailing lists, newsletters, newspaper notices/articles, public meetings/workshops, and web-based information. Include dates when applicable.
4. Describe the results of the public participation process—number of attendees, comments received, issues raised, and any other pertinent facts. For AB 52, include the number of letters sent and received, issues identified, and solutions/resolutions.
5. If a public hearing or public open house/informational meeting was held, provide the following information:
* Date, time and location of hearing
* Type of hearing
* Number of attendees
* Number of written comments
* Number of comments taken by court reporter
* Summary of meeting outcome, issues raised, etc.
1. Comments and Responding to Comments

If comments are received on the Draft IS/EA during the public availability period and/or at the public hearing, the Final IS/EA must be modified to reflect all substantive comments and responses to those comments. Substantive comments are those comments that are related to the facts of the project, environmental document, or studies—comments that are purely just expressing support or opposition to the project without any factual substantiation may be acknowledged but do not generally require a response. Comments and responses to comments can either be included in this chapter or as an appendix in the back of the document.

1. A response must be made to all substantive comments received on the “Draft” IS/EA. Options for responding include:
2. Modifying the design of the proposed project and reflecting the modifications in the document.
3. Supplementing, improving, or modifying the analysis in the “Final” IS/EA.
4. Making factual corrections.
5. Explaining why the comments do not require modification to the document and/or proposed project. If this is the case, the response should cite sources, authorities, or reasons that support the Department’s position.
6. If changes are made to the text of the “Final” IS/EA as a result of comments received, those changes must be marked with a line in the margins of the document and the responses to comments should include a reference to the document change.
7. To improve readability, it is recommended that the comment letter and corresponding response(s) be side by side on the same page.
8. “Comment noted” is typically not an appropriate response to a substantive issue. Do not use this as a way to avoid difficult issues. “Comment noted,” is only appropriate when someone has expressed an opinion, such as “I don’t think this project is needed,” or “I support alternative XYZ,” or when there is simply no other response possible. Consider responding “Your support of project ‘X,’ Alternatives 1, 2, and 3 is acknowledged and included in the project record.”

Responses to comments should address the issue or concern of the person who commented and should be based on facts and/or reasoned judgment. In responding to comments, it is often necessary to engage other members of the internal PDT.

1. Remember to deal sensitively with public comments. When responding to comments, keep in mind that the person cared enough about the issue to make a comment, so a good response requires at least as much care.
2. If many comments are received, the comments and responses may be summarized; however, comment letters from elected officials and local, state, and federal agencies and planning groups should always be included in their entirety in the document, along with the responses.
3. For purposes of an IS/EA, comments received after the public availability period and up until the final NEPA decision document (FONSI) should also be addressed and considered.

Additional Guidance

* AASHTO [Practitioners Handbook Responding to Comments](http://www.environment.transportation.org/center/products_programs/practitioners_handbooks.aspx)

Chapter 5 – List of Preparers

The list of preparers should include a list of state and local agency personnel, including consultants, who were primarily responsible for preparing the environmental document and technical studies. Legal counsel who reviewed the document should NOT be included on this list. It is typical to list Department staff first, followed by local agency personnel, and then consultant staff. If the project is not assigned, FHWA personnel would also be included. For more information on the requirements for a List of Preparers, please see [FHWA Technical Advisory T 6640.8A - Guidance for Preparing and Processing Environmental and Section 4(f) Documents, October 30, 1987](http://environment.fhwa.dot.gov/projdev/impta6640.asp).

The following provides a sample format that can be used. Typically, staff members are listed alphabetically by last name:

The following Department staff and consultants contributed to the preparation of this IS/EA.

Paul Alfa, Transportation Engineer (NPDES Coordinator). M.S. Civil and Environmental

Engineering, University of California at Davis. 5 years of experience working in the water resources sector; 3 years with the Department as an NPDES Coordinator. Contribution: Water Quality Report.

Sandy Beta, Associate Environmental Planner. B.A. Anthropology, California State

 University at Sacramento; M.A. Anthropology University of Oklahoma at Norman. 13 years experience in environmental surveys and document preparation. Contribution: Community Impact Assessment, Cumulative Impacts Analysis, and environmental document preparation.

Julia Charlie, Senior Environmental Planner. B.S. Environmental Policy Analysis and

Planning, University of California at Berkeley; M.S. Transportation Management, San Jose State University. 22 years experience performing environmental studies and document preparation. Contribution: Environmental document preparation.

Robert Delta, Associate Environmental Planner (Natural Sciences). B.A, Environmental

 Studies, California State University at Sacramento. 15 years experience with

the Department conducting wildlife biology and botany studies and surveys. Contribution: Natural Environment Study, Biological Assessment, and Wetland Delineation.

John Echo, Associate Environmental Planner. M.A. Anthropology, California State

 University at Chico. Professionally Qualified Staff: Principal Investigator, Prehistoric Archaeology. 25 years archaeological experience including 9 years with the Department. Contribution: Cultural resource compliance documents.

When a document is primarily prepared by consultant staff, Department staff should include their oversight role. For example:

**Department Staff**

Julia Charlie, Senior Environmental Planner. B.S. Environmental Policy Analysis and

Planning, University of California at Berkeley; M.S. Transportation Management, San Jose State University. 22 years experience performing environmental studies and document preparation. Contribution: Environmental document oversight.

