

California High-Speed Rail Authority

# *Merced to Fresno* *Section: Central* *Valley Wye*

Historic  
Architectural  
Survey Report

October 2016





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## ACRONYMS AND ABBREVIATIONS

APE	area of potential effect
APN	Assessor's Parcel Number
Authority	California High-Speed Rail Authority
BNSF	BNSF Railway
Central Valley Wye	California High-Speed Rail System, Merced to Fresno Section: Central Valley Wye
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
CVP	Central Valley Project
EIR	environmental impact report
EIS	environmental impact statement
FRA	Federal Railroad Administration
HASR	Historic Architecture Survey Report
HPSR	Historic Property Survey Report
HSR	high-speed rail
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
QI	Qualified Investigator
Section 106 PA	<i>Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the California High-Speed Train Project</i>
SHPO	State Historic Preservation Office(r)
SR	State Route
Supplemental EIR/EIS	<i>Merced to Fresno Section: Central Valley Wye Supplemental Environmental Impact Report/Supplemental Environmental Impact Statement</i>
UPRR	Union Pacific Railroad
USGS	U.S. Geological Survey





## 1 SUMMARY OF FINDINGS

This Historic Architectural Survey Report (HASR) has been prepared for the Merced to Fresno Section: Central Valley Wye (Central Valley Wye) of the California High-Speed Rail (HSR) System. The Central Valley Wye is located in Merced and Madera Counties, and would be a critical link in the Phase 1 HSR system connecting San Francisco and the Bay Area to Los Angeles and Anaheim. The prior environmental document in the vicinity of the Central Valley Wye, the *Merced to Fresno Section Final Environmental Impact Report/Environmental Impact Statement*, was certified by the California High-Speed Rail Authority (Authority) Board of Directors in May 2012. That environmental document included an evaluation of the “wye” connection joining the Merced to Fresno Section and the San Jose to Merced Section in the vicinity of Chowchilla. However when the Board of Directors certified that document and made a decision on the rail alignment between Merced Station and Fresno Station, it deferred making a decision on the wye connection to the west. Subsequently, the Authority decided to evaluate the wye alternatives in a *Merced to Fresno Section: Central Valley Wye Supplemental Environmental Impact Report (EIR)/Supplemental Environmental Impact Statement (EIS)* (Supplemental EIR/EIS) (Authority and FRA 2016). The Supplemental EIR/EIS addresses impacts under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). For specific information on the location of the Central Valley Wye see Appendix A, Central Valley Wye Location and Vicinity Maps. This report is part of the technical studies prepared in support of the Supplemental EIR/EIS.

The purpose of this study is to document the identification and evaluation of historic architectural resources within the area of potential effect (APE) for the Central Valley Wye. The term *historic architectural resources* is used to indicate buildings, engineering structures, or landscapes that were created during the historic era (1769–1965), as well as districts or groupings of such resources. The location and vicinity maps are provided in Appendix A and the APE maps are provided in Appendix B, Area of Potential Effects Map. This HASR provides the summary of survey and evaluation findings as of March 2016. This study was prepared for the Authority and FRA in their ongoing compliance with Section 106 of the National Historic Preservation Act (NHPA), and its implementing regulations issued by the Advisory Council on Historic Preservation that pertain to federally funded undertakings and their impacts on historic properties.

This HASR follows the procedures set forth in the *Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the California High-Speed Train Project* (Section 106 PA) (Authority and FRA 2011). The Section 106 PA provides overall guidance regarding compliance with Section 106 of the NHPA. It provides direction for the development of the APE, the identification, documentation, and evaluation of historic properties, and the assessment of adverse effects. The Section 106 PA directs that “historic properties shall be identified to the extent possible within the APE,” and requires that identified historic properties be evaluated in a manner consistent with the Secretary of the Interior’s Standards and Guidelines for Evaluation, and that the evaluations shall be completed by Qualified Investigators (QIs) per the standards of the Secretary of the Interior. All work for the Central Valley Wye has been conducted in accordance with the guidelines outlined in the Section 106 PA. The format and content of this HASR document also follow subsequent technical guidance documents provided by the Authority (Authority 2014).

A portion of the Central Valley Wye overlaps with part of the Merced to Fresno Section APE for that section. The places where the two APEs overlap is illustrated on the APE overview map in Appendix A. In the areas where the two APEs overlap, this HASR incorporates the previous findings for those properties that were inventoried and evaluated and that obtained State Historic Preservation Officer (SHPO) concurrence in the Merced to Fresno Section APE; no new survey or evaluation efforts were conducted for those properties.

Historic architectural resources that were inventoried and evaluated in the Merced to Fresno Section APE are addressed in the following documents:

- *California High-Speed Train Merced to Fresno Section Historic Architectural Survey Report* (Merced to Fresno HASR) (Authority and FRA 2012a)
- *California High-Speed Train Merced to Fresno Section Historic Property Survey Report* (Merced to Fresno HPSR) (Authority and FRA 2012b)

On March 13, 2012, the SHPO concurred with the findings in these reports (OHP 2012: letter FRA100524A). A copy of the SHPO concurrence letter is included in Appendix C, Correspondence.

This HASR identifies and documents properties listed in or eligible for listing in the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR); properties that are not eligible for the NRHP or CRHR; and properties identified as historical resources for the purposes of CEQA within the entire Central Valley Wye APE. Detailed documentation of these findings is included in Appendix D, Department of Parks and Recreation 523 Forms for Eligible Properties, and Appendix E, Department of Parks and Recreation 523 Forms for Ineligible Properties. This report also includes documentation of those historic architectural resources evaluated for eligibility through streamlined documentation, in accordance with the Section 106 PA Attachment C (Appendix F, Streamlined Documentation for Substantially Altered Properties). Detailed documentation is not provided for parcels within the APE that were inaccessible and thus will require phased identification in accordance with the Section 106 PA Stipulation VI.E; that did not include buildings or structures (or where such buildings or structures are located on large parcels, far from the Central Valley Wye project footprint); or that were exempt from evaluation because they are not of age or meet one or more of the criteria for exempt properties listed in the Section 106 PA Attachment D. Table 1-1 summarizes the scope of these efforts.

**Table 1-1 Summary of Evaluation Efforts in the Historic Architectural Survey Report**

Type of Evaluation/Survey Status	Central Valley Wye Records Search Results	Merced to Fresno Section Results <sup>1</sup>	Central Valley Wye Survey Results	Total Number of Properties
NRHP and CRHR Eligible <sup>2</sup>	0	1	1	2
NRHP and CRHR Not Eligible <sup>2</sup>	0	24	156	180
“CEQA-Only” Cultural Resources <sup>2, 3</sup>	0	0	0	0
Streamlined Documentation (Not Eligible for listing in the NRHP or CRHR) <sup>2</sup>	0	13	23	36
Phased ID Required <sup>2</sup>	0	0	67	67
Vacant, Agricultural, or No Effect Parcels	0	0	413	413
Exempt Properties: properties exempt from evaluation because they are not of age or meet one or more of the criteria for exempt properties as stated in the Section 106 PA	2	0	277	279
<b>Total Number of Properties in the APE (Survey Population)</b>	<b>2</b>	<b>38</b>	<b>937</b>	<b>977</b>
Total Properties in the APE that require recordation (i.e., properties containing buildings or structures constructed in 1965 or earlier and cannot be exempted from NRHP/CRHR evaluation) <sup>2</sup>	0	38	247	285

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

<sup>1</sup> Study results for the Merced to Fresno Section APE that overlap with the Central Valley Wye APE, obtained from Authority and FRA 2012a, 2012b

<sup>2</sup> Category that contributes to the portion of the APE survey population requiring recordation in the HASR.

<sup>3</sup> “CEQA-only” resources do not meet the significance criteria for listing in the National Register of Historic Places but may meet either the California Register of Historical Resources, or be listed in a local register and therefore may qualify as historical resources for the purposes of the California Environmental Quality Act, see Section 2.3, “CEQA-Only” Cultural Resources.

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

CEQA = California Environmental Quality Act

Section 106 PA = Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the California High-Speed Train Project

APE = area of potential effect

As planning proceeds and engineering revisions become available, the APE will continue to be revised to reflect design refinements to the Central Valley Wye alternatives. Consequently, additional resources may need to be surveyed and evaluated. Properties in the APE and evaluated for NRHP and CRHR eligibility are identified in the APE map set with map ID numbers.

## 1.1 Section 106 and CEQA Cultural Resources

A total of 285 properties containing buildings or structures built in 1965 or earlier were identified in the Central Valley Wye APE (i.e., were at least 50 years old at the time of survey). These properties cannot be exempted from NRHP and CRHR evaluation and when feasible, all of these properties have been formally addressed in this HASR. This section presents a brief summary of findings for these properties. Section 8, Properties Identified—Findings, provides more detail on the findings for these properties.

Of the 285 properties in the Central Valley Wye APE, 38 properties contain historic architectural resources that were previously evaluated in the Merced to Fresno Section HASR (Authority and FRA 2012a) and in the Merced to Fresno Section HPSR (Authority and FRA 2012b). The

Robertson Boulevard Tree Row (Map ID 423) was previously determined eligible for listing in the NRHP under Criterion A in the area of community development and Criterion C in the area of landscape architecture. The other 37 properties have been determined ineligible for listing in the NRHP or CRHR.

Of the 285 properties in the Central Valley Wye APE, the remaining 247 properties were addressed in the current Central Valley Wye study. One property, the Chowchilla Canal (Map ID 197), is eligible for listing in the NRHP and CRHR. The Chowchilla Canal is individually eligible for listing in the NRHP at the local level of significance under NRHP Criterion A and CRHR Criterion 1 on the basis of its association with an extensive, early irrigation system managed by the Miller & Lux Company in the San Joaquin Valley.

Of the remaining 246 properties, 156 properties containing buildings or structures that were at least 50 years old located in the Central Valley Wye APE were evaluated and do not meet the criteria for listing in the NRHP or the CRHR. The Section 106 PA allows that historic architectural resources built in or before 1965 that have been substantially altered do not require full evaluation on Department of Parks and Recreation (DPR) 523 forms. Twenty-three properties within the APE were evaluated using streamlined documentation. Streamlined documentation of these resources is presented in Appendix F.

None of the historic architectural resources in the APE that were constructed in 1966 or later (i.e., were less than 50 years old at the time of survey) have potential for exceptional significance, and thus would not satisfy the NRHP consideration for properties that may have achieved significance within the last 50 years (NRHP Criteria Consideration G). Accordingly, these resources did not require further study. The remaining 67 properties containing buildings or structures that were at least 50 years old located in the Central Valley Wye APE within the APE survey population will require phased identification. Section 1.3, Properties in the Area of Potential Effect that Require Phased Identification, discusses the status of phased identification properties in more detail.

## 1.2 “CEQA-Only” Cultural Resources

The survey population was also evaluated in accordance with CEQA Guidelines section 15064.5(a)(2)–(3), using criteria outlined in California Public Resources Code section 5024.1. CEQA historical resources are those listed in the CRHR, eligible for listing in the CRHR, or that meet other local government standards as historical resources, as per CEQA Guidelines section 15064.5(a)(4). None of the historic architectural resources surveyed and presented in this HASR are considered to be CEQA-only historical resources, and no historic architectural resources recorded and evaluated in this HASR required further study to resolve the question of eligibility beyond those coded for phased identification (see Section 1.3). The historic architectural resources that require phased identification did not appear on local registers of historic properties, and therefore do not have the potential to be CEQA-only historical resources.

## 1.3 Properties in the Area of Potential Effect that Require Phased Identification

The QIs were not able to view some or all of the buildings on some parcels containing buildings or structures at least 50 years of age from a public thoroughfare. The majority of these properties are in the rural agricultural area of Merced and Madera Counties. QIs determined that either tree coverage blocked the sightline or private roads prevented adequate access to the parcels. In a few cases property access was denied by the property owner and the property was therefore not recorded. As of April 10, 2015, property owners did not grant access to 67 of these properties. These 67 properties will be addressed according to provisions in the Section 106 PA for phased identification (Stipulation IV. Identification and Evaluation of Historic Properties, Section E. Phased Identification). Section 8 presents a list of these 67 properties as well as a summary of all the historic-era architectural resources recorded in the Central Valley Wye APE.

## 2 REGULATORY SETTING

This HASR was prepared for the Authority and FRA in their ongoing compliance with Section 106 of the NHPA, and its implementing regulations issued by the Advisory Council on Historic Preservation that pertain to federally funded undertakings and their impacts on historic properties. This report is part of the technical studies prepared in support of the Supplemental EIR/EIS, which also addresses the Central Valley Wye refinements through September 2016 and their potential to affect historic properties.

The primary applicable federal and state laws and regulations protecting cultural resources are Section 106, NEPA, Section 4(f) of the Department of Transportation Act of 1966, CEQA, and California Public Resources Code sections 5024.1 and 21084.1. The identification of historic architectural resources in this HASR satisfies the requirements in each of those laws for identifying resources that could be affected by the Central Valley Wye. Key cultural resources regulations that are most relevant to the Central Valley Wye are summarized in the following sections.

As stated in Section 1, Summary of Findings, the Section 106 PA provides overall guidance regarding compliance with Section 106 of the NHPA. All work for the Central Valley Wye has been conducted in accordance with the guidelines outlined in the Section 106 PA. Properties addressed in this HASR were evaluated for both NRHP and CRHR eligibility, and in regard to their potential status as a historical resource under CEQA.

### 2.1 National Historic Preservation Act (54 U.S.C. § 300101 et seq.)

The NHPA establishes the federal government policy on historic preservation and the programs, including the NRHP, through which this policy is implemented. Under the NHPA, significant cultural resources, referred to as historic properties include any prehistoric or historic district, site, building, structure, or object included in, or determined eligible for inclusion in, the NRHP. Historic properties also include resources determined to be National Historic Landmarks. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting United States heritage. A property is considered historically significant if it meets one of the NRHP criteria and retains sufficient historic integrity to convey its significance. This act also established the Advisory Council on Historic Preservation, an independent agency responsible for implementing Section 106 of NHPA by developing procedures to protect cultural resources included in, or eligible for inclusion in, the NRHP. Regulations are published in 36 Code of Federal Regulations (C.F.R.) Parts 60, 63, and 800.

#### 2.1.1 36 Code of Federal Regulations Part 800 Implementing Regulations for Section 106 of the National Historic Preservation Act

Section 106 requires that effects on historic properties be taken into consideration in any federal undertaking. The process has five steps: (1) initiating the Section 106 process, (2) identifying historic properties, (3) assessing adverse effects, (4) resolving adverse effects, and (5) implementing stipulations in an agreement document.

Section 106 affords the Advisory Council on Historic Preservation and the SHPO, as well as other consulting parties, a reasonable opportunity to comment on any undertaking that would adversely affect historic properties. SHPOs administer the national historic preservation program at the state level, review NRHP nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with federal agencies during Section 106 review.

The NRHP uses the National Register eligibility criteria (36 C.F.R. § 60.4) to evaluate historic significance of resources within the undertaking's APE. The criteria for evaluation are as follows:

- **Criterion A**—Association with “events that have made a significant contribution to the broad patterns of our history.”
- **Criterion B**—Association with “the lives of persons significant in our past.”

- **Criterion C**—Resources “that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.”
- **Criterion D**—Resources “that have yielded, or may be likely to yield, information important to history or prehistory.”

In addition to meeting one or more of the above criteria, an eligible property must retain integrity, which is determined through application of seven aspects: location, design, setting, workmanship, materials, feeling, and association. Location and setting relate to the relationship between the property and its surrounding environment. Design, materials, and workmanship relate to construction methods and architectural details. Feeling and association pertain to the overall ability of the property to convey a sense of the historical time and place in which it was constructed.

For the HSR project, including the Central Valley Wye, the Section 106 process is defined in the Section 106 PA. The Section 106 PA provides an overall framework for conducting the Section 106 process throughout the HSR system, including guidance for establishing the APE and interested party consultation. The Section 106 PA also provides guidance for streamlining the inventory and evaluation of properties and outlines the approach for the treatment of historic properties, including guidance on developing memoranda of agreement to address the resolution of adverse effects for each segment of the project.

## **2.2 California Environmental Quality Act (Cal. Public Res. Code, § 21084.1) and CEQA Guidelines (Cal. Code Regs., tit. 14, § 15064.5)**

Guidelines for the implementation of CEQA define procedures, types of activities, persons, and public agencies required to comply with CEQA. Section 15064.5(b) prescribes that project effects that would “cause a substantial adverse change in the significance of an historical resource” are significant effects on the environment. Substantial adverse changes include physical changes to both the historical resource and its immediate surroundings. CEQA Guidelines section 15064.5 provides specific guidance for determining the significance of impacts on historical resources (CEQA Guidelines § 15064.5(b)), and unique archaeological resources (CEQA Guidelines § 15064.5(c) and Cal. Public Res. Code § 21083.2). Under CEQA these two categories of resources are called “historical resources” whether they are of historic or prehistoric age.

CEQA (Cal. Public Res. Code, § 21084.1) defines historical resources as those listed, or eligible for listing, in the CRHR, or those listed in the historical register of a local jurisdiction (county or city) unless the preponderance of the evidence demonstrate that the resource is not historically or culturally significant. NRHP-listed “historic properties” located in California are considered historical resources for the purposes of CEQA and are also listed in the CRHR. The CRHR criteria for listing such resources are based on, and are very similar to, the NRHP criteria.

### **2.2.1 California Register of Historical Resources (Cal. Public Res. Code, § 5024.1 and Cal. Code Regs., tit. 14, § 4850)**

Public Resources Code Section 5024.1 establishes the CRHR. The register lists all California properties considered to be significant historical resources. The CRHR also includes all properties listed or determined eligible for listing in the NRHP, including properties evaluated under Section 106.

The CRHR regulations govern the nomination of resources to the CRHR (14 Cal. Code Regs. § 4850). The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations. The CRHR criteria closely parallel those of the NRHP. A resource must be determined to be significant at the local, state, or national level under one or more of the following four criteria in order to be eligible:

- **Criterion 1**—Resources associated with important events that have made a significant contribution to the broad patterns of our history.

- **Criterion 2**—Resources associated with the lives of persons important to our past.
- **Criterion 3**—Resources that embody the distinctive characteristics of a type, period, or method of construction, or represents the work of a master.
- **Criterion 4**—Resources that have yielded, or may be likely to yield, information important in prehistory or history.

The CRHR definition of integrity and its special considerations for certain properties are slightly different than those for the NRHP. Integrity is defined as “the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.” The CRHR further states that eligible resources must “retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance,” and lists the same seven aspects of integrity used for evaluating properties under the NRHP criteria.

### **2.3 State-Owned Historical Resources (Cal. Public Res. Code, §§ 5024 and 5024.5)**

Under California Public Resources Code section 5024(f), a state agency must provide notification and submit to the SHPO documentation for any project having the potential to affect state-owned historical resources listed in or potentially eligible for inclusion in the NRHP or registered as or eligible for registration as a California Historical Landmark. California Public Resources Code section 5024(f) also applies to archaeological sites, landscapes, and other nonstructural resources that are listed in or have been determined eligible for inclusion in the NRHP or are registered or determined eligible for registration as a California Historical Landmark. California Public Resources Code section 5024(f) further requires that state agencies request SHPO’s comments and provides documentation of effects (i.e., No Historic Properties Affected, No Adverse Effect, or Adverse Effect) to NRHP listed/eligible or California Historical Landmark registered/eligible archaeological sites, historic architectural or engineering resources, landscapes, and other nonstructural historical resources.

Like Section 106 but unlike CEQA, California Public Resources Code section 5024.5 uses the term “adverse effect” instead of “substantial adverse change” to describe effects on state-owned historic buildings and structures. California Public Resources Code section 5024.5 requires state agencies to adopt prudent and feasible measures that will eliminate or mitigate the adverse effects on state-owned historic buildings and structures. Under California Public Resources Code section 5024.5, early in the planning process, state agencies must seek SHPO’s concurrence by providing SHPO with a notice and summary documentation of projects involving state-owned historic buildings and structures. As outlined in California Public Resources Code section 5024.5, SHPO makes the final determination as to whether an effect is adverse, not the state agency.





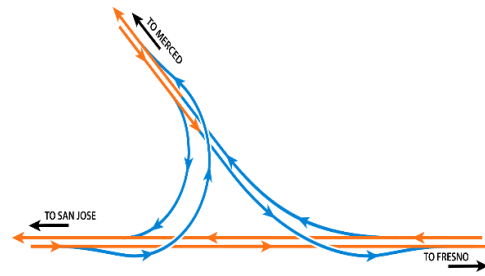
### 3 MERCED TO FRESNO SECTION: CENTRAL VALLEY WYE

The Central Valley Wye would create the east-west HSR connection between the north-south San Jose to Merced Section to the west and the north-south Merced to Fresno Section to the east.<sup>1</sup> The four Central Valley Wye alternatives addressed in the Supplemental EIR/EIS (Figures 3-1 to 3-4) are:

- SR 152 (North) to Road 13 Wye Alternative
- SR 152 (North) to Road 19 Wye Alternative
- Avenue 21 to Road 13 Wye Alternative
- SR 152 (North) to Road 11 Wye Alternative

This section describes the common design features of the four alternatives, followed by descriptions of each alternative. Volume 2, Appendix 2-A, System Infrastructure, of the Supplemental EIR/EIS provides further detail on performance criteria, infrastructure components and systems, and function of the Central Valley Wye and the HSR system as a whole.

*Central Valley Wye Schematic*



#### 3.1 Common Features

The Central Valley Wye alternatives would cross rural areas in unincorporated Merced and Madera Counties, and would travel through the southern portion of Chowchilla and the rural-residential community of Fairmead. Volume 3 of the Supplemental EIR/EIS provides detailed design drawings that support the descriptions of the Central Valley Wye alternatives.

The HSR alignment would be entirely grade-separated, meaning that crossings of roads, railroads, and other transport facilities would use overpasses or underpasses so that the HSR would operate independently of other modes of transport. The HSR right-of-way would also be fenced to prevent public or vehicle access. The Central Valley Wye project footprint would primarily consist of the train right-of-way, which would accommodate two sets of tracks in an area with a minimum width of 100 feet. Additional right-of-way would be required to accommodate grade separations, embankments, traction power facilities, and transitional portions of the Central Valley Wye that allow for bidirectional interface between north-south and east-west trending alignments.

The Central Valley Wye alternatives would include at-grade, below-grade, and above-grade (elevated) track segments. The at-grade track would be laid on an earthen railbed raised between 6 and 10 feet off the ground level, set on ties with rock ballast; fill and ballast for the railbed would be obtained from permitted borrow sites and quarries. Below-grade track would be laid in an open or covered trench at a depth that would allow roadway and other grade-level uses above the track, if necessary. Elevated track segments would span some waterways, roadways, or other railroad and HSR tracks, and would consist of precast, pre-stressed concrete box girders, cast-in-place concrete box girders, or steel box girders. The height of elevated track sections would depend on the height of existing structures below, or clearances to existing roads or other HSR facilities, and would range from 35 to 90 feet above grade. Columns would be spaced approximately 100 to 150 feet apart on average.

<sup>1</sup> The term *wye* refers to the Y-like formation created at the point where train tracks branch off the mainline to continue in different directions. The transition of mainline track to a wye requires splitting two tracks into four tracks that cross over one another before the wye “legs” (segments) can diverge in opposite directions to allow two-way travel. For the Merced to Fresno Section of the HSR system, the two tracks traveling east-west from the San Jose to Merced Section must become four tracks—a set of two tracks branching toward Merced to the north and a set of two tracks branching toward Fresno to the south.

## 3.2 SR 152 (North) to Road 13 Wye Alternative

The SR 152 (North) to Road 13 Wye Alternative (Figure 3-1) follows the existing Henry Miller Road and SR 152 rights-of-way as closely as possible in the east-west direction, and the Road 13, SR 99, and BNSF Railway (BNSF) rights-of-way in the north-south direction. Deviations from these existing transportation routes or corridors are necessary to accommodate design requirements; specifically, wider curves are necessary to accommodate the speed of the HSR compared to lower-speed roadway alignments. The SR 152 (North) to Road 13 Wye Alternative would not follow existing transportation rights-of-way where it transitions from following one transportation corridor to another.

### 3.2.1 Alignment and Ancillary Features

The SR 152 (North) to Road 13 Wye Alternative would extend approximately 52 miles, mostly at-grade on raised embankment, although it would also have aerial structures and a segment of retained cut (depressed alignment). The wye configuration of this alternative would be located southwest of the city of Chowchilla, with the east-west axis along the north side of SR 152 and the north-south axis on the east side of Road 13.

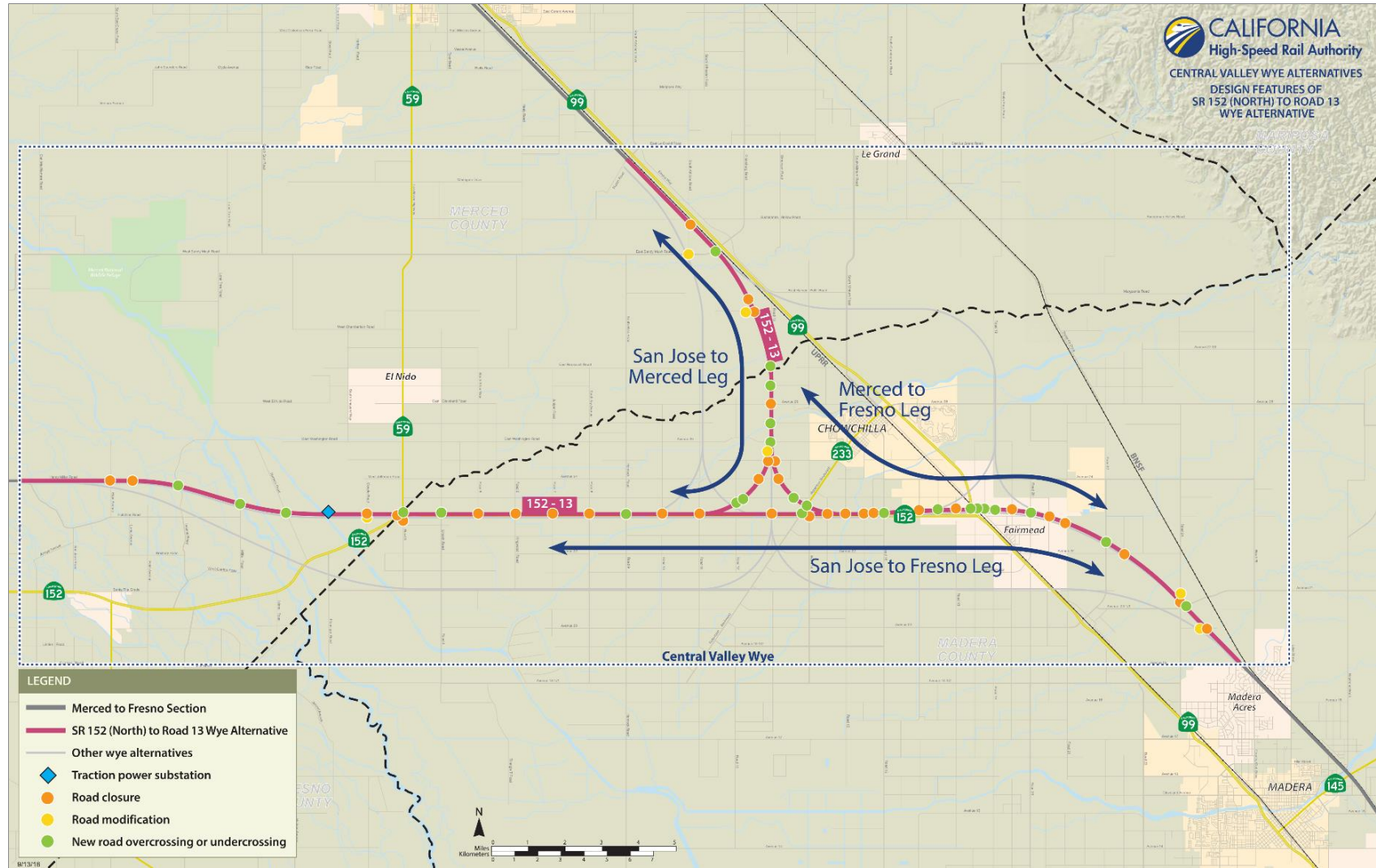
As shown on Figure 3-1, this alternative would begin in Merced County at the intersection of Henry Miller Road and Carlucci Road, and would continue at-grade on embankment due east toward Elgin Avenue, where it would curve southeast toward the San Joaquin River and Eastside Bypass. Approaching Willis Road, the alignment would cross the San Joaquin River on an aerial structure, then would return to embankment. It would then cross the Eastside Bypass on an aerial structure. After crossing the Eastside Bypass, the alignment would continue east and cross SR 59 at-grade just north of the existing SR 152/SR 59 interchange, entering Madera County. The SR 152/SR 59 interchange would be reconstructed a little to the south and SR 59 would be grade-separated to pass above the HSR on an aerial structure. The alignment would continue east at-grade along the north side of SR 152 toward Chowchilla, splitting into two legs (four tracks) near Road 11 to transition to the Merced to Fresno Section: Hybrid Alignment, and would cross Ash Slough on an aerial structure. All but the northbound track of the San Jose to Merced section of the alignment (leg) would then return to at-grade embankment. The northbound track would rise to cross over the tracks of the San Jose to Fresno leg on aerial structure as it curves north toward Merced. The SR 152 (North) to Road 13 Wye Alternative legs would be routed as described below and as shown on Figure 3-1:

- The southbound track of the San Jose to Merced leg<sup>2</sup> would be at-grade. This split (where tracks separate) would be west of Chowchilla, at approximately Road 11. The two San Jose to Merced tracks would continue north on the eastern side of Road 13, crossing Ash Slough and the Chowchilla River, and then would cross over Road 13 to its west side. As the tracks return to grade, they would curve northwest, crossing Dutchman Creek on an aerial structure, and follow the west side of the Union Pacific Railroad (UPRR)/SR 99 corridor. At Sandy Mush Road, the alignment would descend into a shallow cut (depressed) section for approximately 0.5 mile, with a retained cut-and-cover undercrossing<sup>3</sup> at Caltrans' Sandy Mush Road overhead. The alignment would return to grade and continue along the west side of the UPRR/SR 99 corridor, connecting to the Merced to Fresno Section: Hybrid Alignment at Ranch Road.

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<sup>2</sup> A track is included within a leg; e.g., southbound track of the San Jose to Merced leg.

<sup>3</sup> An undercrossing is a road or track crossing under an existing road or track.



Source: Authority and FRA 2016; ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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Figure 3-1 SR 152 (North) to Road 13 Wye Alternative Alignment and Key Design Features

- The San Jose to Fresno leg of this alternative would continue east from the split near Road 11 and along the north side of SR 152 toward Chowchilla. It would be predominantly at-grade, crossing several roads and Berenda Slough on aerial structures. The alignment would pass south of Chowchilla at-grade then would rise to cross over the UPRR/SR 99 corridor and Fairmead Boulevard on an aerial structure. East of the UPRR/SR 99 corridor, the alternative would extend at-grade through Fairmead, north of Avenue 23. At approximately Road 20, the alignment would curve southeast toward the BNSF corridor and cross Dry Creek on a short aerial structure. The San Jose to Fresno leg would align parallel to the west side of the BNSF corridor as it meets the Merced to Fresno Section: Hybrid Alignment at Avenue 19.
- The Merced to Fresno leg of the alternative would split from the San Jose to Fresno leg near Road 14, where the southbound track of the Merced to Fresno leg would ascend on aerial structure, crossing over the tracks of the San Jose to Fresno leg. The northbound track would curve northwest, rise on a high embankment crossing over several roads, and continue on an at-grade embankment until joining the San Jose to Merced leg near Avenue 25.

Wildlife undercrossing structures would be installed in at-grade embankments along this alternative where the alignment intersects wildlife corridors.

### 3.2.2 State Highway or Local Roadway Modifications

The SR 152 (North) to Road 13 Wye Alternative would require the permanent closure of 38 public roadways at selected locations and the construction of 24 overcrossings<sup>4</sup> or undercrossings in lieu of closure. Figure 3-1 shows the anticipated state highway and local roadway closures and modifications. Fourteen of these permanent road closures would be located at SR 152, where roads currently cross at-grade but need to be closed to convert SR 152 to a fully access-controlled corridor. The 14 proposed closures are Road 5, Road 6, Road 7, Road 8, Road 10, Road 11, Road 13, Road 14, Road 14 1/2, Road 15, Road 15 1/2, Road 15 3/4, Road 17, and Road 18. Planned new grade separations along SR 152 at the SR 59/SR 152 Interchange, Road 4/Lincoln Road, Road 12, and Road 17 1/2 would maintain access to, and across, SR 152. These roadways would be reconfigured to two 12-foot lanes with two 8-foot shoulders. Each of the new interchanges would require realigning SR 152. Three new interchanges are proposed between SR 59 and SR 99 to provide access to SR 152: at Road 9/Hemlock Road, SR 233/Robertson Boulevard, and Road 16.

The distance between over- or undercrossings would vary from less than 2 miles to approximately 5 miles where other roads are perpendicular to the proposed HSR. Between these over- or undercrossings, 24 additional roads would be closed, as shown on Figure 3-1. Local roads paralleling the proposed HSR alignment and used by small communities and farm operations may be shifted and reconstructed to maintain their function. Access easements would be provided to maintain access to properties severed by HSR.

### 3.2.3 Freight or Passenger Railroad Modifications

The SR 152 (North) to Road 13 Wye Alternative would cross over the UPRR right-of-way south of Chowchilla. This alternative would maintain required vertical (at least 23.3 feet) clearance over UPRR operational right-of-way to avoid or minimize impacts on UPRR rights-of-way, spurs, and facilities (UPRR 2007). Where the SR 152 (North) to Road 13 Wye Alternative would parallel UPRR operational right-of-way, a horizontal clearance of more than 50 feet would be maintained.

### 3.2.4 Summary

Table 3-1 summarizes the design features for the SR 152 (North) to Road 13 Wye Alternative.

<sup>4</sup> An overcrossing is a road or track crossing over an existing road or track.

**Table 3-1 Design Features of the SR 152 (North) to Road 13 Wye Alternative**

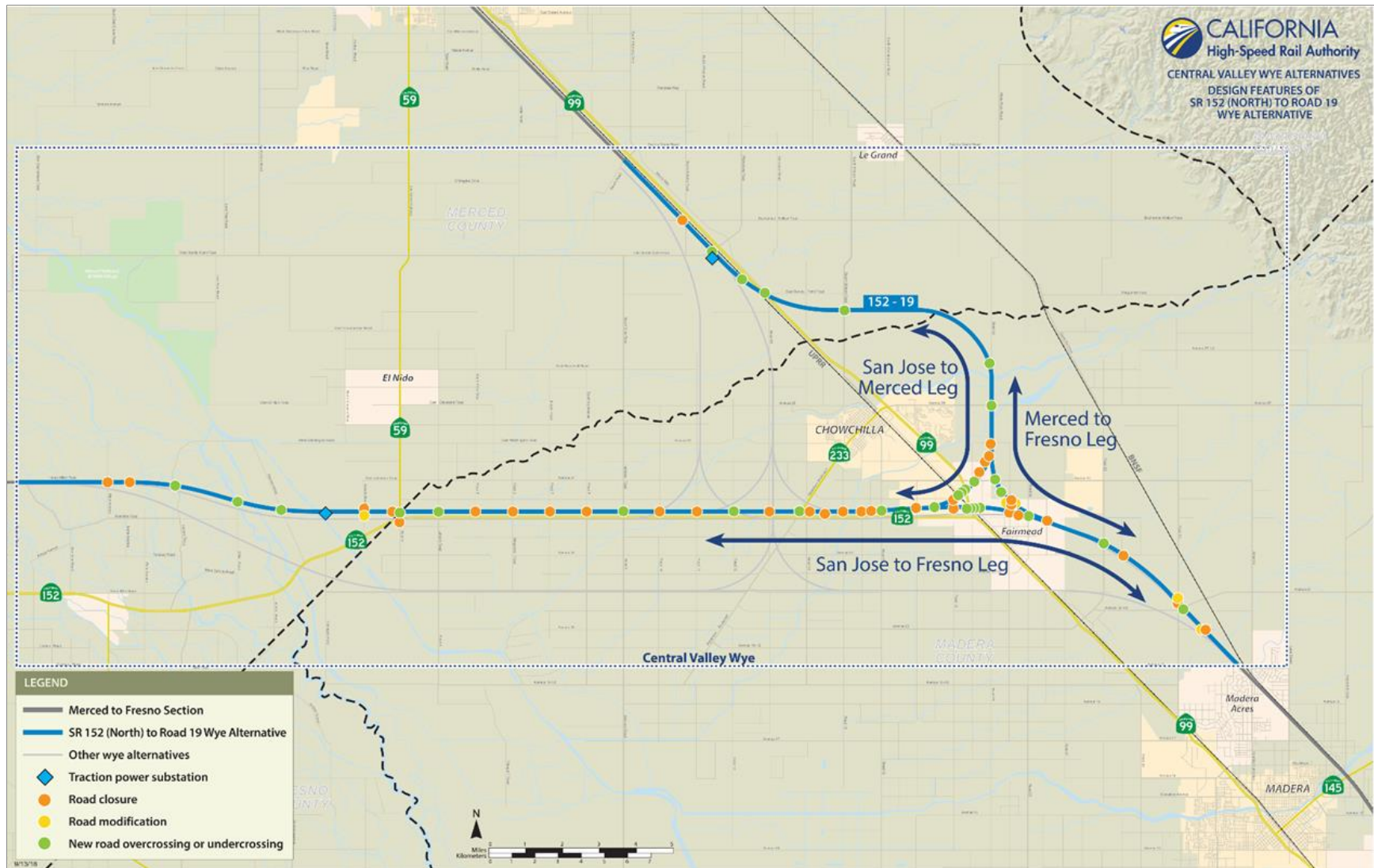
Feature	SR 152 (North) to Road 13 Wye
Total length (linear miles) <sup>1</sup>	52
At-grade profile (linear miles) <sup>1</sup>	48.5
Elevated profile (linear miles) <sup>1</sup>	3
Below-grade profile (linear miles) <sup>1</sup>	0.5
Number of straddle bents	32
Number of railroad crossings	1
Number of major water crossings	12
Number of road crossings	62
Approximate number of public roadway closures	38
Number of roadway overcrossings and undercrossings	24
Traction power substation sites	1
Switching and paralleling stations	3 switching stations, 8 paralleling stations
Signaling and train-control elements	18
Communication towers	9
Wildlife crossing structures	39

Source: Authority, 2015

<sup>1</sup> Lengths shown are based on equivalent dual-track alignments and are one-way mileages. For example, the length of single-track elevated structure will be divided by a factor of 2 to convert to dual-track equivalents.

### 3.3 SR 152 (North) to Road 19 Wye Alternative

The SR 152 (North) to Road 19 Wye Alternative (Figure 3-2) is designed to follow the existing Henry Miller Road and SR 152 rights-of-way as closely as practicable in the east-west direction and Road 19, SR 99, and BNSF rights-of-way in the north-south direction. Deviations from these existing transportation corridors would be necessary to accommodate design requirements; specifically, larger curves would be necessary to accommodate the high speed of the HSR compared to lower-speed roadway alignments. The SR 152 (North) to Road 19 Wye Alternative would not follow existing transportation rights-of-way as it transitions from following one transportation corridor to another.



Source: Authority and FRA 2016; ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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**Figure 3-2 SR 152 (North) to Road 19 Wye Alternative Alignment and Key Design Features**

### 3.3.1 Alignment and Ancillary Features

The SR 152 (North) to Road 19 Wye Alternative would extend approximately 55 miles, mostly at-grade on embankment, although it would also have aerial structures, retained cut (depressed alignment), and depressed tunnel undercrossings of major railroad and highway corridors. The wye configuration of this alternative would be located southeast of the city of Chowchilla and north of Fairmead, with the east-west axis along the north side of SR 152 and the north-south axis on the east side of Road 19.