Robert Delta, Associate Environmental Planner (Natural Sciences). B.A, Environmental

Studies, California State University at Sacramento. 15 years experience with the Department conducting wildlife biology and botany studies and surveys. Contribution: Natural Environment Study, Biological Assessment, and Wetland Delineation oversight.

**ABC Consulting Firm, Inc.**

Diana Foxtrot, Senior Project Coordinator. B.S. Environmental Planning, University of

California at Santa Barbara. 5 years experience in environmental planning and permitting. Contribution: Environmental document preparation.

Jackie Golf, Project Biologist. B.S. Biological Sciences, California State University at

Humboldt. 9 years experience in conducting wildlife surveys and wetland delineations. Contribution: Natural Environment Study, Biological Assessment, and Wetland Delineation.

Chapter 6 – Distribution List

Include the [distribution list](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#aos) for the IS/EA.

APPENDICES

Appendix A. Section 4(f) (if applicable)

Additional information regarding the guidance in this appendix can be found in [Chapter 1, “Federal Requirements”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#4fguidance) and [Chapter 20, “Section 4(f) and Related Requirements”](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-20-section-4f) of the SER. If it is determined that one or more properties trigger the provisions of Section 4(f), coordinate early with your HQ Environmental Coordinator to determine the need for and the content of a Section 4(f) analysis.

Guidance

**Determining the appropriate level of Section 4(f) analysis and documentation**

Analyze all archaeological and historic sites within the Section 106 area of potential effects (APE) and all parks, recreational facilities, and wildlife and waterfowl refuges within the Section 4(f) study area to determine whether they are protected Section 4(f) properties. The Section 4(f) study area should include properties within and immediately adjacent to the project limits, and nearby properties to ensure that proximity impacts can be considered.

* If there are no potential Section 4(f) properties within the project vicinity, clearly state that in the beginning of Chapter 2 under topics considered but not relevant and the Parks and Recreational Facilities and/or Cultural Resources section(s) of the environmental document and omit this appendix.
* If there are potential Section 4(f) properties within the project vicinity, there are four possible outcomes for EACH property, each of which should be clearly and briefly stated in the appropriate section of the environmental document (Parks and Recreational Facilities and/or Cultural Resources) AND addressed in this appendix under one of the following headings:
	+ Individual Section 4(f) Evaluation
	+ Programmatic Section 4(f) Evaluation
	+ Section 4(f) *De Minimis* Determination
	+ Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination (this includes properties for which it is has been determined that Section 4(f) does not apply AND properties for which Section 4(f) does apply but there is no use).
* While each property can have only one finding or determination, the project as a whole may have many different findings or determinations. For example, a single project might have six potential Section 4(f) properties. Following the analysis, it may be determined that one is not eligible for protection under Section 4(f), one will have no use, two will have *de minimis* impacts, one property qualifies for a Programmatic evaluation, and one property requires an Individual evaluation. In another example, a single project could have five potential Section 4(f) properties. Following the analysis it is determined that three of these properties will have *de minimis* impacts, while the other two properties quality for two different Programmatic evaluations.

Use the sections of this appendix that are applicable to your project. There is no need for a separate technical report if Section 4(f) is addressed as part of the environmental document that will be circulated to the public. See Chapter 20 of the SER for documentation and circulation requirements if a categorical exclusion is being prepared for the project.

The Basic Section 4(f) Analysis

There are five basic steps involved in the Section 4(f) analysis. The Department must determine: (1) if Section 4(f) applies to the project, (2) if there are Section 4(f) properties within the project vicinity, (3), if there is a “use” of the Section 4(f) property, (4) if there is an exception to the “use,” and (5) the level of approval required for the “use.” The Department must then document the analysis.

*Step 1: Determine if Section 4(f) applies to the project*

1. Is there U.S. Department of Transportation (usually FHWA or FTA for Department projects) involvement (funding, right-of-way, action) in the project?
2. If not, Section 4(f) does not apply.

*Step 2: Determine if there are Section 4(f) properties within the project vicinity*

1. Are there any *publicly owned* lands of a *public* park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance within the project area?
2. If the land is not publicly owned or is not open to the public, it is not protected by Section 4(f), unless it is a significant historic site (see number 2 below). Some publicly owned wildlife refuges may have restrictions on public access but are still protected by Section 4(f).
3. The determination of significance is made by the federal, state, or local officials having jurisdiction over the land. If a determination cannot be obtained, the land is presumed to be significant. The Department, as assigned, will make an independent evaluation to assure that the official’s finding of significance or non-significance is reasonable.
4. Are there any lands of a historic site of national, state, or local significance within the project area?
5. For historic sites, the land does not have to be publicly owned or open to the public for Section 4(f) to be triggered.
6. In most cases, significance for historic sites under Section 4(f) means the site is listed in or eligible for listing in the National Register of Historic Places. If the historic site is not significant, then it is not protected by Section 4(f).
7. Section 4(f) does not apply to archaeological resources that are important chiefly because of what can be learned from data recovery and have minimal value for preservation in place [23 CFR 774.13(b)(1)]. In other words, Section 4(f) applies to archaeological sites that are in or eligible for listing in the National Register AND that warrant preservation in place. The Department determines this through coordination with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP).