Beginning at the intersection of Henry Miller Road and Carlucci Road (at the same point in Merced County as the SR 152 [North] to Road 13 Wye Alternative), this alternative would continue east toward Elgin Avenue, where it would curve southeast toward the San Joaquin River. It would cross the river on an aerial structure, returning to an at-grade embankment, then onto another aerial structure to cross the Eastside Bypass. After crossing the Eastside Bypass, the alignment would continue east and cross SR 59 at-grade just north of the existing SR 152/SR 59 interchange, where it would enter Madera County. It would continue east at-grade along the north side of SR 152 toward Chowchilla, crossing Ash Slough and Berenda Slough on aerial structures. As it crosses Road 16, the alignment would split into two legs (four tracks) to transition to the Merced to Fresno Section: Hybrid Alignment. East of Road 17, the San Jose to Merced leg would curve northeast, rising to cross the UPRR/SR 99 corridor on an aerial structure, and then would continue north along the east side of Road 19.

As the alignment approaches Avenue 25, the San Jose to Merced and Merced to Fresno legs would converge, requiring the northbound track of the San Jose to Merced leg to rise on an aerial structure and cross over the tracks of the Merced to Fresno leg.

- The San Jose to Merced leg would continue north to just south of Ash Slough, where it would curve west, cross Ash Slough and the Chowchilla River on aerial structures, and continue west approximately 0.5 mile south of Harvey Pettit Road. West of South Minturn Road, the leg would curve northwest and descend below-grade into a series of three tunnels crossing under the SR 99 and UPRR corridors and the Caltrans Sandy Mush Road overhead. The UPRR tracks would be reconstructed on the roof of the HSR cut-and-cover tunnels, while maintaining the same horizontal and vertical alignment. Construction of this type of below-grade crossing would require temporarily realigning the UPRR tracks. Approximately 0.6 mile north of Sandy Mush Road, the alternative would ascend to grade and continue along the UPRR/SR 99 corridor to connect with the Merced to Fresno Section: Hybrid Alignment at Ranch Road.
- The San Jose to Fresno leg would continue east from Road 16 and, east of Road 18, ascend on an aerial structure to cross SR 99 north of the SR 99/SR 152 interchange. East of the UPRR/SR 99 corridor, the leg would continue north of Avenue 23 through Fairmead, descending to grade east of Road 18 3/4. The alternative would then curve southeast toward the BNSF corridor, crossing Dry Creek on a short aerial structure, and continuing along the west side of the BNSF corridor to join the Merced to Fresno Section: Hybrid Alignment at Avenue 19.
- The Merced to Fresno leg would split from the San Jose to Fresno leg near Road 20 1/2. The southbound track of the Merced to Fresno leg would ascend on an aerial structure and cross over the tracks of the San Jose to Fresno leg. The Merced to Fresno leg would curve northwest, rise on aerial structures over several road crossings, and then continue at-grade to join the San Jose to Merced leg near Avenue 25.
- Wildlife undercrossing structures would be provided in at-grade embankments where the alignment intersects wildlife corridors.

### 3.3.2 State Highway or Local Roadway Modifications

The SR 152 (North) to Road 19 Wye Alternative would require the permanent closure of 36 public roadways at selected locations and the construction of 29 overcrossings or undercrossings. Table 3-2 and Figure 3-2 show the anticipated state highway and local roadway closures and modifications. Fourteen of these permanent road closures would be located at SR 152 where

roads currently cross at-grade but must be closed to convert SR 152 to a fully access-controlled corridor. The proposed 14 closures are Road 5, Road 6, Road 7, Road 8, Road 10, Road 11, Road 13, Road 14, Road 14 1/2, Road 15, Road 15 1/2, Road 15 3/4, Road 17, and Road 18. New grade separations are planned along SR 152 at the SR 59/SR 152 interchange, Road 4/Lincoln Road, Road 12, SR and Road 17 1/2. These roadways would be reconfigured to two 12-foot lanes with two 8-foot shoulders, and several of these interchanges would require realigning SR 152. Interchanges between SR 59 and SR 99 that would provide access to SR 152 are Road 9/Hemlock Road, SR 233/Robertson Boulevard, and Road 16.

The distance between over- or undercrossings would vary from less than 2 miles to approximately 5 miles where roads would be perpendicular to the proposed HSR. Between these over- or undercrossings, 22 additional roads would be closed (Figure 3-2). Local roads paralleling the proposed HSR alignment and used by small communities and farm operations may be shifted and reconstructed to maintain their function. Access easements would be provided to maintain access to properties severed by HSR.

The SR 152 (North) to Road 19 Wye Alternative would cross over SR 99 at three locations. South of Chowchilla, both the San Jose to Merced and the San Jose to Fresno legs would rise on aerial structures to cross SR 99. Another crossing of SR 99 would be at the northern end of the alternative, where it descends below-grade into an undercrossing tunnel segment. SR 99 would be temporarily realigned during construction, and would be reconstructed on the roof of the undercrossing tunnel.

### 3.3.3 Freight or Passenger Railroad Modifications

The SR 152 (North) to Road 19 Wye Alternative would cross over the UPRR corridor at three separate locations. South of Chowchilla, both the San Jose to Merced and the San Jose to Fresno legs would rise on aerial structures to cross the UPRR operational right-of-way. In these instances, the alternative would maintain required vertical (at least 23.3 feet) clearance over UPRR operational right-of-way to avoid or minimize impacts on UPRR rights-of-way, spurs, and facilities (UPRR 2007). The third crossing of the UPRR corridor would be at the northern end of the alternative, where the alignment would descend into an undercrossing tunnel. The UPRR tracks would be reconstructed on the roof of the HSR tunnel, maintaining the same vertical alignment. Construction of this crossing would require the temporary detour (shoofly)<sup>5</sup> of the UPRR tracks. Where the SR 152 (North) to Road 19 Wye Alternative would parallel UPRR operational right-of-way, a horizontal clearance of more than 50 feet would be maintained.

### 3.3.4 Summary

Table 3-2 summarizes the design features for the SR 152 (North) to Road 19 Wye Alternative.

**Table 3-2 Design Features of the SR 152 (North) to Road 19 Wye Alternative**

Feature	SR 152 (North) to Road 19 Wye
Total length (linear miles) <sup>1</sup>	55
At-grade profile (linear miles) <sup>1</sup>	48.5
Elevated profile (linear miles) <sup>1</sup>	3.5
Below-grade profile (linear miles) <sup>1</sup>	3
Number of straddle bents	31
Number of railroad crossings	3

<sup>5</sup> A shoofly is a temporary track alignment that detours trains around a construction site.



Feature	SR 152 (North) to Road 19 Wye
Number of major water crossings	13
Number of road crossings	64
Approximate number of public roadway closures	35
Number of roadway overcrossings and undercrossings	29
Traction power substation sites	2
Switching and paralleling stations	3 switching stations, 7 paralleling stations
Signaling and train-control elements	21
Communication towers	6
Wildlife crossing structures	41

Source: Authority, 2015

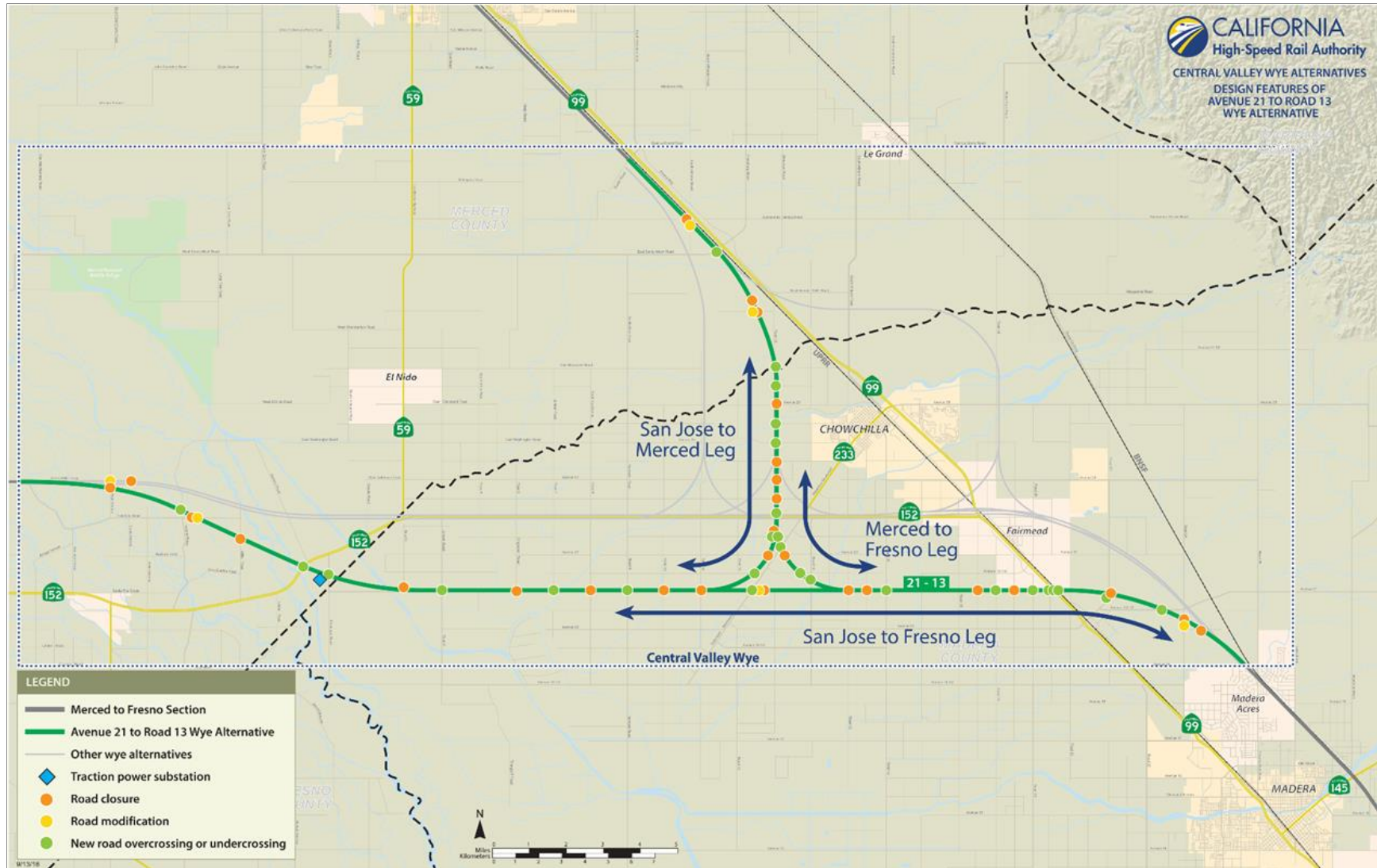
<sup>1</sup> Lengths shown are based on equivalent dual-track alignments and are one-way mileages. For example, the length of single-track elevated structure will be divided by a factor of 2 to convert to dual-track equivalents.

### 3.4 Avenue 21 to Road 13 Wye Alternative

The Avenue 21 to Road 13 Wye Alternative (Figure 3-3) is designed to follow the existing Henry Miller Road and Avenue 21 rights-of-way as closely as practicable in the east-west direction and the Road 13, SR 99, and BNSF rights-of-way in the north-south direction. Deviations from these existing transportation corridors would be necessary to accommodate design requirements; specifically, larger curves would be necessary to accommodate the high speeds of the HSR compared to lower-speed roadway alignments. The Avenue 21 to Road 13 Wye Alternative would not follow existing transportation rights-of-way as it transitions from following one transportation corridor to another.

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Source: Authority and FRA 2016; ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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**Figure 3-3 Avenue 21 to Road 13 Wye Alternative Alignment and Key Design Features**

### 3.4.1 Alignment and Ancillary Features

The Avenue 21 to Road 13 Wye Alternative would extend approximately 53 miles, mostly at-grade on embankment, although it would also have aerial structures and a short segment of retained cut (depressed alignment). The wye configuration of this alternative would be located approximately 4 miles southwest of the city of Chowchilla, with the east-west axis along the north side of Avenue 21 and the north-south axis on the east side of Road 13.

Beginning at the intersection of Henry Miller Road and Carlucci Road (at the same point in Merced County as the SR 152 [North] to Road 13 Wye Alternative), west of Elgin Avenue this alternative would curve southeast toward the San Joaquin River and Eastside Bypass. East of Willis Road, the alignment would rise to an aerial structure to cross the river, SR 152, and the Eastside Bypass. The alignment would continue east along the north side of Avenue 21, crossing Ash Slough on an aerial structure. Southwest of Chowchilla, near Road 11, the alignment would split into two legs (four tracks) for transition to the Merced to Fresno Section: Hybrid Alignment. The San Jose to Merced leg would curve northeast, cross Road 13, and continue north along the east side of Road 13. At the beginning of the San Jose to Merced leg, the northbound track alternative would rise onto an aerial structure to cross over the tracks of the San Jose to Fresno leg. The Avenue 21 to Road 13 Wye Alternative legs would be routed as described below and shown on Figure 3-3:

- As the San Jose to Merced leg approaches SR 152, it would converge with the Merced to Fresno leg, requiring the northbound track of the San Jose to Merced leg to rise on an aerial structure and cross over the tracks of the Merced to Fresno leg. The San Jose to Merced leg would continue north on an elevated alignment crossing Ash Slough, the Chowchilla River, and Road 13 on aerial structures. As the leg returns to grade, it would curve northwest, cross Dutchman Creek on an aerial structure, and follow along the west side of the UPRR/SR 99 corridor. At Sandy Mush Road, the alternative would descend into a shallow cut (depressed) section for approximately 0.5 mile, with a retained cut-and-cover undercrossing tunnel segment at the Caltrans Sandy Mush Road Overhead. The alternative would return to grade and continue along the UPRR/SR 99 corridor, connecting to the Merced to Fresno Section: Hybrid Alignment at Ranch Road.
- The San Jose to Fresno leg would continue east from the split near Road 11 along the north side of Avenue 21 toward Chowchilla. It would be predominantly at-grade on embankment, ascending to cross Berenda Slough on an aerial structure. East of the wye configuration, the alignment would extend south of Chowchilla, ascend on an aerial structure east of Road 19 1/2, and cross the UPRR/SR 99 corridor. The alternative would extend south of Fairmead and curve southeast toward the BNSF corridor, cross Dry Creek on an aerial structure, and run adjacent to the west side of the BNSF corridor to its meeting with the Merced to Fresno Section: Hybrid Alignment at Avenue 19.
- The Merced to Fresno leg would split from the San Jose to Fresno leg near Road 15. The southbound track of the Merced to Fresno leg would ascend on an aerial structure and cross over the tracks of the San Jose to Fresno leg. The Merced to Fresno leg would curve northwest, rise on aerial structures over several road crossings, and then continue on an at-grade embankment to join the San Jose to Merced leg near SR 152.

Wildlife undercrossing structures would be provided along this alternative in at-grade embankment portions of the HSR corridor where the alignment intersects wildlife corridors.

### 3.4.2 State Highway or Local Roadway Modifications

The Avenue 21 to Road 13 Wye Alternative would require the permanent closure of 30 public roadways at selected locations and the construction of 28 overcrossings or undercrossings. Table 3-3 and Figure 3-3 show the anticipated state highway and local roadway closures. This alternative would require the fewest roadway and state highway modifications.

The Avenue 21 to Road 13 Wye Alternative would rise on aerial structures and cross over state highway facilities in three locations: SR 59 at Harmon Road, SR 152 at Road 13, and SR 99 at Avenue 21. Where other roads would be perpendicular to the proposed HSR, over- or

undercrossings are planned at distances from less than 2 miles to 5 miles. Between these over- and undercrossings, some roads may be closed. Local roads paralleling the HSR alignment and used by small communities and farm operations may be shifted and reconstructed to maintain their function. Access easements would be provided to maintain access to properties severed by HSR.

### 3.4.3 Freight or Passenger Railroad Modifications

The Avenue 21 to Road 13 Wye Alternative would cross the UPRR operational right-of-way on an aerial structure south of Fairmead and maintain a vertical (at least 23.3 feet) clearance over UPRR operational right-of-way to avoid or minimize impacts on other UPRR rights-of-way, spurs, and facilities. A horizontal clearance of more than 50 feet would be maintained where the Avenue 21 to Road 13 Wye Alternative would parallel UPRR operational right-of-way.

### 3.4.4 Summary

Table 3-3 summarizes the design features for the Avenue 21 to Road 13 Wye Alternative.

**Table 3-3 Design Features of the Avenue 21 to Road 13 Wye Alternative**

Feature	Avenue 21 to Road 13 Wye
Total length (linear miles) <sup>1</sup>	53
At-grade profile (linear miles) <sup>1</sup>	48.5
Elevated profile (linear miles) <sup>1</sup>	4
Below-grade profile (linear miles) <sup>1</sup>	0.5
Number of straddle bents	32
Number of railroad crossings	1
Number of major water crossings	11
Number of road crossings	58
Approximate number of public roadway closures	30
Number of roadway overcrossings and undercrossings	28
Traction power substation sites	1
Switching and paralleling stations	3 switching stations, 7 paralleling stations
Signaling and train-control elements	15
Communication towers	6
Wildlife crossing structures	44

Source: Authority, 2015

<sup>1</sup> Lengths shown are based on equivalent dual-track alignments and are one-way mileages. For example, the length of single-track elevated structure will be divided by a factor of 2 to convert to dual-track equivalents.

### **3.5 SR 152 (North) to Road 11 Wye Alternative**

The SR 152 (North) to Road 11 Wye Alternative (Figure 3-4) follows the existing Henry Miller Road and SR 152 rights-of-way as closely as practicable in the east-west direction, and the Road 11, SR 99, and BNSF rights-of-way in the north-south direction. Deviations from these existing transportation corridors are necessary to accommodate design requirements; specifically, wider curves are necessary to accommodate the speed of the HSR compared to lower-speed roadway alignments. The SR 152 (North) to Road 11 Wye Alternative would not follow existing transportation rights-of-way where it transitions from following one transportation corridor to another.

#### **3.5.1 Alignment and Ancillary Features**

The SR 152 (North) to Road 11 Wye Alternative would extend approximately 51 miles, mostly at-grade on raised embankment, although it would also have aerial structures. The wye configuration of this alternative would be located west-southwest of the city of Chowchilla, with the east-west axis along the north side of SR 152 and the north-south axis on the east side of Road 11.



Source: Authority and FRA 2016; ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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**Figure 3-4 SR 152 (North) to Road 11 Wye Alternative Alignment and Key Design Features**

Like the other three alternatives, this alternative would begin in Merced County at the intersection of Henry Miller Road and Carlucci Road, and would continue at-grade on embankment east toward Elgin Avenue, where it would curve southeast toward the San Joaquin River and Eastside Bypass. Approaching Willis Road, the alignment would rise to cross the San Joaquin River on an aerial structure, return to embankment, then cross the Eastside Bypass on an aerial structure. After crossing the Eastside Bypass, this alternative would continue east, crossing SR 59 at-grade just north of the existing SR 152/SR 59 interchange, entering Madera County. To accommodate the SR 152 (North) to Road 11 Wye Alternative, the SR 152/SR 59 interchange would be reconstructed slightly to the south, and SR 59 would be grade-separated to pass above the HSR on an aerial structure. The alignment would continue east at-grade along the north side of SR 152 toward Chowchilla, splitting into two legs (four tracks) near Road 10 to transition to the Merced to Fresno Section: Hybrid Alignment, and would cross Ash Slough on an aerial structure. All but the northbound track of the San Jose to Merced leg of the alternative would then return to at-grade embankment; the northbound track would rise to cross over the tracks of the San Jose to Fresno leg on an aerial structure as it curves north toward Merced. The SR 152 (North) to Road 11 Wye Alternative legs would be routed as described below and shown on Figure 3-4:

- The southbound track of the San Jose to Merced leg would turn north at-grade. This split would be west of Chowchilla, at approximately Road 10. The two San Jose to Merced tracks would continue north on the eastern side of Road 11, crossing the Chowchilla River, and then would cross over Road 11 to follow its west side. As the tracks return to grade, they would curve northwest, crossing Dutchman Creek on an aerial structure, following the west side of the UPRR/SR 99 corridor. The alignment would continue north, crossing over Sandy Mush Road on an aerial structure. The alignment would return to grade and continue along the west side of the UPRR/SR 99 corridor, connecting to the Merced to Fresno Section: Hybrid Alignment at Ranch Road.
- The San Jose to Fresno leg would continue east from the wye split near Road 10, along the north side of SR 152 toward Chowchilla. It would be predominantly at-grade, ascending on aerial structures at several road crossings and Berenda Slough. The leg would pass south of Chowchilla at-grade then rise to cross over the UPRR/SR 99 corridor and Fairmead Boulevard on an aerial structure. East of the UPRR/SR 99 corridor, the alignment would extend at-grade through Fairmead, north of Avenue 23. At approximately Road 20, the leg would curve southeast toward the BNSF corridor and cross Dry Creek on a short aerial structure. The SR 152 (North) to Road 11 Wye Alternative would align parallel to the west side of the BNSF corridor as it meets the Merced to Fresno Section: Hybrid Alignment at Avenue 19.
- The Merced to Fresno leg would split from the San Jose to Fresno leg near Road 13. The southbound track of the Merced to Fresno leg would ascend on an aerial structure and cross over the tracks of the San Jose to Fresno leg. The Merced to Fresno leg would curve northwest, rise on a high embankment crossing over several roads, and continue at-grade on embankment to join the San Jose to Merced leg near Avenue 25.

Wildlife undercrossing structures would be installed in at-grade embankments along this alternative where the alignment intersects wildlife corridors.

### 3.5.2 State Highway or Local Roadway Modifications

The SR 152 (North) to Road 11 Wye Alternative would require the permanent closure of 33 public roadways at selected locations and the construction of 24 overcrossings or undercrossings in lieu of closure. Table 3-4 and Figure 3-4 show the anticipated state highway and local roadway closures and modifications. Fourteen of these permanent road closures would be located at SR 152 where roads currently cross at-grade but need to be closed in order to convert SR 152 to a fully access-controlled corridor. The 14 proposed closures are Road 5, Road 6, Road 7, Road 8, Road 10, Road 11, Road 13, Road 14, Road 14 1/2, Road 15, Road 15 1/2, Road 15 3/4, Road 17, and Road 18. Planned new grade separations along SR 152 at the SR 59/SR 152 Interchange, Road 4/Lincoln Road, Road 12, and Road 17 1/2 would maintain access to SR 152.

These roadways would be reconfigured to two 12-foot lanes with two 8-foot shoulders. Several of these new interchanges would require realigning SR 152. Three new interchanges are proposed between SR 59 and SR 99 to provide access to SR 152: at Road 9/Hemlock Road, SR 233/Robertson Boulevard, and Road 16.

The distance between over- or undercrossings would vary from less than 2 miles to approximately 5 miles where other roads are perpendicular to the proposed HSR. Between these over- or undercrossings, 19 additional roads would be closed. Local roads paralleling the proposed HSR alignment and used by small communities and farm operations may be shifted and reconstructed to maintain their function. Access easements would be provided to maintain access to properties severed by HSR.

### 3.5.3 Freight or Passenger Railroad Modifications

The SR 152 (North) to Road 11 Wye Alternative would cross over the UPRR right-of-way as it passes south of Chowchilla. This alternative would maintain required vertical (at least 23.3 feet) clearance over UPRR operational right-of-way to avoid or minimize impacts on UPRR rights-of-way, spurs, and facilities (UPRR 2007). Horizontal clearance (greater than 50 feet) would be maintained where the SR 152 (North) to Road 11 Wye Alternative would parallel UPRR operational right-of-way.

### 3.5.4 Summary

Table 3-4 summarizes the design features for the SR 152 (North) to Road 11 Wye Alternative.

**Table 3-4 Design Features of the SR 152 (North) to Road 11 Wye Alternative**

Feature	SR 152 (North) to Road 11 Wye
Total length (linear miles) <sup>1</sup>	51
At-grade profile (linear miles) <sup>1</sup>	46.4
Elevated profile (linear miles) <sup>1</sup>	4.5
Below-grade profile (linear miles) <sup>1</sup>	0
Number of straddle bents	27
Number of railroad crossings	1
Number of major water crossings	13
Number of road crossings	57
Approximate number of public roadway closures	33
Number of roadway overcrossings and undercrossings	24
Traction power substation sites	1
Switching and paralleling stations	3 switching stations, 7 paralleling stations
Signaling and train-control elements	19
Communication towers	9
Wildlife crossing structures	37

Source: Authority, 2016

<sup>1</sup> Lengths shown are based on equivalent dual-track alignments and are one-way mileages. For example, the length of single-track elevated structure will be divided by a factor of 2 to convert to dual-track equivalents.



## 4 AREA OF POTENTIAL EFFECTS

The methods for establishing the historic architectural APE for the Central Valley Wye are consistent with the Section 106 PA Attachment B, Area of Potential Effects Delineation, and further refined in consultation with the Authority and the SHPO (Allred pers. comm.). During early stages of the study, a study area was used to begin identifying known historic architectural resources. Following the Checkpoint B approval of Central Valley Wye alternatives, the APE was established in accordance with Appendix B of the Section 106 PA as those parcels within or adjacent to the Central Valley Wye project footprint that have buildings or structures 50 years old or older on them. The APE was modified further as a result of consultation between the Authority and SHPO, to include each parcel located within or crossed by the Central Valley Wye project footprint. Consistently including all parcels within or crossed by the project footprint allows the Authority to show why there would be no potential for impacts by identifying those parcels that are vacant, agricultural, or have architectural resources that are less than 50 years old. The map showing the current APE for historic architectural resources along with the survey results are provided in Appendix B. This map set illustrates the findings for all parcels in the APE. Properties discussed and listed in resource summary tables in this HASR can be located in the Appendix B APE map set by corresponding the Map ID numbers and Map Sheet numbers listed in the tables in Section 6, Summary of Identification Efforts and Methods; and Section 8, Properties Identified—Findings.

The APE is based on the project footprint for the Central Valley Wye alternatives that date to September 2016 and represent preliminary design plans available at that time. The term *historic architectural resources* includes built environment resources, including buildings, structures, objects, landscapes, linear features, and districts, composed of nonarchaeological resources constructed in 1965 or earlier. The APE was delineated to ensure inventory and evaluation of all historic architectural resources that may be directly or indirectly affected by the Central Valley Wye through construction, acquisition, or operations activities. Effects on historic architectural properties may include but are not limited to demolition of buildings or structures, property takes, road closures, changes to property access, changes to a property's historic setting, alteration of historic viewsheds, noise, and vibration that leads to physical damage. The method for establishing the APE considered the construction of proposed ancillary features (such as grade separations or maintenance facilities), construction staging areas, utility relocations and easements, and biological mitigation areas.

The historic architectural APE for the Central Valley Wye was established in consideration of the rural agricultural setting of Merced and Madera Counties. The introduction of a rail line through this area is only likely to be visible from properties on parcels adjacent to the rail corridor, because most parcels are large and the terrain is generally flat. The new rail line may introduce temporary changes to the type and volume of noise during construction; noise levels generated during operation of the high-speed train would extend a maximum of 1,200 feet from the right-of-way. Vibration levels related to operation of the electric trains would extend a maximum of 275 feet from the right-of-way (Authority and FRA 2015).

The legal parcels within the APE that contained buildings, structures, objects, sites, landscapes, or districts that were 50 years old or older at the time the intensive surveys were conducted (2010–2016) were studied in compliance with the Section 106 PA. These findings are presented in Section 8. As possible future design revisions take place, updated APE maps would be produced and authorized in accordance with the stipulations of the Section 106 PA.



## 5 POTENTIALLY INTERESTED PARTIES, PUBLIC PARTICIPATION

In accordance with Stipulation V.A of the Section 106 PA, outreach and consultation with potentially interested parties, including the general public; historic preservation interest groups or individuals; and other federal, state, regional, or local agencies, regarding potential effects on historic properties in the Merced and Madera County regions has been ongoing. In accordance with Stipulation V.B of the Section 106 PA, those parties with a demonstrated interest in the HSR project, including the Central Valley Wye, will be invited to participate as formal consulting parties to the Section 106 memorandum of agreement. Information collected during the public comment period for the Supplemental EIR/EIS will be incorporated into the Final Supplemental EIR/EIS and this HASR following the public review period.

Table 5-1 summarizes outreach efforts to date to other federal, state, regional, and local agencies; area museums; and local historical societies that may have responsibilities for historic properties and may want to review reports and findings for an undertaking within their jurisdictions. Copies of correspondence, current as of November 2015, can be found in Appendix C.

**Table 5-1 Summary of Outreach Efforts to Identify Other Consulting or Concurring Parties**

Entity	Date of Letter from the Authority	Response
<b>Consulting/Concurring Parties Contacted for the Central Valley Wye</b>		
Heritage Preservation Commission, Chowchilla	June 28, 2013 and May 26, 2015	None
The Milliken Museum Society of Los Banos	June 28, 2013 and May 26, 2015	None
Madera County Historical Society	May 26, 2015	None
Merced County Historical Society/Merced County Courthouse Museum	May 26, 2015	None



## 6 SUMMARY OF IDENTIFICATION EFFORTS AND METHODS

This section describes the background literature review, records search, survey methods and implementation, and framework for identifying historic architectural resources in the APE for the Central Valley Wye.

For the purposes of this HASR, the term *historic properties* is used to refer to resources that are listed, determined eligible for listing in the NRHP; and *historical resources* will refer to those eligible for listing in the CRHR only. Those not eligible for listing in either the NRHP or CRHR will be referred to as *historic architectural resources*. These terms have been used throughout the previously submitted studies to describe the status of *historic architectural resources*, which can be buildings, structures, or objects. Resources can exist singly or as part of a larger district, system, or historic cultural landscape.

### 6.1 Records Search Summary

In June 2012, QI's conducted background records searches at the two California Historical Resources Information System Information Centers that cover the study area: the Central California Information Center for Merced County, and the Southern San Joaquin Valley Information Center for Madera County. In addition to the APE, the records searches included a 0.5-mile study area extending from the APE that takes into consideration potential changes to the APE over time.

Information obtained from the record searches included topographic maps with the plotted locations of cultural resources previously recorded within the study area (the 0.5-mile search area extending from the proposed Central Valley Wye alternative alignments), the site records, and a list of previous studies conducted within the study area. The California Historical Resources Information System Information Centers also provide lists of previously identified historic resources from their historic property data file and the California inventory of historic resources. In 2014, each U.S. Geological Survey (USGS) quadrangle within the study area was geo-referenced to real-world coordinates and placed in a geographic information system environment to allow for accurate digitization of the individual resources recorded on the maps.

The following information sources were also reviewed:

- NRHP-listed properties and determined eligible properties
- Sanborn maps in urban areas
- Historic USGS quadrangles

These sources and methods contributed to the information discussed in this HASR, including properties previously recorded as eligible (Table 6-1 and Table 6-2) and properties previously recorded as not eligible (Table 6-3). The record search findings identified five previously recorded historical architectural resources located in the APE. Three of these resources are bridges, two of which are listed in the California Department of Transportation bridge list as Category 5 (not eligible for the NRHP). These bridges are California Department of Transportation Bridge Numbers 39 0034L and 39 0034R (Eastside Bypass Channel) and are located in Merced County. Bridge 39 0034L was constructed in 1963 and was modified in 1996, and Bridge 39 0034 R was constructed in 1969 and modified in 1996. The third bridge, Bridge Number 39-1L, which is no longer extant, was located along SR 99 over Dutchman Creek at mile post 2.62. Consequently, no recordation for these resources was necessary as part of this inventory and evaluation report. The last two previously recorded resources identified through the records search are the Califa Canal (P-20-002490), and the Madera Canal's Lateral 32.2 (P-20-002491). Both resources were previously evaluated as eligible for the NRHP under Criterion A at the local level of significance. These two resources were reevaluated under NRHP and CRHR Criteria and found ineligible. The previous recordation and current evaluation of these resources can be found in Appendix E.

**Table 6-1 Record Search Properties Located in the Area of Potential Effect—Previously Recorded Eligible**

Map ID <sup>1</sup>	Map Sheet	APN	Historic Name	Address	City	County	Year Built	Primary Number (if applicable)	Previous CHRS Code	Current CHRS Code	NRHP/CRHR Criteria
423	49, 50, 58, 66, 70, 71, 72, 79, 85, 86	N/A	Robertson Boulevard Tree Row	Robertson Boulevard	Chowchilla	Madera	1912–1913	N/A	7L	2S2	A/1 and C/3
664	109, 113, 114, 127, 130, 131, 132, 134	N/A	Califa Canal	N/A	Fairmead	Madera	Circa 1950-1957	P-20-002490	4S1	6Z	N/A
851	138, 145, 146, 154, 159, 160, 163, 164	N/A	Lateral 32.2	N/A	Fairmead	Madera	Circa 1953	P-20-002491	3S	6Z	N/A

Source: 2012 California Historical Resources Information System records search results. .

<sup>1</sup> The Map ID is the unique code for identifying individual resources. A map location is provided in Appendix B for each resource and further documentation is provided in Appendix D.

APN = Assessor's Parcel Number

N/A = not applicable

CHRS = California Historical Resource Status

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

7L = State historic Landmarks 1-769 and Points of Interest designated prior to January 1998 – Needs to be reevaluated using current standards.

3S = Appears eligible for the NRHP as an individual property through survey evaluation.

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation.

**Table 6-2 Record Search Properties Located in the Area of Potential Effect—Previously Recorded, Change in Status Code**

Map ID <sup>1</sup>	Map Sheet	APN	Historic Name	Address	City	County	Year Built	Primary Number (if applicable)	Previous CHRS Code	Current CHRS Code	NRHP/CRHR Criteria
664	109, 113, 114, 127, 130, 131, 132, 134	N/A	Califa Canal	N/A	Fairmead	Madera	Circa 1950–1957	P-20-002490	4S1	6Z	N/A
851	138, 145, 146, 154, 159, 160, 163, 164	N/A	Lateral 32.2	N/A	Fairmead	Madera	Circa 1953	P-20-002491	3S	6Z	N/A

Source: 2012 California Historical Resources Information System records search results.

<sup>1</sup> The Map ID is the unique code for identifying individual resources. A map location is provided in Appendix B for each resource and further documentation is provided in Appendix E.

APN = Assessor's Parcel Number

N/A = not applicable

CHRS = California Historical Resource Status

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

4S1 = May become eligible for separate listing in the NRHP when the property becomes old enough to meet the 50-year requirement.

3S = Appears eligible for the NRHP as an individual property through survey evaluation.

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation.

**Table 6-3 Record Search Properties Located in the Area of Potential Effect—Previously Recorded Not Eligible**

Map ID <sup>1</sup>	Map Sheet	APN	Caltrans Bridge Number (or other identifier)	Address	County	Year Built	Current CHRS Code	NRHP/CRHR Criteria
131	13	N/A	39 0034L and 39 0034R	N/A	Merced	1963/1996 and 1969/1996	6Z	N/A
349	64	N/A	39-1L (P-24-000644)	N/A	Madera	1919	6Z <sup>2</sup>	N/A

Source: 2012 California Historical Resources Information System records search results.

<sup>1</sup> The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B.

<sup>2</sup> The building or structure has been demolished, but the records search continues to report it because the California Historical Resource Status code has not been updated. These properties were considered Exempt, in accordance with the Section 106 Programmatic Agreement.

APN = Assessor's Parcel Number

Caltrans = California Department of Transportation

N/A = not applicable

CHRS = California Historical Resource Status

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation.



### **6.1.1 Merced to Fresno Section Historic Property Survey Report and Historic Architecture Survey Report Determinations**

There are properties in the Central Valley Wye APE that were originally recorded and evaluated as part of the work conducted for the Merced to Fresno Section. The SHPO made determinations on these properties in 2012. Table 6-4 and Table 6-5 list the eligible (one) and ineligible properties (37) in the current Central Valley Wye APE, respectively. These properties have been color coded and given map ID numbers on the current APE, in order to integrate them with the Central Valley Wye survey population (Appendix B). However, no new evaluation was conducted for these resources. With the exception of the NRHP-eligible Robertson Boulevard Tree Row, DPR 523 forms for these properties are not included in the HPSR or this HASR because the SHPO has already made a determination on the findings.

In addition to the record search results, QIs reviewed the California Historical Resources Information System lists for Merced and Madera Counties and previous cultural resources reports found in local planning offices and libraries. This effort did not result in the identification of any additional historic architectural resources. Because of the scope and magnitude of the Central Valley Wye, the historical context of the Central Wye vicinity, and the limited results of the Southern San Joaquin Valley Information Center record search, extensive field survey and background research were undertaken to thoroughly identify historic architectural resources within the APE. The QIs noted any additional potential historic architectural resources during fieldwork, reviewed local registers and lists of historic properties while conducting research in local repositories, and consulted with local government planning staff to thoroughly account for previously identified historic properties and to include them in the HASR survey population.

**Table 6-4 Eligible Properties Located in the Merced to Fresno Section Area of Potential Effect and the Central Valley Wye Area of Potential Effect**

Map ID <sup>1</sup>	Map Sheet	APN	Historic Name	Address	City	County	Year Built	Survey Status	Previous CHRS Code	Current CHRS Code	NRHP/CRHR Criteria
423	49, 50, 58, 66, 70, 71, 72, 79, 85, 86	N/A	Robertson Boulevard Tree Row	Robertson Boulevard	Chowchilla	Madera	1912–1913	HPSR - E	7L	3S	A/1 and C/3

Source: Authority and FRA, 2012b

<sup>1</sup> The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B and further documentation is provided in Appendix D.

APN = Assessor’s Parcel Number

N/A = not applicable

CHRS = California Historical Resource Status

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

HPSR = Historic Property Survey Report

E = Eligible

7L = State historic Landmarks 1-769 and Points of Interest designated prior to January 1998 – Needs to be reevaluated using current standards.

3S = Appears eligible for the NRHP as an individual property through survey evaluation.