*Step 3: Determine if there is a “use” of the Section 4(f) property*

1. If it is determined that one or more properties trigger the provisions of Section 4(f), determine whether the project would “use” those properties [23 CFR 774.17 *use* definition].

*Use* occurs when:

* 1. land is permanently incorporated into a transportation facility [permanent acquisition or permanent easement], or
	2. there is a temporary occupancy of land that is adverse in terms of the statute’s preservationist purpose, or
	3. there is (are) proximity impact(s) that substantially impair(s) the purpose of the land (this is called constructive use). An example of constructive use would be excessive noise near an amphitheater. Constructive uses are very rare. Note: if you believe that there may be a constructive use, contact your HQ Environmental Coordinator as soon as possible for assistance. Your HQ Environmental Coordinator will contact FHWA for approval of any constructive use determinations (this is required even under NEPA Assignment).

*Step 4: Determine if there is an exception to the “use” of the Section 4(f) property*

There are seven exceptions to the “use” of Section 4(f) properties (23 CFR 774.13). The most common exception that the Department applies is the temporary occupancy exception.

For the purposes of Section 4(f), temporary construction easements do not normally constitute “use” if ALL of the following five conditions are met for temporary occupancy [(23 CFR 774.13(d)]:

1. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
5. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions. This documentation must be included in the final environmental document in either Chapter 4, “Comments and Coordination” or as a separate appendix.

If all of the five conditions are met for temporary occupancy, then a “use” did not occur under Section 4(f). Document why a use did not occur in the project file by explaining how all five conditions are met and the exception for temporary occupancy applies. Include this analysis below under the heading “Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination.”

If the project cannot meet the above five conditions, then there is a “use” for purposes of Section 4(f). See 23 CFR 774.13(d), 23 CFR 774.17 and the FHWA website, including the Section 4(f) Policy Paper, for more details regarding temporary occupancy and “use.”

*Step 5: Determine the level of approval required for the “use.”*

There are three types of approval to the “use” of a Section 4(f) property: (1) *de minimis*, (2) programmatic, and (3) individual.

1. If it is determined that there would be a “use” of a property or properties protected by Section 4(f), could that use be approved by a *de minimis* impact finding?
2. *De minimis* impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not adversely affect the activities, features, and attributes of the 4(f) property. The *de minimis* impact finding considers avoidance, minimization, compensation, or enhancement measures. Following an opportunity for public review and comment, the official(s) with jurisdiction over the property must provide written concurrence; only then can the Department (as assigned by the FHWA) make the final determination on the *de minimis* impact finding.
3. *De minimis* impacts on historic sites are defined as the determination of either ”no adverse effect” or "no historic properties affected" in compliance with Section 106 regulations, including the SHPO’s written concurrence, and ACHP’s written concurrence, when applicable. [NOTE: Any finding under Section 106 other than “no adverse effect” or “no historic properties affected” will require either a Programmatic evaluation or an Individual evaluation.] Under the Department’s First Amended Programmatic Agreement for Section 106, the Department must inform the SHPO in writing that a non-response for the purposes of a “no adverse effect” or a “no historic properties affected” determination will be treated as the written concurrence for the *de minimis* impact finding. The Department (as assigned by the FHWA) makes the final determination on the *de minimis* impact finding.
4. If the Section 4(f) “use” qualifies for a *de minimis* impact, see the “Section 4(f) [*De Minimis* Determination](#De_Minimis)” section below, which highlights the major points needed to properly document the *de minimis* impact finding.
5. In addition to documenting the analysis below in the “Section 4(f) *De Minimis* Determination” section, briefly summarize the *de minimis* impact finding under the appropriate section of the environmental document (Parks and Recreational Facilities and/or Cultural Resources). The information does not need to be repeated verbatim in the environmental document; present the Section 4(f) use in a few sentences and direct the reader to the Section 4(f) appendix for more information.
6. If it is determined that there would be a “use” of a property or properties protected by Section 4(f) and the use is not *de minimis*, then a Programmatic or Individual evaluation will be needed.

Note: If there is an Individual Section 4(f) evaluation, then it should include, as sub-sections:

* + Programmatic Section 4(f) Evaluation(s)
	+ Section 4(f) *De Minimis* Determination(s)
	+ Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)

**Multiple Protected Section 4(f) Properties**. If the proposed project has multiple protected Section 4(f) properties, it may be easier for the reader if the evaluation is organized so that each property is discussed separately. In other words, describe each property, then discuss the use of that property, then ascertain if there is a feasible and prudent avoidance alternative that avoids the use of the Section 4(f) property by considering the six factors specified in 23 CFR 774.3(c), discuss measures to minimize harm to that property, then document the coordination for that property, and lastly add the concluding statement for that property. Then move on and do the same for each additional Section 4(f) property. Using this approach, the overall organization would look as follows:

* Introduction
* Description of proposed project (include all alternatives)
* List and describe the Section 4(f) properties
	+ Describe the use of [insert name of first property] (discuss the degree of use caused by each alternative)
		- Avoidance alternatives for all Section 4(f) properties (i.e., any avoidance alternatives must avoid each and every Section 4(f) property, not just the property being discussed).
		- Measures to minimize harm to [insert name of first property]
		- Coordination conducted for [insert name of first property]
		- Concluding statement for [insert name of first property]
	+ Describe the use of [insert name of second property] (discuss the degree of use caused by each alternative)
		- Avoidance alternatives for all Section 4(f) properties (i.e., any avoidance alternatives must avoid each and every Section 4(f) property, not just the property being discussed).
		- Measures to minimize harm to [insert name of second property]
		- Coordination conducted for [insert name of second property]
		- Concluding statement for [insert name of second property]
* Sub-sections, as applicable, describing Programmatic evaluation(s), *de minimis* determinations, and No-Use determinations. Follow the directions provided below for each of these situations, but there is no need to repeat any regulatory language that has already been used.
* Letters and other correspondence