**Table 6-5 Ineligible Properties Located in the Merced to Fresno Section Area of Potential Effect and the Central Valley Wye Area of Potential Effect**

Map ID <sup>1</sup>	Map Sheet	APN	Address	City	County	Year Built	Survey Status	OHP Status Code
288	25	021060010	21112 Road 10	Chowchilla	Madera	1930	NE	6Z
292	25	024060014	10289 Avenue 21	Chowchilla	Madera	1945	NE	6Z
300	25	024060011	10403 Avenue 21	Madera	Madera	1926	NE	6Z
314	36, 44	024080013	11270 Avenue 21	Chowchilla	Madera	ca. 1935	S	6Z
328	64, 65	067180014	6863 Plainsburg Road	Merced	Merced	1960	NE	6Z
335	36, 44, 49, 58	024090003	20766 Robertson Boulevard	Chowchilla	Madera	ca. 1950	S	6Z
346	50, 58	024070012 024070026	21198 Robertson Boulevard	Chowchilla	Madera	ca. 1918	NE	6Z
369	57, 61, 77, 78	025230017	12694 Avenue 26	Chowchilla	Madera	ca. 1940	NE	6Z
383	50, 58, 69, 70	024070034	12583 Avenue 21	Chowchilla	Madera	ca. 1920	NE	6Z
393	63	025020016	26734 Road 13	Chowchilla	Madera	ca. 1920	S	6Z
405	63, 78	025020008	12879 Avenue 26	Chowchilla	Madera	ca. 1930	S	6Z
440	69, 70	024120009	13261 Avenue 21	Chowchilla	Madera	ca. 1925	NE	6Z
472	68, 69, 80, 81	024141003	13570 Avenue 21	Chowchilla	Madera	ca. 1946	NE	6Z
477	69, 70, 81, 82	024120011	21248 Road 14	Chowchilla	Madera	ca. 1945	S	6Z
492	82	024120008	21382 Road 14	Chowchilla	Madera	ca. 1920	NE	6Z
493	80, 81	024141029	13830 Avenue 21	Chowchilla	Madera	ca. 1946	NE	6Z
600	107	024130021	15627 Avenue 21	Chowchilla	Madera	ca. 1930	NE	6Z
610	101	024130016	21324 Road 16	Chowchilla	Madera	ca. 1960	NE	6Z
677	131	027054034	18481 Gordon Street	Chowchilla	Madera	ca. 1960	NE	6Z
683	131	027054021	23545 Fairmead Boulevard	Chowchilla	Madera	ca. 1960	NE	6Z
707	130	027061009	18643 Arc Drive	Chowchilla	Madera	ca. 1918	NE	6Z

Map ID <sup>1</sup>	Map Sheet	APN	Address	City	County	Year Built	Survey Status	OHP Status Code
765	128, 133, 136, 137	027222002	20759 Road 19	Chowchilla	Madera	ca. 1930	NE	6Z
801	137	027222011	19558 Avenue 21	Chowchilla	Madera	ca. 1935	S	6Z
820	137	027201011	19699 Avenue 21	Chowchilla	Madera	ca. 1945	S	6Z
897	165, 166	029140003	Road 24	Madera	Madera	ca. 1950	S	6Z
900	165	029140017	20461 Road 24	Madera	Madera	ca. 1930	S	6Z
901	165	029140019	20389 Road 24	Madera	Madera	ca. 1950	S	6Z
904	166	029140001	20893 Road 24	Madera	Madera	ca. 1955	S	6Z
907	166, 171	029060014	21111 Road 24	Madera	Madera	ca. 1950	S	6Z
1254	30, 64	075100003	7877 E Sandy Mush Road	Merced	Merced	ca. 1960	NE	6Z
1261	62	075100017	Cross Road	Merced	Merced	ca. 1940	NE	6Z
1317	33, 45	025120002	10592 Avenue 25	Chowchilla	Madera	ca. 1960	NE	6Z
1318	27, 33, 45, 48	025120010	24500 Road 11	Chowchilla	Madera	ca. 1930	S	6Z
1322	27, 42, 43	025180019	10654 Avenue 24	Chowchilla	Madera	ca. 1930	NE	6Z
1336	47, 63	075120012	Avenue 26 (northeast corner of Avenue 26 and Road 11)	Merced	Merced	1952	NE	6Z
1345	45, 46, 47	025070009	11417 Avenue 25	Chowchilla	Madera	ca. 1950	NE	6Z
1355	137, 138	027201009	21322 Road 20	Chowchilla	Madera	1930	NE	6Z

Source: Authority and FRA, 2012a

<sup>1</sup> The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B.

APN = Assessor's Parcel Number

CHRS = California Historical Resource Status

CRHR = California Register of Historical Resources

HASR = Historic Architectural Survey Report

HPSR = Historic Property Survey Report

N/A = not applicable

ca. = circa

NE = not eligible

S = streamlined

NRHP = National Register of Historic Places

OHP = Office of Historic Preservation

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation

### 6.1.1.1 *Field Methods*

QIs for historic architectural resources conducted intensive-level field survey and field research for preparation of this HASR intermittently between April 2010 and July 2016. Consistent with the Section 106 PA, QIs conducted an intensive-level survey of known historic properties and historic architectural resources within the APE. All survey work has been conducted consistent with the Section 106 PA guidelines and subsequent technical guidance documents provided by the Authority (Authority 2014).

## 6.2 Survey Population

The APE for historic architectural resources was periodically refined between 2010 and 2016 to accommodate changes to the Central Valley Wye's project footprint. The survey population is based on the APE as of September 2016.

This survey took into account known resources identified through the record search and parcels included in the APE for the Central Valley Wye. Because the APE includes all legal parcels that intersect the project footprint, the status of all parcels in the APE has been documented on the APE map set. The parcels in the APE vary significantly in size, from standard residential parcels to large agricultural parcels that consist of several acres. As part of the survey method, the QIs categorized all legal parcels in the APE to determine which properties contained buildings or structures 50 years old or older at the time of survey and were therefore subject to intensive-level surveys and subsequent DPR 523 form recordation or were determined by the QI to meet the Section 106 PA criteria for streamlined documentation. Methods for streamlined properties are further addressed in Section 6.5, Streamlined Documentation.

The survey population evolved with changes to the Central Valley Wye project footprint between 2010 and 2016. The following resources and activities informed the delineation of the APE:

- Proximity of property to Central Valley Wye construction- or operations-related activities (see Section 4, Area of Potential Effects).
- Records search data from California Historical Resources Information System Information Centers.
- Windshield surveys and visual inspection by QIs.
- Google Earth Pro U.S. Parcel Data indicating a property may contain buildings at least 50 years old.<sup>6</sup>
- Historic maps used to evaluate linear resources (e.g., water conveyances and railroads) and individual properties containing buildings 50 years old or older.

When possible, all field surveys and inventories of properties in the APE were conducted from public thoroughfares. Where visibility from public thoroughfares was limited, the Authority requested permission to enter from property owners so that historic-era buildings could be surveyed. As stated earlier in this document, a few property owners did not grant permission to enter their properties, and the QIs were not able to view some or all of the buildings from a public thoroughfare.

Properties that did not require recordation were divided into two subsequent categories: Vacant, Agricultural, and No Effect; and Modern and Exempt. These two property type categories are summarized as follows:

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<sup>6</sup> QIs found that the year-built data for Merced and Madera Counties were not always accurate. Consequently, all parcels within the APE containing buildings have been visually inspected during survey or by viewing the buildings in Google Earth to confirm whether they contain historic-era resources.

**Vacant, Agricultural, and No Effect**—This property type category is characterized by parcels that are vacant, support row and field crops, or contain buildings or structures at least 1,000 feet from the edge of the Central Valley Wye project footprint. The QI determined that the Central Valley Wye would have no potential to affect parcels in this category.

**Modern and Exempt**—This property type category includes properties that were categorized as modern because buildings on the parcel are not yet 50 years of age (built after 1965) or they meet one or more of the criteria for exempt properties as stated in the Section 106 PA. Most of the properties in the APE that were placed in this category are parcels that contain buildings or structures constructed in 1966 or later (i.e., were less than 50 years old at the time of survey). Other properties within the category include those that only contain prefabricated agricultural buildings, and prefabricated mobile homes (i.e., these are the only types of buildings located on the parcel); or previously identified historic agricultural resources that have been demolished or determined by SHPO as ineligible for listing.

### 6.3 Approach to Determining Eligibility of Water Conveyance Systems

Water conveyance systems associated with irrigation districts are a property type commonly found in the APE for the Central Valley Wye. Water conveyance and control features are listed as one of the property types in the Section 106 PA Attachment D, Properties Exempt from Evaluation. However, the Section 106 PA Attachment D also states that properties, “should be evaluated only if the QIs reasonably determine that the property has a demonstrable potential for historic significance (Section 106 PA, page D-1).” In consideration of this guidance, and the historical context of the APE, which illustrates that introduction and expansion of water conveyance systems was integral to the successful agricultural development and settlement of the area, all water conveyance systems in the APE were dated. Water conveyance systems that were determined to be 50 years of age at the time of survey were recorded and evaluated for their potential to be eligible for listing in the NRHP and CRHR.

The following approach to evaluating water conveyance systems is intended to ensure that questions of NRHP and CRHR eligibility are critically and consistently considered with reference to the historic contexts of irrigation district development and the development of rural water conveyance infrastructure, and to assist in the identification of those water conveyance systems that merit recognition.

Infrastructure such as agricultural and rural water conveyance systems are usually considered significant under NRHP Criterion A and CRHR Criterion 1 for their association with trends and events that have made a significant contribution to the broad patterns of our history, particularly in regional agricultural or local economic development. While these systems may have influenced the growth of local economies and agricultural ventures, this is too common an association to merit a conclusion of historical significance under NRHP Criterion A or CRHR Criterion 1 within the context of irrigation districts. At some point in the past, all forms of historic-era infrastructure were associated locally or regionally with growth or economic development, actual or intended. It is often exceedingly difficult to prove whether historic-era infrastructure associated with recognizable growth actually caused the growth or accommodated the growth.

Distinguishing water conveyance systems that are insignificantly common from those that rise to a level of significance under NRHP Criterion A and CRHR Criterion 1 requires consideration of whether they include a main canal from the first water conveyance system of its kind in the region, or an essential component of a water conveyance system that transformed local agricultural or industrial development in the area. Examples of these types of resources within the Central Valley Wye APE are those associated with the Miller & Lux Company and the Central Valley Project (CVP). The period of significance for Miller & Lux Company-related resources is from the early 1870s, when the canal system was initially established, to 1925, when the Miller & Lux Company was reorganized to sell off its sprawling water conveyance system. For individual historic architectural resources with a direct association with the initial implementation of the CVP, the period of significance would be from 1938 to 1956—from the initiation of construction to the completion of Folsom Dam, when the U.S. Army Corps of Engineers turned systems operation and maintenance over to the U.S. Bureau of Reclamation. For an individual Miller & Lux- or CVP-

associated property to be eligible under NRHP Criterion A and CRHR Criterion 1, it must be a key piece of the overall system, such as a main canal. A main canal may qualify for listing if it is key to the conveyance system in its entirety; conversely, resources such as laterals, water control structures, or privately built farm ditches are minor system components that are, as individual properties, insignificant to the system, and therefore not eligible under these criteria. Nineteenth century irrigation districts established under the Wright Act, such as the first-to-be-established Turlock Irrigation District, which is not in the APE, are rare and have the potential to be historically significant because of their association with this early legislation. Canals that are more than 50 years old and are only expansions of earlier water systems, as well as those that continued to be established as a result of the implementation of the Wright Act, are symptomatic of typical patterns of growth and community expansion and therefore are not recommended as NRHP or CRHR eligible under Criterion A and Criterion 1, respectively. With the emphasis on recognizing key pieces of the overall system, rather than the network of laterals, control structures, and minor components, significant canals and water conveyance structures are most appropriately recorded as individual linear structures rather than multicomponent historic districts.

Although NRHP Criterion A and CRHR Criterion 1 are the criteria most often applied to this property type, there is the potential for a water conveyance system to be recommended as eligible for association with the lives of significant persons under NRHP Criterion B and CRHR Criterion 2, or under NRHP Criterion C and CRHR Criterion 3 if they embody distinctive characteristics of this property type. According to the *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation*, Criterion B “is generally restricted to those properties that illustrate a person’s important achievements” (U.S. DOI 1995: page 14). Examples of property types that have proven association with significant individuals under this criterion include “the homes of an important merchant or labor leader, the studio of a significant artist, and the business headquarters of an important industrialist” (U.S. DOI 1995: page 14). To be found eligible under NRHP Criterion B or CRHR Criterion 2, the property has to be directly tied to the important person and the place where the individual conducted or produced the work for which he or she is known. Water conveyance systems in the Central Valley Wye APE were constructed by companies and individuals in order to irrigate land holdings for agricultural pursuits. Therefore, the relevant association would be with their land holdings rather than the water conveyance system that enabled them to successfully develop their agricultural business. Additionally, these systems represent the collective efforts of many individuals, rather than the work of any single individual. Therefore, even with the system constructed by Miller & Lux, the role of these two individuals ultimately lacks the level of singular importance necessary for listing in the NRHP under Criterion B or the CRHR under Criterion 2.

Regarding NRHP Criterion C and CRHR Criterion 3, unless the water conveyance resources are main canals built for the CVP, these types of resources do not appear to be historically significant for their engineering and design (USBR 2007:Section F, pages 108–109). Canals constructed as part of the CVP are exceptions, because they were built to standards never used previously. Ditches and canals within the APE that are not associated with the CVP are not innovative in their design, form, or function, nor are they known to be associated with the work of a master engineer. Additionally, ditches and canals are commonly found throughout California’s agricultural regions where regulated water conveyance systems are required, and where population centers have been established and subsequently expanded. Consequently, such water conveyance systems are not likely to display distinctive characteristics of a type, period, or method of construction and therefore do not appear to meet NRHP Criterion C or CRHR Criterion 3. Lastly, this property type does not appear to have the potential to yield more information and therefore, does not appear eligible under NRHP Criterion D or CRHR Criterion 4.

In addition to meeting one or more of the above criteria, an eligible resource must retain integrity, which is expressed in seven aspects: location, design, setting, workmanship, materials, feeling, and association. As stated in the *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation*, “All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity. The essential physical

features are those features that define both why a property is significant (Applicable Criteria and Areas of Significance) and when it was significant (Periods of Significance)” (U.S. DOI 1995: page 46).

Under NRHP Criterion A and CRHR Criterion 1, a significant water conveyance resource must retain the following physical attributes as they relate to the integrity of location, setting, feeling, and association:

- Original alignment/location
- Setting remains agricultural
- Continues to function as a water conveyance system

Under NRHP Criterion C and CRHR Criterion 3, a significant water conveyance resource must retain the following physical attributes as they relate to the integrity of workmanship, materials, design, location, setting, feeling, and association:

- Exhibits most construction methods and engineering details associated with the resource’s period of significance
- Original alignment/location
- Setting remains agricultural
- Continues to function as a water conveyance system

#### **6.4 Background Historic Research and Property-Specific (Survey Population) Research**

QIs conducted research in conjunction with the field survey and refined those research efforts in accordance with the results of the survey. QIs also continued property-specific research to confirm specific construction dates and to narrow estimated dates of construction. Over the course of the study (2010–2016) the QIs made efforts to obtain property-specific historic records from the following local repositories and government offices:

##### **Merced County:**

- Merced County Assessor
- Merced County Planning and Community Development Department
- Merced County Library
- City of Merced Planning Division
- Merced County Courthouse Museum/Merced County Historical Society

##### **Madera County:**

- Madera County Assessor’s Office
- City of Madera Planning Department
- Madera County Library
- Chowchilla Library
- The Milliken Museum, Los Banos

In October 2010 and November 2012, the QIs conducted research at the Madera County Assessor’s office and obtained building construction dates on a limited number of parcels in the APE. For those properties where Assessor’s records were not available in Merced or Madera Counties, additional background research to date buildings and structures was done through Google Earth Pro U.S. Parcel Data, review of historic era county maps, historic USGS topographic maps, historic aerial photographs, and other documents.

The historical overview presented in this report and the property-specific research conducted for the significance evaluations were based on a wide range of primary and secondary material gathered by QIs. Research on the historic themes and survey population was conducted in both archival and published records including, but not limited to, the following statewide sources:



- California History Room, California State Library, Sacramento
- Online Archive of California ([www.oac.cdlib.org](http://www.oac.cdlib.org))
- Los Angeles Public Library Online Database Collections
- Los Angeles Public Library, Central Library
- Map and Geographic Information System Data Collection, Shields Library, University of California, Davis
- Map Room of Earth Sciences Library, University of California, Berkeley
- The California Digital Newspaper Collection at the Center for Bibliographic Studies and Research, University of California, Riverside

Research also included reviews of California Historical Resources Information System listings; California Historical Landmarks and Points of Historical Interest publications and updates; and NRHP, CRHR, and local register listings, as well as published and digital versions of U.S. Census Bureau information (available through [www.Heritage.com](http://www.Heritage.com)), including population schedules (1850–1940). In addition, research included reviews of previous cultural resources reports, historic-period maps, aerial photography, and various newspaper and journal articles. Commonly utilized property-specific historic research tools such as city directories and Sanborn maps are not available for properties located in the Central Valley Wye alternative alignments because they are outside city limits. All property evaluations were based on available data and represent a reasonable level of effort.

## 6.5 Streamlined Documentation

The Section 106 PA, Attachment C, HST Program Documentation and Format Guidelines, provides a framework for evaluating resources in the APE through streamlined documentation. The purpose of this documentation is to record properties that have been *substantially altered* to an extent that they no longer retain their historic integrity. As stated in *National Register Bulletin 15*, “Integrity is the ability of a property to convey its significance.” (U.S. DOI 1995: page 44). Integrity consists of seven aspects that include a property’s integrity of location, setting, design, materials, workmanship, feeling, and association. Without historic integrity, a property cannot be found eligible for the NRHP. If a property within the APE is determined by the QI to be substantially altered to an extent that it no longer retains historic integrity, it can be documented in accordance with the streamline guidance in the Section 106 PA Attachment C. The streamlined documentation can be found in Appendix F.

The following is the framework used to determine if a property could be considered *substantially altered* and therefore recorded through streamlined documentation. The building or buildings on a parcel in the APE must have undergone at least three of the following types of modifications. This may include three examples of just one of the modification types (such as multiple replacement cladding types) or any other combination of modifications (such as two types of window replacements and an addition) from each category:

- Replacement of exterior wall cladding (e.g., originally wood and now is stucco or vinyl)
- Noncompatible window and door replacements
- Additions/changes to the original floor plan
- Change in historic use

In addition, a multicomponent farm or an industrial or commercial complex may be considered *substantially altered* if buildings on the property have undergone a combination of changes noted above, along with other changes to the property that have compromised the historic integrity of the complex to an extent that it no longer appears to be historic. Such changes would include, but not be limited to, the addition of contemporary buildings and structures on the subject property along with the removal of historic era structures, or a change in historic use.



## 7 HISTORIC CONTEXT

The following section addresses the historic context for the Central Valley Wye APE. Material for this section was primarily drawn from the Merced to Fresno HPSR (Authority and FRA 2012b). The context explores the major historic events and trends that occurred within the APE, including rural areas of Merced and Madera Counties, west of SR 99 between the cities of Merced and Modesto. A large portion of the Merced to Fresno Section APE overlaps with the Central Valley Wye APE and, therefore, the two APEs have some common historic context. To provide a contextual overview for the entire Central Valley Wye APE, relevant historic context was added for the area west of Chowchilla.

### 7.1 The Spanish and Mexican Periods

The Spanish presence in the San Joaquin Valley was limited until the early 1800s, when explorers such as Lieutenant Gabriel Moraga led more frequent expeditions into the region. Following Mexico's independence from Spain in the early 1820s, officials granted an increasing number of rancho land tracts to former soldiers and members of the civilian population in California. The first American explorers happened upon the San Joaquin Valley during the next several decades. In 1827, Jedediah Smith, the first American to travel the San Joaquin Valley, may have passed through what are now eastern Merced and western Madera Counties west of the San Joaquin River. Later, John C. Frémont passed through the region along portions of the San Joaquin River and other rivers in the region. Ranchos closer to the coast were generally located near missions, but in the San Joaquin and Sacramento Valleys, rivers tended to determine rancho locations. Rancho Sanjón De Santa Rita (Rancho Santa Rita), situated along the southwestern banks and sloughs of the San Joaquin River in today's south-central Merced County, was granted to Francisco Sobrones in 1841 (Bean and Rawls 2003: pages 66–67; Hoover et al. 2002: pages 180, 209–210, and 214).

Amid decades of chaotic government that demonstrated Mexico's lack of control over the province, Americans increasingly sought to make California part of the United States. Although some ethnic Mexicans, or *Californios*, such as Colonel Mariano Vallejo, welcomed the prospect of annexation into the United States, many would resist American designs on California up through the outbreak of the Mexican-American War. With American victory and the signing of the Treaty of Guadalupe Hidalgo in 1848, Mexico ceded approximately 50 percent of its territory, including California.

In January 1848, James Marshall famously discovered gold in the Sierra Nevada foothills. News of the discovery began to disseminate in May 1848. Many of California's towns lost most of their citizens in the weeks following this discovery as people flocked to the Sierra Nevada foothills in hopes of striking it rich. By the end of the summer of 1848, newcomers were flooding into California seeking their fortunes in the goldfields. As gold fever subsided, American newcomers increasingly sought to acquire land. California became a state in 1850, and the federal government created the California Land Claims Commission in 1851 to institute a process for validating the land grants that the Mexican government had made to the *Californio* population. In practice, however, the long process and legal expense of confirming titles, along with the problem of squatters, worked against the *Californios*, whose land was increasingly acquired by American newcomers (Bean and Rawls 2003: pages 60–70, 83–102, and 142–47).