**Section 6(f) Consideration**

State and local governments often obtain grants through the Land and Water Conservation Fund Act (LWCF) to acquire or make improvements to parks and recreational areas. Section 6(f) of this act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior’s National Park Service. If LWCF funds were used for acquisition or improvement, certain requirements must be met before the land can be acquired (see SER, Vol. 1, Chapter 20, “Section 4(f) and Related Requirements”). Section 6(f) properties should be identified and discussed in the Section 4(f) evaluation.

**Documenting the Analysis**

**Include the appropriate sections below in your document as applicable (Use links below to jump to appropriate section):**

[Individual Section 4(f) Evaluation](#Individual)

[Programmatic Section 4(f) Evaluation](#Programmatic)

[Section 4(f) *De Minimis* Determination](#De_Minimis)

[Resources Evaluated Relative to the Requirements of Section 4(f): No Use Determination](#Resources_Evaluated)

[Section 6(f) Consideration](#Section_6f)

Individual Section 4(f) Evaluation

GUIDANCE

The purpose of an Individual Section 4(f) evaluation is to analyze the alternatives that avoid the Section 4(f) property(ies), determine if these alternatives are prudent and feasible, and identify all possible planning to minimize harm. Please note that under NEPA Assignment, all Individual Section 4(f) evaluations must undergo the same 5-step review process that is done for Environmental Impact Statements, including a legal sufficiency review.

1. If a cover page is being used for the Section 4(f) report, insert the following language on the cover:

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 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

1. Organize the Section 4(f) evaluation as follows:
* Introduction
* Description of proposed project (include all alternatives)
* Describe the Section 4(f) property
* Assess the use of the Section 4(f) property (discuss the degree of use caused by each alternative)
* Avoidance alternatives
* Measures to minimize harm
* Coordination
* Concluding statement
* Sub-sections, as applicable, describing Programmatic evaluation(s), *de minimis* determinations, and No-Use determinations. Follow the directions provided below for each of these situations, but there is no need to repeat any regulatory language that has already been used.
* Letters and other correspondence
* Reference technical reports (HPSR, CIA, etc. as appropriate)

Introduction

Include the following boilerplate language in the introduction for an Individual Section 4(f) evaluation:

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 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 recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the 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:

* There is no prudent and feasible alternative to using that land; and
* 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 coordination with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Description of the Proposed Project

Discuss the proposed project, including each build alternative and the no-build alternative. Give enough detail so that the reader can understand the proposed project and alternatives; then refer the reader to Chapter 1, “Proposed Project,” for more detailed information.

Briefly discuss the purpose and need for the project. Refer the reader to the “Purpose and Need” section in Chapter 1 for more information.

Section 4(f) Properties

Analyze all archaeological and historic sites within the Section 106 area of potential effects (APE) and all public and private parks, recreational facilities, and wildlife refuges within the Section 4(f) study area to determine whether they are protected Section 4(f) properties.

1. If protected Section 4(f) properties have been identified in the project vicinity, any of which would be used by any alternative under consideration, then include the following for each property affected. Provide:
* Detailed map(s) showing relationship of the property to the alternative(s)
* Size and location of property
* Ownership (publicly or privately owned) and type of Section 4(f) property, e.g., County of XYZ Park
* Lease, easements, covenants, and/or restrictions that affect ownership
* Function of, or available activities on, the property
* Description and location of all existing and planned facilities (baseball fields, playgrounds, etc.)
* Access (pedestrian, bicycle, car) and usage (approximate number of visitors)
* Relationship to other similarly used lands in the vicinity (what other parks, recreational facilities or historical structures exist in the area?)
* Unusual characteristics of the property that either enhance or reduce its value

Use of the Section 4(f) Property

1. For each alternative, discuss the use on the property. The Section 4(f) regulation explicitly defines when a use of a Section 4(f) property occurs; therefore, the term has very specific meaning within the regulation. A use occurs one of three ways: (1) land is permanently incorporated into a transportation facility (i.e. through the purchase of right-of-way or permanent easement); (2) one of the five criteria cannot be met for the temporary occupancy exception (See instructions under “The Basic Section 4(f) Analysis” above and 23 CFR 774.13(d).); or (3) constructive use (23 CFR 774.15).

Assess the use of the Section 4(f) property in terms that are consistent with the language of the regulation: permanent incorporation; does not meet the criteria of temporary occupancy; or constructive use. The term *constructive use* can only be used when prior approval from FHWA is received by the HQ Environmental Coordinator. Otherwise, the term should not appear in the text to describe a use of the 4(f) property. Refer to FHWA’s Section 4(f) Policy Paper for additional guidance on how to assess the use of Section 4(f) properties.

1. Discuss the degree of use that each alternative causes to the Section 4(f) property. First, identify the property’s major activities, features, or attributes. Second, explain how these are affected. For example, identify the amount of land to be acquired, explain what park facilities are affected, or which contributing elements are modified in a historic district, or if there are any perceptible noise differences. If the alternative causes temporary impacts during construction, discuss those as well.
2. If an alternative acquires land from more than one Section 4(f) property, it may be helpful to develop a summary table that compares the various uses. Be sure to quantify measurable impacts, such as noise, whenever possible. Visual intrusions or changes to accessibility, which cannot be quantified, should be described. Cross-reference other sections of the environmental document as appropriate.

Avoidance Alternatives

A Section 4(f) evaluation must contain sufficient supporting information to make the finding that there is no feasible and prudent avoidance alternative and that the project includes all possible planning to minimize harm. Section 4(f) requires the development of one or more “avoidance” alternatives that avoid each and every Section 4(f) property. In this section, identify any avoidance alternatives that have been developed, including the no-build alternative, which avoid the use of the Section 4(f) property. The analysis for avoidance alternatives can be broken into a series of three steps.

1. Identify and develop a reasonable range of alternatives that completely avoid the Section 4(f) property or properties. One of the avoidance alternatives must be the no-build alternative. Other potential alternatives to avoid the use of the Section 4(f) property may include one or more of the following:
* Location alternatives (re-routing the entire project along a different alignment)
* Alternative actions (this could be a different mode of transportation such as rail or bus, or some other action that does not involve construction such as the implementation of transportation management systems or similar measures)
* Alignment shifts (re-routing a portion of the project to a different alignment to avoid a specific property)
* Design changes (modifying the proposed design in a manner that will avoid impacts such as reducing median width, building a retaining wall, incorporating design exceptions, etc.)
1. Once the potential avoidance alternative(s) have been identified, evaluate whether it is feasible and prudent to avoid the Section 4(f) property. *Alternatives that do not avoid the use of each and every Section 4(f) property are not analyzed.* Only the avoidance alternatives go through the feasible and prudent analysis. The regulations state that an avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment (23 CFR 774.17). The prudence evaluation involves applying each of the following six factors to each avoidance alternative. Does the alternative:
2. Compromise the project so that it is unreasonable given the purpose and need?
3. Result in unacceptable safety or operational problems?
4. After reasonable mitigation, still causes:
* Severe social, economic, or environmental impacts;
* Severe disruption to established communities;
* Severe environmental justice impacts; or
* Severe impacts to other federally protected resources
1. Result in additional construction, maintenance, or operational costs of an extraordinary magnitude?
* Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant’s annual budget; and the extent to which the increased cost for the project would adversely impact that applicants’ ability to fund other transportation projects. (FHWA Final Rule, “Section-by-Section Analysis of the NPRM Comments and the Administration’s Response,” Federal Register Vol. 73, No. 49, March 12, 2008).
1. Cause other unique problems or unusual factors?
2. Involve multiple factors listed above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude?

Evaluate each avoidance alternative against the factors for feasibility and prudence. Document the consideration of the six factors above for each avoidance alternative and remember that this analysis puts a “thumb on the scale” in favor of protecting the Section 4(f) property. If a factor is not applicable, simply note that in the analysis. Do not state that the avoidance alternatives are not feasible and prudent in the draft document. The purpose of the draft Individual Section 4(f) evaluation is to discuss the information that will ultimately support a decision made in the final evaluation. However, you may discuss your preliminary findings (see sample language below).

Based on the discussions above, it appears that there is no feasible and prudent avoidance alternative. However, a final decision will not be made until after the draft document has been circulated for public review. (Update for final document).

1. The third and final step is to develop the supporting facts that will help eliminate the avoidance alternatives that do not meet the standards for “feasible and prudent.” In the final Individual Section 4(f) evaluation, discuss the reasons for concluding there are no feasible and prudent avoidance alternatives.

Remember that *the feasible and prudent standard applies only to avoidance alternatives*. It does not apply when choosing among alternatives that use a Section 4(f) property.

If no feasible and prudent avoidance alternatives exist, then there are two options:

* If only one alternative that uses a Section 4(f) property remains under consideration, document all possible planning to minimize harm.
* If two or more alternatives that both use one or more Section 4(f) properties remain under consideration, document the least harm analysis.

Measures to Minimize Harm to the Section 4(f) Property

Discuss all possible planning for measures that are available to minimize the impacts on the property. Document all efforts undertaken even if they seem relatively minor. Summarize and refer readers to the main body of the environmental document as appropriate. *All possible planning* means all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project (23 CFR 774.17 *All Possible Planning* definition).

In evaluating the reasonableness of measures to minimize harm, consider and document the preservation purpose of the statute and all of the following:

* The views of the officials with jurisdiction over the Section 4(f) property
* 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
* Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property

Measures should be developed in consultation with the official of the agency having jurisdiction over the land, and usually involve replacement land, replacement facilities, or monetary compensation to enhance the remaining land.

Least Harm Analysis and Concluding Statement [include for Final ED]

This section must be included in the final environmental document if the analysis in the preceding section concludes that there is no feasible and prudent avoidance alternative, and there are two or more alternatives that use a Section 4(f) property. In the draft environmental document, some preliminary information about the least harm analysis may be included, but no conclusion or final analysis is to be included until the final environmental document. Least harm analysis is required when multiple alternatives that use the Section 4(f) property remain under consideration.