### 7.2 The Creation of Merced and Madera Counties

Merced County was originally part of Mariposa County, which was the largest county by geographic area when the state legislature designated it in 1850. In 1855, Merced County was established as a separate county. A.D. Firebaugh, who had previously established a ferry along the San Joaquin River in western Fresno County, quickly secured authorization from the Merced County to construct a toll road extending from the Santa Clara Valley across Pacheco Pass. The Butterfield Overland Mail and other stage lines made use of this toll road from 1858 to 1861, en route to and from Merced and Fresno Counties.

Madera County was created out of the northern portion of Fresno County in 1893. Originally planned in 1876 by the California Lumber Company, the town of Madera became the new county seat in 1893. During the 1850s and 1860s, most of the farmers who settled in what became Madera County resided in the foothills east of the Central Valley Wye APE (Clough 1983: pages 12–13 and 21; Hoover et al. 2002: pages 180–81 and 211–12; Outcalt 1925: page 217).

### 7.3 The Railroad and Railroad Towns

Railroad development had a strong influence on the locations of some of the first towns in western Madera County and southeastern Merced County. The so-called *Big Four* railroad kings of the Central Pacific—Collis P. Huntington, Leland Stanford, Charles Crocker, and Mark Hopkins—acquired the Southern Pacific Railroad Company in the late 1860s as part of their successful effort to achieve a transportation monopoly in California. The original owners of the Southern Pacific Railroad had planned to develop a line from northern to southern California through the state’s coastal counties. However, because so much of the land in coastal counties was already privately owned, the Big Four opted to build the route from San Francisco to Los Angeles through the San Joaquin Valley, where much of the land remained federally owned. This allowed the Big Four to acquire public land grants along the San Joaquin Valley right-of-way, land that would increase in value by virtue of its proximity to the railroad line. The Big Four built the San Joaquin Valley line during the early 1870s (Bean and Rawls 2003: pages 181–182).

During this period, wheat was the principle crop in the San Joaquin Valley and elsewhere in California. Providing access to distant markets, the arrival of the railroad boosted wheat production in the San Joaquin Valley, as did advances in plowing technology such as steam-powered tractors and harvesters. Increasing wheat production generated conflict between farmers and ranchers as the former found their crops trampled by free-ranging cattle herds. This led to the creation of “no fence” laws in the 1870s that required ranchers to fence their lands in order to control movement of cattle and sheep herds. Wheat remained the leading crop in the region for decades. In 1881 Fresno County, which included Madera County at that time, had 130,240 acres of its 150,322 total cultivated acres planted in wheat, compared to 12,000 acres planted in barley. During the prior year, Merced County had 154,370 acres planted in wheat and 13,127 acres planted in barley (Cabezut-Ortiz 1987: pages 37–38; Bean and Rawls 2003: pages 201–202; Clough 1983: pages 25–26 and 28).

For nearly 20 years, the Southern Pacific Railroad maintained a monopoly over freight shipping in the region, leaving farmers with no other shipping alternative. The company became the object of growing resentment due to its high shipping rates and extensive land holdings. In 1880, the conflict famously erupted in violence at Mussel Slough, where six people were killed in a dispute over Southern Pacific Railroad land sales. Author Frank Norris later fictionalized the Southern Pacific Railroad monopoly and the Mussel Slough incident in the novel *The Octopus* (1901). Backed by industrialist Claus Spreckles, the San Francisco and San Joaquin Valley Railroad, or People’s Railroad, was formed in 1895 to develop an alternative line and bring competition to the San Joaquin Valley. In 1896 the new railroad began service between Stockton and Bakersfield. In 1901 the Atchison, Topeka & Santa Fe Railway acquired the San Francisco and San Joaquin Valley Railroad. Aligned at the east edge of the Central Valley Wye APE, the Atchison, Topeka & Santa Fe Railway line roughly parallels the Southern Pacific Railroad line and SR 99 through the APE at a distance of between approximately 3 and 6 miles (Bean and Rawls 2003: pages 180–182 and 218; Clough 1983: pages 57–58).

#### 7.3.1 Berenda

Located approximately 7.5 miles northwest of Madera, the small town of Berenda was established in the 1870s along the Southern Pacific Railroad line on land owned by rancher Henry Miller (discussed in more detail in Sections 7.4 and 7.5). Originally known as Borendo and consisting of a store and a hotel built in 1872, the town eventually became known as Berenda. The post office established there in 1873 retained the name Borendo until 1919. Berenda quickly became a shipping center for agricultural products, mainly wheat and barley, and grew to include multiple hotels, saloons, stores, blacksmith shops, and a laundry. Henry Miller donated 5 acres of

land to the town and had a schoolhouse constructed there. Horse stages transported miners and lumbermen between Berenda's railroad depot and the Sierra Nevada to the east. In 1886, the Southern Pacific Railroad constructed a branch line from Berenda east to Raymond. As a result, Berenda became the principle transfer point for the increasing number of tourists traveling to and from Yosemite Valley. Berenda's luck turned for the worse after 1907, when a new branch line was constructed between Merced and Yosemite National Park, bypassing the community. The post office closed in 1935. Today, the location of Berenda is no longer recognizable as the bustling enclave of the late 19th century (Clough 1983: page 77; Crow 1966: page 17).

### **7.3.2 Minturn**

Situated approximately 10 miles northwest of Berenda and 1 mile north of present day downtown Chowchilla, Minturn took shape near land where Jonas and Thomas Minturn established a farm and built an adobe house on the Chowchilla River in the 1860s. The Minturns received lifetime passenger passes from the Southern Pacific Railroad in exchange for land where the railroad established a freight siding. High freight rates reportedly kept the Minturn family's wheat farming endeavors from translating into profit, and the drought of 1877 devastated their sheep herds. The Southern Pacific Railroad revoked the lifetime passenger passes, possibly in response to the Minturns' protests against high shipping rates. At its height of activity, Minturn consisted of a store, a saloon, a school, and a post office established in 1884. Two wineries were also established in the Minturn area. One created by Jonas Minturn in the 1870s was acquired by the Sierra Vista Vineyard Company in the 1880s. The Sunset Vineyard Company was also created in the 1880s. During National Prohibition, these vineyards shipped grapes to eastern markets until 1929, when disease destroyed the vines. The Minturn post office closed in 1922. At least two early Minturn buildings and a wall associated with one of the wineries remained standing in the late 20th century (Chowchilla Historical Society 1991: pages 1-8 to 1-10; Madera Newspapers 1993: pages 106–107).

### **7.3.3 Athlone**

Located approximately 7 miles northwest of Minturn, Athlone was also established as a station along the Southern Pacific Railroad line. During the late 1860s, the community of Welch's Store, situated 2.5 miles northeast of what would become Athlone, evolved into the town of Plainsburg soon after A. B. Farley established a hotel there. After completion of the railroad, many Plainsburg residents opted to remain instead of relocating east to be nearer to the alignment. Those who did move became part of the community of Athlone, the 12-block town and railroad station platted in 1874. Soon Athlone was home to warehouses, a hotel, and other businesses in addition to the railroad station. Arriving in Merced County in 1869, Lee R. and George Fancher were some of the Athlone area's earliest settlers. Like Berenda, the railroad enclave of Athlone declined during the 20th century (Denger 1988; Outcalt 1925: page 363).

### **7.3.4 Sharon**

A Comstock investor and representative of the Bank of California, William Sharon acquired a 100,000-acre tract east of modern day Chowchilla when he gained control over the Bank of California in 1875, amid the economic depression that followed the national economic crisis known as the Panic of 1873. Beginning in 1890, the Sharon Tract was the site of plans for a new settlement known as the Chowchilla-Berenda Scheme, and for a proposed rail line from the tract to Califa, located along the Southern Pacific Railroad line between Berenda and Minturn. Not until 1896, however, with the arrival of the San Francisco and San Joaquin Valley Railroad (later the Atchison, Topeka & Santa Fe Railway), did the area begin to be developed. Sharon got a post office in 1898, and a small school was established there in 1913. The area's promoters promised that a canal and dam would eventually bring abundant water to Sharon. They planned a business district with a hotel and parks near the railroad depot. However, Sharon failed to thrive beyond the establishment of the post office, railroad station, school, a hotel, a telegraph office, a store, and a saloon. During the 1930s, Sharon's post office and its last remaining businesses closed (Clough 1983: page 91).

## 7.4 Large Scale Ranching

Aside from wheat production, the San Joaquin Valley's other major 19th-century economic activity was large-scale livestock ranching. The early ranch with the most acreage within the Central Valley Wye APE was the Chowchilla Ranch. Arriving in the late 1840s, homesteaders Sam Langdon and Mike Kelly were the first men of European descent to occupy land in the area. Financier William S. Chapman and wheat magnate Isaac Friedlander, both of San Francisco, patented over 100,000 acres of land east of the San Joaquin River that became known as the Chowchilla Ranch. In 1860, Chapman and Friedlander purchased the 30,000 acres originally homesteaded by Langdon and Kelly. Chapman's and Friedlander's Chowchilla Ranch encompassed lands in Mariposa and Merced Counties, as well as lands that are part of modern day Madera County. In 1868, Chapman fenced the entire ranch; by the 1870s, he and Friedlander had amassed cattle herds totaling as many as 10,000 head. Regional drought and nationwide economic turmoil forced Chapman and Friedlander to sell the ranch to San Francisco's Nevada Bank in 1877. James Montgomery, who had earlier received title to a 26,000-acre portion of the Chapman-Friedlander land in exchange for combining his herd with theirs, retained his portion of Chowchilla Ranch after the Nevada Bank acquisition (Madera Newspapers 1993: page 115; Chowchilla Historical Society 1991: pages 1/1 to 1/2).

In 1878, George Bliss purchased 26,000 acres from Montgomery and established Bliss Ranch, the boundaries of which included a segment of the Chowchilla River. Bliss had arrived in San Francisco during the 1850s and established one of the first wholesale butcher shops in the city. Bliss Ranch was part of extensive property holdings that Bliss acquired over the course of the late 19th century in Nevada, Mariposa, and Merced Counties, and today's Madera County. When Bliss died in 1901 and left the ranch to sons George G. and Richard O. Bliss, the *San Francisco Chronicle* described him as one of the largest cattle men in the West (San Francisco Chronicle 1902: page 22).

The Nevada Bank hired Isaac Bird to manage its 93,000-acre portion of the Chowchilla Ranch in 1881. The following year, the Nevada Bank sold its holdings to the California Pastoral and Agricultural Company, also known as the "Scots Company," a name derived from its owners, Henry Johnston and Alexander Fleming of Edinburgh, Scotland. The Scots Company continued to operate it as a cattle ranch and retained Isaac Bird as its manager until 1902, when Bird moved to Merced and went into banking. The Scots Company and members of the Bird family retained by far the largest concentrations of land within the Central Valley Wye APE into the early 20th century. Nearer to the San Joaquin River, and from Berenda southeast to the area north and northwest of Madera, Miller & Lux were the largest landowners (Chowchilla Historical Society 1991: pages 1/2 to 1/3; Cowell et al. 1909; Smith and McIntyre 1908; Smith and Bacon 1914; Thompson 1891: pages 35 and 41).

Founded by Henry Miller and Charles Lux, Miller & Lux shaped the early economy of the northern San Joaquin Valley more than any other entity. In 1854, Miller traveled to the valley and purchased 300 cattle driven there from Utah by stock dealers Livingston and Kincaid. Mexican-bred cattle dominated the California market at the time, and Miller's purchase represented the first sizeable herd of higher-quality American-bred cattle to be brought to San Francisco for butcher and sale. Miller earned ample profit from this venture and got his first glimpse of the valley. He subsequently joined with Lux, a fellow German immigrant and San Francisco butcher, to create the Miller & Lux Company, which would become the largest cattle-raising and meat production operation in California. By 1863, Miller & Lux had acquired the 48,823-acre Rancho Santa Rita, giving the company riparian rights to much of the San Joaquin River. Soon the partners had begun leasing grazing land on Rancho San Luis Gonzaga to the west. Like other large ranchers, Miller & Lux supported California's free range policy, but during the drought years of 1862–1864, they found it unprofitable to have cattle belonging to other ranching interests grazing on their Santa Rita lands. In 1867, Miller & Lux began fencing their Santa Rita property in what was characterized as the San Joaquin Valley's largest construction effort undertaken to date (Iglar 2001: pages 18–19 and 56–57).

Over the next several decades, Henry Miller and Charles Lux became not only the largest landowners in the region by an overwhelming margin, but also some of the largest landowners in the American West. While Lux attended mainly to company business at the firm's San Francisco headquarters, Miller settled in Gilroy and managed the company's operations in the San Joaquin Valley. Under Miller's influence, the fledgling settlements of Los Banos, Firebaugh, Gustine, and Dos Palos all became Miller & Lux company towns. The firm's productive enterprise in the San Joaquin region centered on raising cattle for the San Francisco meat market, alfalfa farming for hay stores, and to a limited extent, dairy production (Igler 2001: pages 6–8, 17, 56–57, 61, and 171).

As with other large capitalist enterprises of the era, Miller and Lux were the objects of both reverence and resentment. Some competing interests and local small-scale producers resented the firm's monopolistic control of land and water resources in the San Joaquin Valley, including the region's first major canals (discussed in more detail later in this section). At the same time, Henry Miller's capital was essential to the development of Los Banos and other Miller & Lux company towns in the San Joaquin Valley. Establishing the famous "Dirty Plate Route" through the San Joaquin Valley, Miller had his ranches provide free meals to members of the era's sizeable homeless and migrant labor population as they traveled through the San Joaquin Valley. The Dirty Plate Route reinforced Henry Miller's reputation as a generously charitable man and a benefactor of San Joaquin communities; however, he was also a tough, shrewd businessman. Miller had no sympathy for the political radicalism and attacks on property that, amid the frequent social conflicts over economic inequality that erupted across the United States during the late 19th century, many Americans associated with homeless people and migrant laborers. For Miller, the Dirty Plate Route was a cunning economic strategy that encouraged economically alienated populations in the region to respect Miller & Lux property, while providing the firm with an ever-present pool of cheap agricultural labor (Igler 2001: pages 81–82, 86–87, 139–142, and 171). Miller, one of the most important figures in 19th-century California history, became a symbol of the self-made man for many Californians. For others, however, Miller took his place alongside the Southern Pacific Railroad as a symbol of the evils of monopoly.

Miller & Lux also influenced the ethnic diversity of the San Joaquin Valley. Miller & Lux looked to Italians as an ideal population for the firm's laboring ranks because of that community's established labor-recruitment networks, their high proportion of single men, their willingness to work for lower wages than native-born workers, and their inclination to do so in ethnically segregated crews. Italians' work as general laborers, scrapers, diggers, and irrigators proved central to Miller & Lux's water development and land-reclamation efforts during the 1870s and 1880s. Italians also worked in hay harvesting. They often learned English while working for Miller & Lux and moved up the company's ranks, or put their new language skills to use in acquiring other jobs. Italian workers who moved on to other jobs or acquired land to pursue their own agricultural enterprises were typically replaced by more recent immigrants. The foreign-born population of ethnic Italians in Merced County grew from 387 in 1900 to 1,101 in 1910, and to 1,301 in 1920 (Igler 2001: pages 133–137; Outcalt 1925: pages 301–303).

By 1920, Portuguese immigrants constituted the largest population of foreign-born newcomers to Merced County. A large portion of the ethnic Portuguese population in the region hailed from the Azores rather than Portugal. Some among the San Joaquin Valley's ethnic Portuguese population had worked for Miller & Lux during the 19th century, although the firm's Portuguese workers never numbered as high as Italian workers. Ethnic Portuguese newcomers often worked as shepherders, particularly on the valley's drier west side. Many of the valley's Portuguese newcomers left the region when agricultural prices dropped in the 1890s, only to return later. The population of foreign-born ethnic Portuguese grew from 287 in 1900 to 593 in 1910, and jumped dramatically to 2,010 by 1920. Portuguese immigrants came to dominate dairying in Merced County and became that county's largest ethnic group during the first half of the 20th century (Igler 2001: pages 134 and 137; Outcalt 1925: pages 301–302; Pimentel 1987: page 53; Smith 2004: pages 567–568).

## 7.5 Early Water Development

Early large-scale water development involving Miller & Lux had important implications for future water development in the San Joaquin Valley and across much of California. After failing to complete an irrigation canal near Firebaugh's Ferry in the late 1860s, John Bensley convinced William Ralston of the Bank of California and other Bay Area financiers to back the project. These parties formed the San Joaquin & Kings River Canal & Irrigation Company to complete the canal. By the end of 1871, the San Joaquin & Kings River Canal & Irrigation Company had constructed the irrigation canal that became known as the Main Canal from Firebaugh's Ferry to Los Banos, a distance of 38.5 miles (Pisani 1984: page 109; Schuyler 1879: page 162; Soulé 1901: page 248). In addition to purchasing a stake in the San Joaquin & Kings River Canal & Irrigation Company, Miller & Lux received a substantial amount of company stock in exchange for granting right-of-way to complete the canal from approximately Mendota north across their lands to a point north of Los Banos. As a powerful canal supporter, a major new stockholder, and an owner of riparian rights to San Joaquin River water, the Miller & Lux firm was ideally positioned to take over the San Joaquin & Kings River Canal & Irrigation Company in 1875, after Ralston's Bank of California failed in the wake of the Panic of 1873 (Iglar 2001: pages 71–78; ICF Jones & Stokes 2009: pages 29–30). Henry Miller had a surveyor's eye for irrigation improvements and, as Edward Treadwell has explained, he "became the wizard of the west in making green grass grow" (Treadwell 1950: page 62).

Under Miller & Lux, the San Joaquin & Kings River Canal & Irrigation Company expanded rapidly. Over the next three decades it employed a full-time engineer, extended the Main Canal, and built other canals, laterals, and ditches to deliver water to Miller & Lux lands and a growing number of farmer customers. On the east side of the San Joaquin River, W. S. Chapman teamed up with the Miller & Lux Company to construct the Chowchilla Canal. Built in 1872 at a cost of \$120,000, the Chowchilla Canal was 24 miles long and carried water north from the San Joaquin River to an extensive system of lateral canals that supplied water to grazing lands of the Columbia Ranch (owned by the Miller & Lux Company) and the Chowchilla Ranch (then owned in part by Chapman). The cost of the canal exceeded others of the time because of its considerable length and difficult excavation, which required blasting. Additionally, a troublesome head gate rendered the canal inoperable for several years after its completion. Built on quicksand, the head gate faltered during flooding and was completely washed out 4 years after initial construction. A new head gate was built in the fall of 1877. When the Chowchilla Canal was finally up and running, it provided 120 cubic feet of water per second to 8,380 acres for the production of alfalfa, cereals, and wild grasses for grazing cattle. At its Chowchilla Ranch terminus, the canal flow tapered to 15 cubic feet of water per second during the summer months and was combined with water from artesian wells to irrigate 10 or 20 acres of garden and orchard, as well as 1,400 acres of alfalfa and barley. By 1908, Miller & Lux canals irrigated 83,000 acres of land. In addition to the Chowchilla Canal, segments of Miller & Lux's San Juan Canal, Orchard Ditch No. 1, Lucerne Ditch, and Riverside Canal are within the Central Valley Wye APE (Miller 1993: pages 44 and 114–15; San Francisco Bulletin 1887: page 1; San Francisco Bulletin 1885: page 4; Schuyler 1879: pages 162–163 and 175–79; Soulé 1901: page 247).

Many people in the San Joaquin Valley and beyond came to resent Miller & Lux's control over water resources, and conflicts involving their holdings led to changes in California water law and state policy. During the drought of 1877, Henry Miller, who claimed riparian rights to San Joaquin River water, clashed with upstream rancher and canal builder James Ben Ali Haggin, who claimed right of appropriation. Their contending lawsuits led to the *Lux vs. Haggin* trial in 1886, which ended in Haggin's favor. Miller appealed to the state supreme court, which reversed the earlier ruling and upheld his riparian rights that same year. Miller's victory outraged reformers and many small farmers who sought to democratize water access through the creation of irrigation districts, which Miller & Lux had bitterly and successfully opposed.