If there is no prudent and feasible alternative to avoid harm to the Section 4(f) property, then only the alternative that causes the least overall harm in light of the statute’s preservation purpose can be chosen. To determine which of the alternatives cause the least overall harm, compare and consider the following seven factors. These factors involve balancing competing and conflicting considerations—some of the factors may weigh in favor of an alternative while other factors may weigh against it (23 CFR 774.3(c)(1)).

1. Ability to mitigate adverse impacts to each Section 4(f) property
2. Relative severity of the remaining harm, after mitigation, to the protected activities and attributes or features (document even if harm is substantially equal)
3. Relative significance of each Section 4(f) property
4. Views of the officials with jurisdiction over each Section 4(f) property.
5. Degree to which each alternative meets the purpose and need
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f)
7. Substantial differences in costs among alternatives

The purpose of the balancing test is to identify an alternative that would cause the least overall harm. Document the process and the results of the balancing. A summary table may be helpful to differentiate the balancing of each factor for the alternatives. Consider the views of each official with jurisdiction and make an independent judgment about the relative value of each Section 4(f) property. Not all Section 4(f) properties are equal. Consider the function of each Section 4(f) resource, compare impacts, and apply reasonable minimization approaches to help minimize harm in light of the balancing factors to determine which alternative is considered the most appropriate.

The identification of the alternative that has the overall least harm must be documented in the final Section 4(f) analysis.

Include the concluding statement in final environmental document only:

Based on the above considerations, there is no feasible and prudent alternative to the use of land from [name the Section 4(f) property(ies)]. The proposed action includes all possible planning to minimize harm to [name the Section 4(f) property(ies)] resulting from such use and causes the least overall harm in light of the statute’s preservation purpose.

Coordination

1. Document coordination with the agency having jurisdiction over the property—the Department of the Interior, and, as appropriate, the U.S. Department of Agriculture (for National Forest System Lands) and the Department of Housing and Urban Development (property for which HUD funding was used). (Note: The Department of Interior has 45 days to respond; if they don’t reply within 45 days, then you must wait another 15 days before proceeding without their comments.)
2. The focus of this section is on coordination with these agencies regarding Section 4(f), not coordination with them in general (see a through d below). Coordination with these agencies is the responsibility of the Department as assigned by the FHWA. The FHWA Section 4(f) Policy Paper recommends that preliminary coordination with these agencies should occur before the circulation of the draft Section 4(f) evaluation and that follow-up coordination *must* occur to address issues that are raised during review of the draft evaluation. Coordination must occur and be documented before the Final Section 4(f) evaluation can be approved.
3. Document coordination on:
4. Significance of the property
5. Primary purpose of the land
6. Proposed use and impacts
7. Proposed measures to avoid and /or minimize harm

Programmatic Section 4(f) **Determination(s)**

Guidance

Programmatic Section 4(f) Evaluation

1. **Programmatic Section 4(f) Evaluations.** A separate annotated outline has been developed for use in preparing a Programmatic Section 4(f) evaluation; it can be found in the [Annotated Outline section of the Forms and Templates page of the SER](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#aos). Programmatic Section 4(f) evaluations eliminate *only* the coordination process with the Department of Interior and, as appropriate, the Department of Agriculture and the Department of Housing and Urban Development, and the requirement for a legal sufficiency review. *Interagency coordination is still required with the agency having jurisdiction over the property*. A Programmatic Section 4(f) evaluation and an Individual Section 4(f) evaluation require the same amount of intense analysis and effort to prepare.

There are five Programmatic Section 4(f) evaluations. Each of the five programmatic evaluations has unique requirements or applicability criteria. Project-specific details must fit the applicability criteria in order to apply the programmatic evaluation. The applicability criteria are found within each of the linked Programmatic Section 4(f) evaluations under the heading “Applicability.” If the project details do not fall within the applicability criteria, or the specific conditions within that programmatic category are not met, then an Individual Section 4(f) evaluation is required. The five Programmatic Section 4(f) evaluations are:

1. [Independent Walkway and Bikeways Construction Projects](https://www.environment.fhwa.dot.gov/legislation/section4f/4fbikeways.aspx)
2. [Historic Bridges](https://www.environment.fhwa.dot.gov/legislation/section4f/4f_bridges.aspx)
3. [Minor Involvements with Historic Sites](https://www.environment.fhwa.dot.gov/legislation/section4f/4f_minor_hist.aspx)
4. [Minor Involvements with Parks, Recreation Areas and Waterfowl and Wildlife Refuges](https://www.environment.fhwa.dot.gov/legislation/section4f/4f_minor_parks.aspx)
5. [Net Benefit](https://www.environment.fhwa.dot.gov/legislation/section4f/4f_netbenefits.aspx)

Section 4(f) *De Minimis* **Determination(s)**

Guidance

Include the following boilerplate language at the beginning of this section:

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA’s final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Analyze all public and private parks, recreational facilities, and wildlife refuges within the Section 4(f) study area to determine whether they are protected Section 4(f) properties. De minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not adversely affect the activities, features, and attributes of the 4(f) property.

If the proposed project results in a *de minimis* impact finding for a publicly owned park, recreation area, or wildlife and waterfowl refuge, describe and document the following for each property:

* List the activities, features, attributes of the 4(f) property
* Describe the use
* Explain why the use is *de minimis*
* Define the public notice process
* List any avoidance, minimization, and/or mitigation, measures needed to make a de *minimis* finding
* In the final environmental document, include the written concurrence from the official with jurisdiction that the project will not adversely affect the activities, features, and attributes of the Section 4(f) property. (Note: written concurrence can only be requested after the public notice period and after the public has had a chance to comment on the *de minimis* impact finding.)

Analyze all archaeological and historic sites within the Section 106 area of potential effects (APE) to determine whether they are protected Section 4(f) properties. \

If the proposed project results in a *de minimis* finding for a historic property under 23 CFR 774.17, describe and document the following (remember that *de minimis* can only be used for archaeological and historic sites when there is a Section 106 finding of “no adverse effect” or “no historic properties affected.”):

* Describe the use
* Explain why the use is *de minimis*
* List any avoidance, minimization, and/or mitigation measures needed to make a *de* *minimis* finding
* Section 106 Programmatic Agreement documentation with *de* *minimis* notice sent to SHPO, if applicable, and ACHP, if applicable.

When a Programmatic Agreement for Section 106 is in place between the Department, SHPO, and FHWA, SHPO must be informed in writing that a non-response for the purposes of a “no adverse effect” or a “no historic properties affected” determination will be treated as the written concurrence for the *de minimis* determination.

Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)

Guidance

The appendix titled “Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination” is intended to document the rationale for why a “use” did not occur to Section 4(f) properties within the Section 4(f) study area. Do not include an appendix titled “Section 4(f) Analysis” unless there is a use to one or more Section 4(f) properties.

Include the following boilerplate language at the beginning of this section:

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 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 recreation lands, wildlife and waterfowl refuges, and historic sites.”

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Analyze all archaeological and historic sites within the Section 106 area of potential effects (APE) and all public and private parks, recreational facilities, and wildlife refuges within the Section 4(f) study area to determine whether they are protected Section 4(f) properties and whether the project would “use” the properties. If there are potential Section 4(f) properties in the project vicinity, but they are not eligible for protection under Section 4(f) and/or the project does not “use” them, clearly state that in the appropriate section of the environmental document (Parks and Recreational Facilities and/or Cultural Resources). Then, follow the guidance below:

1. First, list each property that is not protected by Section 4(f) and explain why each property is not protected. If the reason a particular property is not protected by Section 4(f) is not explained in the regulations, but is discussed in the Section 4(f) Policy Paper, then incorporate the language from the policy paper as the basis of your discussion and demonstrate how the project meets the requirements of the policy paper. Provide details.
2. Then, list each property that is protected by Section 4(f) but for which there is no “use.” When doing so, refer to the Section 4(f) regulations at 23 CFR 774 and discuss how the facts of this project either meet or do not meet the requirements found in the regulations. For each property discussed in this section, include one of the following concluding remarks:
* If the property is not a Section 4(f) property, or if the property is a Section 4(f) property but a “use” did not occur, then conclude with one of the following statements:
	+ The property is not a Section 4(f) property, therefore, the provisions of Section 4(f) do not apply.
	+ The property is a Section 4(f) property, but no “use” will occur. Therefore, the provisions of Section 4(f) do not apply.

Section 6(f)

Guidance

Include the following boilerplate language at the beginning of this section:

The Land and Water Conservation Fund (LWCF) Act was established by Congress in 1964 to fulfill a bipartisan commitment to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. The LWCF program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. Section 6(f) of this Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of Interior’s (DOI) National Park Service.

If LWCF funds were used for acquisition or improvement, certain requirements must be met before the land can be acquired (see SER, Vol. 1, Chapter 20, “Section 4(f) and Related Requirements” and Chapter 8 of the [National Park Service Land and Water Conservation Fund State Assistance Program Manual](https://www.nps.gov/subjects/lwcf/upload/lwcf_manual.pdf)).

1. Discuss properties that were acquired or improved using funds from the LWCF. Define the boundaries of the 6(f) grant (note, these boundaries are not always the same as the entire park boundary). A map is preferred.
2. Discuss how the prerequisites for replacement of the 6(f) property are satisfied.
3. Identify replacement parcel and request conversion approval from State Parks (they will work with the National Park Service as appropriate). Include the approval letter in the final environmental document.
4. Document approval of 6(f) conversion/replacement property.

Additional References

* [23 CFR 774: Parks, Recreation Areas, Wildlife And Waterfowl Refuges, and Historic Sites (Section 4(f))](https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/volume-1-guidance-for-compliance/ch-1-federal-requirements#Ch1Section4f)
* [[Technical Advisory T6640.8A, Oct. 30, 1987](http://www.dot.ca.gov/ser/vol1/sec3/special/ch204f/..%5C%5C..%5C%5C..%5C%5Csec1%5C%5Cch1fedlaw%5C%5Cchap1.htm%22%20%5Cl%20%226640)](http://environment.fhwa.dot.gov/projdev/impTA6640.asp)
* [Section 4(f) Policy Paper, July 20, 2012](http://www.environment.fhwa.dot.gov/4f/4fpolicy.asp)

* [FHWA Section 4(f) Legislation, Regulations, and Guidance](https://www.environment.fhwa.dot.gov/legislation/section4f.aspx)

Appendix B. Title VI Policy Statement

Include the [Title VI Policy Statement](https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi).