In 1886 the California legislature signed the Wright Act into law. Conceived by Modesto lawyer and state assemblyman C. C. Wright, the act provided for the formation of irrigation districts empowered to condemn land, issue bonds, and collect local taxes for the purposes of creating local irrigation systems. Large wealthy landowners such as Miller & Lux joined with citizens who



resented the taxation powers of irrigation districts to fight the Wright Act in the courts. However, in 1896 the United States Supreme Court declared the Wright Act constitutional (Cooper 1968: pages 41–42 and 44–45; Iglar 2001: pages 86–87 and 92–181; Miller 1993: pages 11–17; Pisani 1984: pages 191–249).

With the Wright Act upheld, irrigation districts sprang up across the state. A total of 49 districts were created from 1887 to 1896, but only seven survived to 1920. Problems such as conflicts between agricultural interests and land speculators, poor bond sales, ineffective management, litigation, and other political opposition weakened many of the fledgling districts. For example, a Madera Irrigation District comprising 280,000 acres was established in 1888. With their monopoly over San Joaquin River water threatened, Miller & Lux joined with large landholders committed to opposing the new district. Faced with the prospect of extended litigation, the district’s organizers dissolved the entity in 1896 (Adams 1929: page 199; Barnes 1963: page 7; Harding 1960: page 100; Rodner 1948: page 6). The Madera Canal and Irrigation Company formed in 1888 to “acquire, hold and dispose of water and water rights” (Barnes 1963: page 2). The company began deliveries of Fresno River water supplemented with up to 100 cubic feet of water per second from other sources, including the North Fork of the San Joaquin (Barnes 1963: page 2). The company soon folded because of problems such as unreliable service, lack of funding, and insufficient maintenance of its system. Irrigation districts would not flourish in and around the San Joaquin Valley portion of the Central Valley Wye APE until after the turn of the 20th century (Adams 1929: page 200).

During the early 20th century, a variety of factors weakened Miller & Lux, including the San Francisco earthquake of 1906, changes in the livestock and meatpacking industry, an epidemic of foot-and-mouth cattle disease, soil exhaustion, and conflicts with local irrigation districts attempting to end the firm’s water monopoly in the region. Henry Miller died in 1916. Over the next several decades, the Miller & Lux firm and its founders’ heirs increasingly sold off water rights and land. Large portions of the land were sold and put to use by smaller-scale agricultural producers. Other large-scale ranching operations also declined. After the death of the Scots Company’s Henry Johnston and Alexander Fleming, their heirs sought to sell the Chowchilla Ranch. Bliss Ranch would also be sold (Chowchilla Historical Society 1991: page 1/3; ICF Jones & Stokes 2009: page 30; Iglar 2001: pages 173, 176–178, and 180–181).

## 7.6 Farm Colonies and 20th Century Towns

### 7.6.1 Chowchilla

Born in Pennsylvania and arriving in California from Minnesota, land speculator Orlando A. Robertson and his United States Farm Land Company purchased the Chowchilla Ranch for the purposes of subdivision in 1912. Robertson hoped to transform the Chowchilla Ranch into his “dream place,” a farm colony consisting of a model town surrounded by prosperous family farms. Robertson mounted a promotional campaign comparing the landscape to Egypt’s Nile River region and boasting of abundant artesian water. The town of Chowchilla took shape quickly on the west side of the Southern Pacific Railroad line. Robertson created a 100-foot-wide boulevard, today’s Robertson Boulevard, to serve as the town’s central circulation axis. The boulevard extended from the town 11 miles to the southwest and terminated at the center of the Chowchilla Ranch. Robertson dispatched his commissioner of horticulture, George Marchbank, to Los Angeles to purchase 2,000 palm trees to be planted on each side of the boulevard. Today, these trees tower above much of Robertson Boulevard and dominate the immediate landscape along the road (Clough 1983: pages 92–93; Todd 1991: pages 13–14 and 19).

Chowchilla grew rapidly, and soon the town had a water system, sidewalks, general stores, a hardware store, a lumber yard, a garage, a pool hall, a rooming house, a bakery, an ice cream parlor, a restaurant, a barber shop, and one of the most attractive hotels in the San Joaquin Valley. Contracting firms and well drillers also set up operations in the town. The population grew from six residents in 1912 to more than 500 residents by December of 1913. Robertson constructed several buildings to attract new businesses, and in 1913 launched development of the Chowchilla Pacific Railroad, which served to move goods and passengers between the town

and family farms to the south. Built parallel to Robertson Boulevard, the railroad line would operate until 1954. Robertson hired the advertising firm of Stine and Kendrick to begin a promotional campaign, which increasingly sought to recruit newcomers from the Midwest. Stine eventually left to pursue land sales on his own and Kendrick managed sales of Chowchilla's remaining 70,000 subdivided acres. This arrangement allowed Robertson to spend more time on economic development projects, including establishment of a Danish Creamery Association plant in 1916. Chicago meat-packer Louis F. Swift purchased 42,000 acres of land adjacent to the Chowchilla Ranch, and he and Robertson arranged to grow sugar beets for production of a molasses byproduct to fatten cattle. Robertson also arranged to have a factory constructed for the Southern California Beet and Sugar Company southwest of Chowchilla. In the meantime, Robertson developed his own model farm, had electric power lines and roads built, and built homes for lease on several Chowchilla properties. Early farmers in the Chowchilla area raised alfalfa, wheat, and sugar beets and cultivated orchards bearing a variety of fruits and nuts, including walnuts, olives, almonds, and grapes. Many newcomers raised dairy cattle in conjunction with alfalfa crops (Clough 1983: pages 30 and 92–93; Todd 1991: pages 20–24).

By the 1920s, the farmlands south of downtown Chowchilla had been subdivided into numerous districts, tracts, or colonies. West and south of Robertson Boulevard were the Dairyland Subdivisions, the Nebraska-California Tract, and the Orchard and Alfalfa Colony. East of Robertson Boulevard were the Central Colonies, El Nueva Tract, and the Berenda Tract. Chowchilla did not emerge without scandal or controversy. Although many of the farms leased by newcomers hoping to own the land eventually would ultimately prove productive, some newcomers unknowingly purchased alkaline land, despite Robertson's promotional assurances that Chowchilla remained free of alkali. In 1919, Robertson and his United States Farm Land Company purchased 32,000 acres of Bliss Ranch. Robertson hired the Daniel Hayes Company of Chicago to market the Bliss Ranch and remaining Chowchilla Ranch acreage, and to farm some of the land itself. Hayes made promises to buyers of improvements such as homes, barns, and pumping plants, none of which were present when the new settlers arrived. Robertson made efforts to do right by the defrauded settlers, but the scandal tarnished his reputation and litigation costs increasingly bled Robertson of money. He continued to be involved in agricultural development that benefited local citizens, including development of a cotton mill and gin as cotton production boomed in the San Joaquin Valley during the 1920s, but his indebtedness increased. The Great Depression worsened his financial problems and undercut farmers nationwide. Robertson died in 1933 (Rue and Carter 1919; Todd 1991: pages 33–44, 54–56, and 99–100). In the long run, Chowchilla fared much better than nearby farm colony settlements in the vicinity of the Central Valley Wye APE, and remains the largest community between Merced and Madera along the Southern Pacific Railroad line.

### 7.6.2 Fairmead

The community of Fairmead was established along the Southern Pacific Railroad line between Berenda and Chowchilla. Prior to the town's development, the land was owned by the Sharon Estate and Francis G. Newlands, a San Francisco attorney and Comstock Lode investor who married William Sharon's daughter and served as a U.S. senator representing Nevada during the first two decades of the 20th century. The Cooperative Land and Trust Company purchased 18,000 acres of the Sharon and Newlands land for development of the Fairmead Colony in 1912. The settlement gradually expanded to six and eventually eight "colonies," or tracts. Among the owners of the large grain farms within the Fairmead Colonies were H. A. Buchenau and John Olcese, H. J. Buchenau, A. D. and N. W. Cook, Edward P., John W., Thomas F., and James S. McCabe, Charles H. Brown, Orville Garlinghouse, H. J. Patterson and Claude Hining, and M. Joyce. Farmers within the Fairmead Colony produced bountiful crops of grains, alfalfa, vegetables, fruits, berries, and flowers. A post office was established in the town in 1913. Within a few years, the community had a schoolhouse and a business district consisting of a hotel, a general store, a drug store, four grocery stores, a barber shop, a garage, a meat market, a lumber yard, a pool hall, and other small businesses. The town's early-20th-century population rose as high as 1,500, but a number of factors weakened Fairmead. Agricultural prices suffered nationwide during the 1920s and worsened during the Great Depression of the 1930s. In 1940,

Fairmead's post office closed (Clough 1983: page 94; Madera Newspapers 1993: pages 109 and 142; San Francisco Chronicle 1917: page 1; Thompson 1891: page 35).

### 7.6.3 El Nido

El Nido is the only other notable enclave in the APE vicinity and is situated approximately 12 miles west of Chowchilla in Merced County. Writing in 1925, Merced County historian John Outcalt described El Nido as "a store and post office adjoining the district schoolhouse" that "serve a thickly settled farming community largely devoted to dairying" (Outcalt 1925: page 375). During the 1930s a cotton gin was built there and the El Nido Irrigation District began supplying local farms with water (Clark 1973: page 54). This district and others nearby were critical to the transition from large-scale ranching to family farms in the region during the early 20th century.

## 7.7 20th Century Water Development

After the initial enthusiasm for irrigation districts, interest began to wane at the turn of the century. Between 1897 and 1909, no new districts were formed. However, several social, economic, and legislative changes initiated a revival of irrigation districts after 1909. California's population dramatically increased, particularly in the Central Valley, creating communities large enough to support irrigation districts. Expanding urban centers and export markets also increased overall demand for fresh produce. These encouraging factors occurred in conjunction with new Progressive Era legislation passed from 1911–1913 that "increased state supervision over district organization and financing and made investment in irrigation district bonds more attractive" (JRP and Caltrans 2000: page 15). As a result of these changes, irrigation districts began to gain a stronger foothold. From 1917 to 1925, five or more districts were established each year, including 18 in 1920 alone. Increasingly, irrigation districts were conveniently combined with private power companies to finance construction of water systems and make use of the natural kinetic energy of channeled water. By 1930, California had 94 irrigation districts delivering water to agricultural lands totaling 1.6 million acres (JRP and Caltrans 2000: pages 14–15).

In the San Joaquin Valley, the irrigation district became the "single most important institution for water conveyance" after 1900 (JRP and Caltrans 2000: page 21). Here, canals and ditches previously built by private interests were often absorbed into public organizations. New districts born during the 1910s and 1920s included the Fresno, Consolidated, Madera, and Merced Irrigation Districts. Sometimes irrigation districts did not actually build any water conveyance structures but instead used funds to purchase existing, applicable water conveyance systems and features. Although some private companies survived, irrigation districts flourished in the 20th century, providing 90 percent of San Joaquin Valley irrigation water by 1930 (JRP and Caltrans 2000: pages 15 and 21). With advances in engineering, districts made improvements such as replacing wooden head gates, control structures, and diversion works with concrete structures. Canals remained primarily earth-lined except in areas where high seepage resulted in significant water losses, or where high groundwater tables created problems. Areas targeted for lining included those prone to washouts and requiring repair. In the case of the far northern San Joaquin Valley, high groundwater tables encouraged the lining of many water conveyance structures. By the 1920s, nearly all canal and laterals were lined in the vicinity of Modesto and Turlock (JRP and Caltrans 2000: pages 15 and 21–22).

The San Joaquin & Kings River Canal & Irrigation Company entered a period of financial strain following World War I, as the larger agricultural economy failed to rebound amid overproduction and falling international demand. Drought left the valley parched in the mid-1920s as Miller & Lux came into conflict with its water customers and filed suits against upstream water users. In 1925, the declining firm underwent a major reorganization and sold off its water empire. With the creation of the San Luis Canal Company, Miller & Lux released acreage to the northeast of Los Banos that led to the creation of the Grassland Water District. Organized by 1950, the Chowchilla Water District purchased the San Luis Canal Company's riparian rights to the east, in the vicinity of Chowchilla. Chowchilla Water District canals within the Central Valley Wye APE include Ashview Canal and Bethel Canal. Formed in 1951, the Central California Irrigation District took over former Miller & Lux canals east of the San Joaquin River and south of SR 152, in the Dos

Palos and Los Banos areas (CCID 2012a, 2012b; USBR 2008: pages 7–8; Miller 1993: pages 147–48). These subtractions limited lands controlled by the San Luis Canal Company to the area between the Atchison, Topeka & Santa Fe Railway Grade and Harmon Road on the east side of the San Joaquin River, including the Delta Canal system, Temple Santa Rita Canal, and San Juan Canal. In 2000, the Henry Miller Reclamation District was formed to assume operation of these canals and has continued to do so to the present day (Economic & Planning Systems 2009: pages 14 and 17–18).

Despite the agricultural success of the early 20th century, inherent problems in the water supply continued to hamper the local and regional systems developed during these decades, which encouraged the rise of large-scale public water planning. From 1917 to 1924, six major reservoir projects were constructed in the Sacramento and San Joaquin Valleys; however, thousands of acres of farmland remained without adequate irrigation and continued pumping water from underground wells, which resulted in a 10-foot-per-year drop in the water table. The lowered water table reduced stream flows, hampered navigation, and allowed salt water to penetrate the Sacramento–San Joaquin River Delta (Autobee n.d.: page 6; McGowan 1961: page 289; Pisani 1984: pages 384 and 388). In addition, costs for water, land, and conveyance also escalated, making it difficult for both private and local irrigation districts to meet irrigation demands. These conditions sparked interest in proposals for large inter-basin distribution systems and comprehensive water planning for the entire state. Created by USGS Chief Geographer Robert B. Marshall, one such statewide planning proposal, the Marshall Plan, was rejected by California voters three times during the 1920s. However, the principles of the Marshall Plan formed the basis of the CVP that was created during the Great Depression, when public opinion swung in favor of large-scale public works (JRP and Caltrans 2000: page 73; Pisani 1984: pages 394–408).

The U.S. Bureau of Reclamation began constructing the CVP in 1933. The CVP was “one of the most ambitious and successful water development projects ever undertaken” (JRP and Caltrans 2000: page 73). The CVP involved a large system of canals and reservoirs designed to move surplus water from the Sacramento River to the arid San Joaquin Valley, and to provide both irrigation supplies and hydroelectric power. Additionally, the CVP addressed the problems of flooding, river navigation, and the entry of salt water into the Sacramento–San Joaquin River Delta. The CVP facilities included five core units: Shasta Dam, the Delta-Mendota Canal, Friant Dam, the Friant-Kern Canal, and the Contra-Costa Canal. Engineers designed these units to hold much larger amounts of water than previous conveyance systems, and to last. The Lateral Canal running through a portion of the Central Valley Wye APE was developed by the Bureau of Reclamation as part of the CVP (Cooper 1968: page 50; Hart 1987: pages 87–88; JRP and Caltrans 2000: pages 74–76; Pisani 1984: pages 434 and 437; Stene 1994: pages 13–14 and 17).

## 7.8 20th Century Road and Highway Development

In 1909, the California legislature passed an \$18 million bond measure for public highway development that the state’s voters approved the following year. During the 1910s, highway planners aligned the state’s main eastern trunk line connecting northern and southern California through the San Joaquin Valley. Passing through the APE parallel to the Southern Pacific Railroad line, this route eventually became U.S. Route 99. After World War I, the state modernized the old Pacheco Pass road across the hills from the San Joaquin Valley to the Santa Clara Valley. It served as a lateral connection of the eastern trunk-line highway with the western coastal trunk-line highway, approximating the alignment of California’s Spanish-era Camino Real. The modernized Pacheco Pass lateral became modern day SR 152. East of the pass, the highway cut through Los Banos and extended farther east to connect to the eastern trunk-line highway. As part of the plan for a “Yosemite-to-the-Sea Highway,” the state took over the route from local counties and paved it to a width of 18 feet, 6 inches as far east as Califa in 1924 (Bean and Rawls 2003: pages 300-301; Blow 1924: pages 175–178; Woodson 192 page 13).

The most scenic road constructed within the APE during the early 20th century was Chowchilla’s Robertson Boulevard. A. O. Robertson had the 100-foot-wide road built southwest from

downtown Chowchilla. Begun in 1912 and completed in 1913 at a cost of \$80,000, the boulevard was lined with Canary Island palm trees and Mexican fan palms, creating a romantically picturesque California landscape dominated by the palms and complemented on clear days by easterly views of the snow-capped Sierra Nevada range. In 1989, Robertson Boulevard was registered as a California Point of Historical Interest by the State Historical Resources Commission (Clough 1983: pages 92–93; DPR 1989; Madera Newspapers 1993: page 115).

By the late 1930s, the state highway paralleling the Southern Pacific Railroad had been designated as part of the federal highway system as U.S. Route 99, and had distinguished itself as one of the busiest highways in the American west. The Highway Division of the State Department of Public Works transformed the highway corridor beginning in 1939 by expanding it into a paved four-lane highway with a center divider from Modesto south to Chowchilla. In 1957–1958, U.S. Route 99 was realigned to the east and improved into a four-lane divided highway from Chowchilla to Fairmead. The current elevated road crossings over the highway in the Fairmead area, and the current ramp connections to SR 152, were also developed at this time (England 1957: pages 61–63; Pierce 1941: pages 14–16 and 20–21; Welch 1958: page 40).

## 7.9 Enduring Agriculture

Merced and Madera Counties are central to California's agricultural legacy and distinguished by their long history of beef and dairy cattle ranching as well as abundant stone fruit, nut, and grain crops. Between the late 19th century and the late 20th century, the region's development was characterized by evolving ranching and farming strategies associated with changes in access to water, population growth, and technology. The region's agricultural history began with open-range livestock ranching and grain farming in the 1800s, transitioned to smaller and more diverse farming practices in the early 1900s, and adopted industrial ranching and crop production methods by the second half of the 20th century (Clark 1973). Merced and Madera Counties share an agricultural heritage that demonstrates historical change and adaptation in land use alongside growth in cattle and farming industries.

The first historical phase (circa 1850 to 1910) includes U.S. settlers' adoption of Spanish and Mexican Era open-range ranching methods, and the conversion of cattle herds from leather and tallow breeds to beef breeds (Cabezut-Ortiz 1987). In the late 19th century and at the turn of the 20th century, the San Joaquin Valley was dominated by open range livestock ranching operated by landholding companies such as Miller & Lux, the Sharon Estate, and Chowchilla Ranch. Conflicts between wheat and barley farmers and open range ranchers were common, and the repeal of the Trespass Act in 1872 caused a shift in the burden of crop protection from farmers to ranchers. This era is also characterized by a reliance on seasonal irrigation as well as pioneering efforts to develop early irrigation infrastructure. Cattle was the dominant livestock, and wheat farming was an important seasonal crop on the river floodplain (Cabezut-Ortiz 1987:37).

The second historical phase (circa 1910 to 1945) saw increased migrant populations from the eastern U.S., Europe, and Asia arriving in the San Joaquin Valley, spurring livestock and crop diversification and encouraging the widespread development of tenant farming and other forms of farm subdivision. With the establishment of local water districts, the region's irrigation infrastructure was rapidly developing and supplying more reliable water to ranches and farms (JRP and Caltrans 2000). While beef production continued to dominate the livestock industry, sheep, pigs, and dairy cattle rose in prominence. The U.S. Department of the Census reported 129,888 cattle in Merced County and 31,740 cattle in Madera County in 1920 (US DOC 1922:352:17); 93,900 cattle in Merced County and 45,785 cattle in Madera County in 1930 (US DOC 1932:534:35); and 116,144 cattle in Merced County and 48,978 cattle in Madera County in 1940 (US DOC 1942:709-710:27). Fruit and nut crops increased, and almonds in particular were recognized as well-suited to the San Joaquin Valley (Clark 1973; Geisseler and Horwath 2016).