Appendix C. Summary of Relocation Benefits (if applicable)

If the proposed project involves any relocations, then include the following:

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 the Department’s Division of Right of Way and Land Surveys. 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](http://uscode.house.gov/view.xhtml?path=/prelim@title42/chapter61&edition=prelim). 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 Department’s 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 financial benefit program. Refer to the [Department’s Right-of-Way Manual](https://dot.ca.gov/programs/right-of-way/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 financial benefits, 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 the Department 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 Department relocation advisor.

***RELOCATION ASSISTANCE ADVISORY SERVICES***

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department 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. The Department 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 the Department.

***RESIDENTIAL RELOCATION FINANCIAL BENEFITS***

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 the Department 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 90 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.

*Rent Differential*

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department 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. 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 the Department 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 90 days and tenants in legal occupancy prior to the Department’s initiation of negotiations. 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 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department 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 identified as real property 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 $25,000 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 $40,000.

***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 Department 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 the Department’s Division of Right of Way and Land Surveys. 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.

If your project includes relocations, include a link to the Division of Right of Way’s Relocation Assistance Program at:

<https://dot.ca.gov/programs/right-of-way/relocation-assistance-program>

Appendix D. Glossary of Technical Terms (optional)

A glossary of common technical terms used in environmental documents can be found on the SER and can be customized for use in your document.

Appendix E. Avoidance, Minimization and/or Mitigation Summary

Include a copy of the project’s Environmental Commitments Record (ECR) or equivalent to serve as Appendix E. Be certain that the ECR separates out measures for significant impacts under CEQA (i.e., those measures used to lessen a significant impact under CEQA) versus other measures intended to avoid or minimize other less-than-significant impacts. On the ECR, use the terms “mitigate” and “mitigation” only in reference to impacts that will be identified in the CEQA checklist as “significant” or “less than significant with mitigation incorporated.” All avoidance, minimization, and/or mitigation measures as well as conditions required by agreements with the resource agencies must be included in the ECR.

Note: If the impact is identified as “significant and unavoidable” on the CEQA checklist, you should not be preparing an IS; you need to prepare an EIR.

Numbering the measures in the ECR and using those same numbers throughout the environmental document may be helpful for the reader. It may be desirable to include project features intended to avoid and/or minimize impacts in the ECR for tracking purposes and to assist with the PS&E review for the project. If these are included, be certain to identify them as such.

Include the following introductory statement in the ECR:

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project’s final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Appendix F. List of Acronyms and Abbreviations (optional)

A list of common acronyms and abbreviations used in environmental documents can be found on the SER and can be customized for use in your document.

Appendix G. Required Consultation/Concurrence Documentation (for final document only)

The following required consultation/concurrence documentation can be included here or in Chapter 4, “Comments and Coordination.”

* FHWA Air Quality Conformity Determination
* Memorandum of Agreement (MOA) for any Finding of Adverse Effect
* Biological Opinion and/or concurrence with “Not Likely to Adversely Affect” Determination, as applicable
* If applicable and if they have been obtained by the time of the FED, the 2080 Incidental Take Permit, and/or the 2080.1 Consistency Determination
* Section 4(f) concurrence for *de minimis* (23 CFR 774.5(b), temporary occupancies (23 CFR 774.13(d), or transportation enhancement activities (23 CFR 774.13(g)
* FHWA Significant floodplain encroachment concurrence

Appendix H. Comment Letters and Responses (if not included in Chapter 4; for final document only)

Appendix I. Final Determination of Engineering and Operational Acceptability (if applicable; for final document only)

If applicable, include a copy of the project’s "Final Determination of Engineering and Operational Acceptability" from FHWA to serve as Appendix I.

List of Technical Studies

1. The MOU is located on the SER at <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf> [↑](#footnote-ref-1)
2. A point source is any discrete conveyance such as a pipe or a man-made ditch. [↑](#footnote-ref-2)
3. The U.S. EPA defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.” [↑](#footnote-ref-3)
4. "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project. [↑](#footnote-ref-4)
5. LED lighting is a type of lighting that uses “light-emitting diodes.” [↑](#footnote-ref-5)
6. This guidance does not currently account for the effects of the US National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule on transportation emissions, which was proposed in August 2018 but has yet to be adopted. The SAFE rule would amend the existing Corporate Average Fuel Economy (CAFÉ) and GHG emissions standards for passenger cars and light duty trucks and establish new standards covering model years 2021 through 2026. The proposal would retain the model year 2020 standards for both programs through model year 2026. If finalized as proposed, the use of EMFAC and CT EMFAC for the purposes of analyzing fuel consumption will be re-evaluated. [↑](#footnote-ref-6)
7. This analysis does not currently account for the effects of the US National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule Part One which was published on September 27, 2019 and effective November 26, 2019. The Part One Rule revokes California’s authority to set its own greenhouse gas emissions standards and set zero-emission vehicle mandates in California. Future fuel consumption estimates are based on certain planning assumptions within CARB’s EMFAC2017 model, including California’s specific emission standards for future years. Although CARB has not yet provided adjustment factors for fuel consumption to be utilized in light of the SAFE Rule, modeling these estimates with EMFAC2017 or CT-EMFAC2017 remains the most precise means of estimating future fuel consumption. [↑](#footnote-ref-7)