The third historical phase (circa 1945 to 1965) saw the agricultural benefits of secured rights to water provided by the CVP and the introduction of post-war intensification methods and technologies. By the close of World War II, agriculture in Merced and Madera Counties had adapted to the reliable water supply of the CVP, and water-intensive dairy and orchard production increased (JRP and Caltrans 2000). By the second half of the century, intensive feedlot-style

cattle and dairy production had replaced much of the open pasture ranching techniques, and dense, heavily-fertilized mono-cropping dominated farming practices. Cattle continued to be the largest livestock population; the 1950 census reported 165,194 cattle in Merced County and 69,026 cattle in Madera County (US DOC 1952:117-118:50) and the 1964 census reported 216,849 cattle in Merced County and 110,429 cattle in Madera County (US DOC 1964:426:4). Due to more reliable irrigation, almonds emerged as a dominant crop alongside seasonal grains such as corn and wheat (Aron 1988; Clark 1973; US DOC 1952; US DOC 1964). Dairy farms began consolidating during this time period, with the number of dairy farms decreasing and dairy cow populations steadily increasing. In 1950, there were 2,151 farms with 57,772 cows in Merced County, and 735 farms with 12,853 cows in Madera County (US DOC 1952); in 1964 there were 951 farms with 59,284 cows in Merced County, and 215 farms with 13,939 cows in Madera County (US DOC 1964); in 1978, there were 391 farms with 73,003 cows in Merced County, and 76 farms with 16,015 cows in Madera County (US DOC 1982). These developments established the characteristics of Merced and Madera County agriculture that are seen through the end of the 20th century.

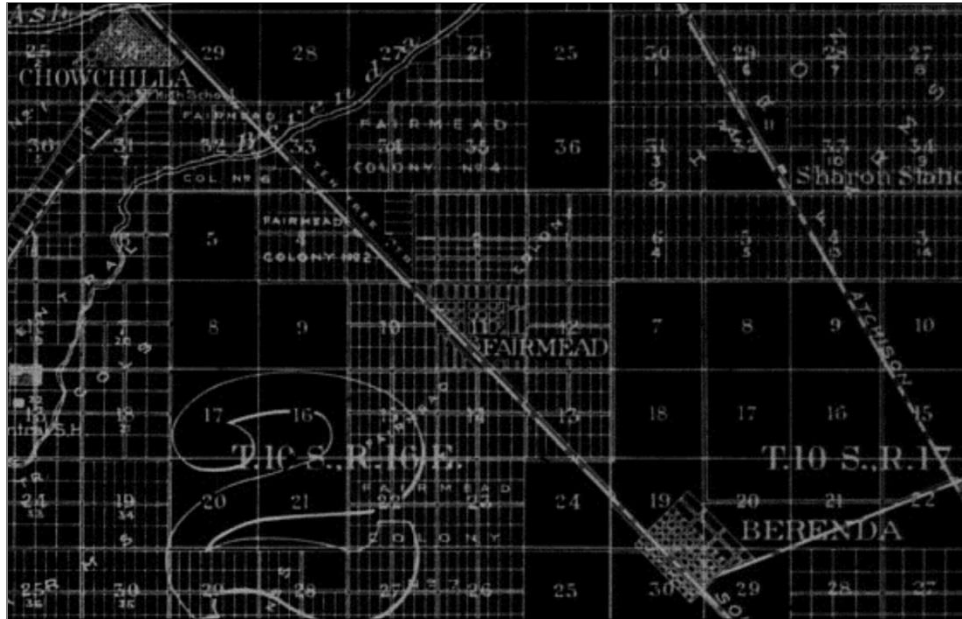
### 7.10 Residential Patterns of Development, 1920–1970

The region's agricultural development was the key economic factor in shaping the spatial organization of residential development within the APE. Residential development during the period between 1920 and 1970 followed a pattern common to many rural areas of Merced and Madera Counties. This pattern involved an initial period of relatively slow growth during the years between 1920 and 1945, followed by a post-World War II era with a comparatively faster rate of residential infill at the periphery of towns and along the rural roads between communities.

By 1920, a number of communities within the APE had been established. With the exception of El Nido, all were located along the Southern Pacific Railroad corridor or near SR 99. In some cases—such as with Athlone (Plainsburg), Minturn, Califa, and Berenda—residential development remained limited and contained within the original town plat. Over the course of the 20th century, some communities—including Athlone, Minturn, and Berenda—gradually declined to the point that by the early 1960s, their existence was represented by only a few residences, ancillary farm buildings, and commercial buildings.

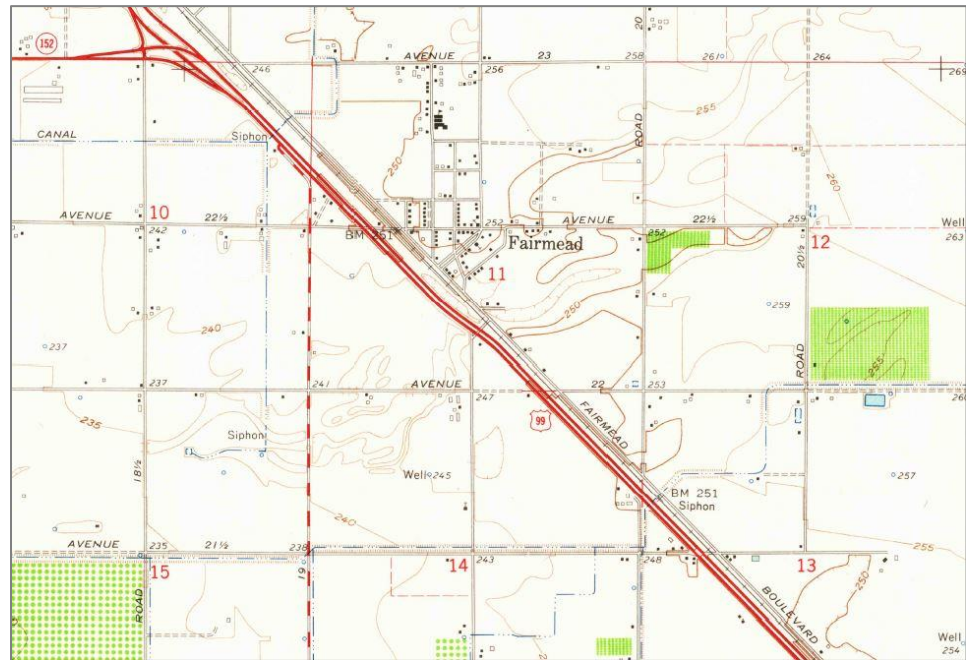
One community that continued to grow post-1920s, although not to the extent that its organizers had planned, was Fairmead. The residential development of Fairmead reflects a pattern of growth that was typical of other agricultural colonies in the area. As the 1921 map on Figure 7-1 shows, the land encompassing the Fairmead Colony was subdivided into individual farm parcels, with a section near the center of the tract reserved for smaller residential town lots. Over the course of the 20th century, Fairmead's residential core filled in gradually, while the surrounding farm parcels developed residences along the roads and avenues that subdivided the colony. Even by the early 1960s, development at the periphery of the subdivision continued to reflect an agrarian pattern of growth, with residences aligned along the sides of the roads and the associated orchards and fields located at the interior of the lots (Figure 7-2).

While not all rural areas in the APE were part of a farm colony or developed around a residential core, they did generally feature residential buildings sited along or near the public roadways, with the primary facade oriented toward the road. This site characteristic was typical of other rural residential subdivisions in the area, including Dairyland, the Nebraska-California Tract, the Orchard and Alfalfa Colony, the Central Colonies, the El Nueva Tract, and the Berenda Tract. During the post-war era, growth in Chowchilla along Robertson Boulevard focused on subdividing agricultural lands for residential development, while other parts of the APE simply saw residential infill along extant roadways during the same era.



Source: Rue, 1921

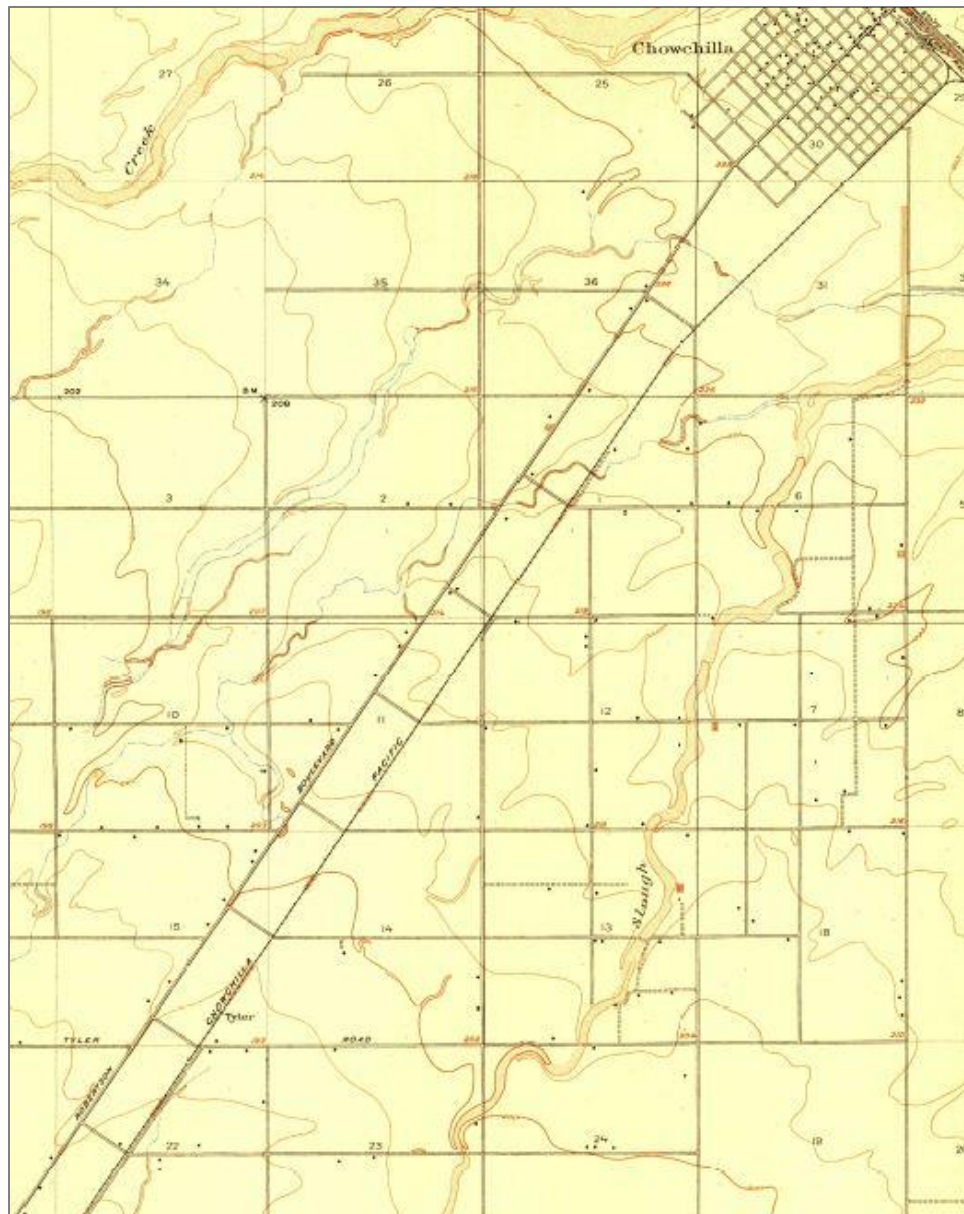
Figure 7-1 Platted Subdivisions of Chowchilla, Fairmead, and Berenda in 1921



Source: USGS Topographic Map, 1961

Figure 7-2 Fairmead, CA 1961 Pattern of Residential Development

Throughout the region, the overall pace of residential development remained relatively slow, and the density of development varied widely between communities and between tracts of land. The 7-mile stretch between Athlone in Merced County near the northern end of the study area and Minturn (1 mile north of Chowchilla) in Madera County only included three farm residences in 1919. By 1960, this segment still only had nine residences. Similarly, at the southern end of the study area along the 3-mile stretch of State Highway 99 between the communities of Berenda and Fairmead there were four farm residences in 1918, and still only 18 homes by 1961. Just northwest of the Chowchilla Canal in the square-mile section (Section 4) bounded by Highway 152, Road 5, Madison Road, and Kingswood Road there were no farm residences in 1942, but by 1948 there were 11 farm residences. In contrast, at the extreme west end of the study area near the San Joaquin River in Section 10 in Merced County, USGS topographic maps indicate that as far back as 1922, no residences were built in this area.



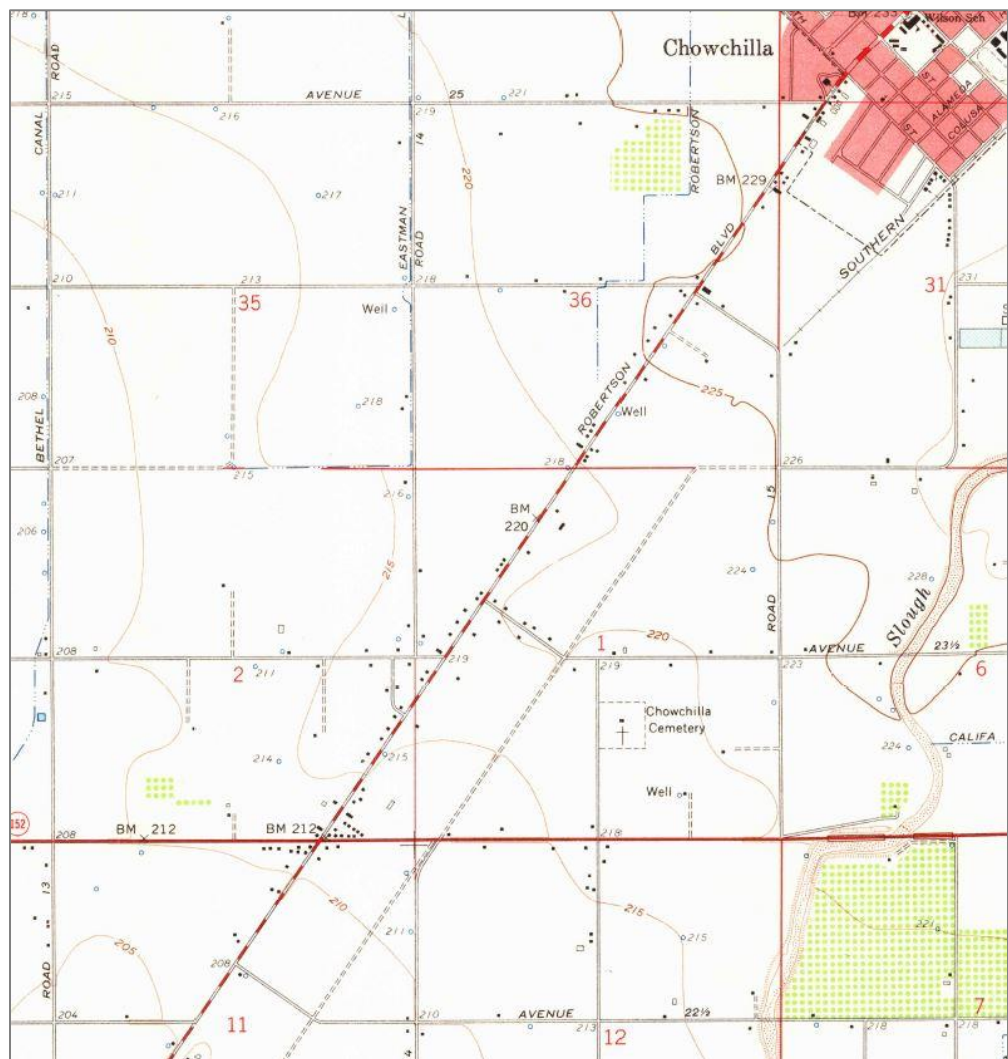
Source: USGS, 1918

**Figure 7-3 Robertson Boulevard 1918 Pattern of Residential Development**



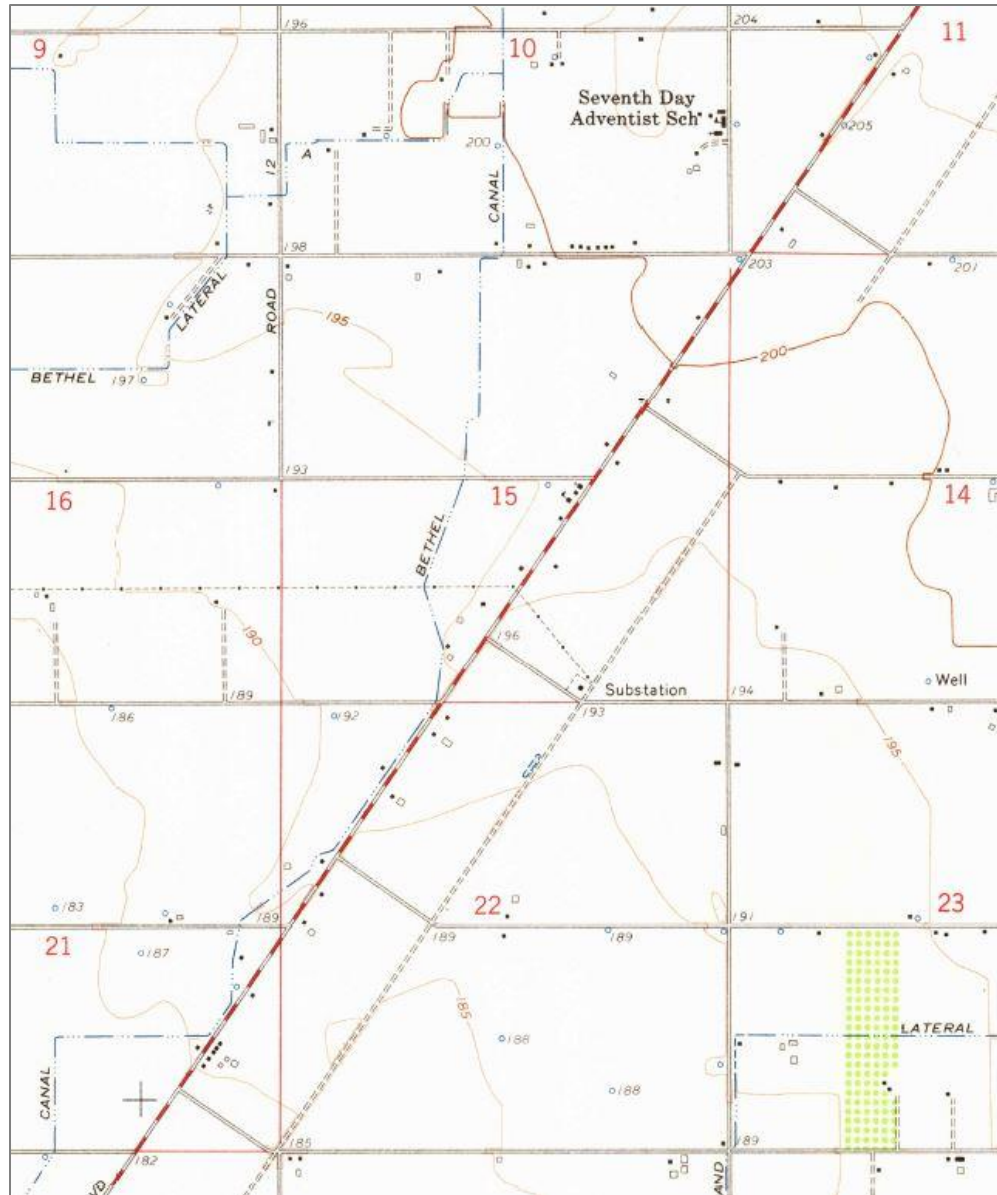
Residential development in the community of Chowchilla also progressed at a slow pace. In 1920, Chowchilla had a fairly well-defined urban grid with several hundred residential and commercial buildings defining its core. A subdivision had been platted at the town's southwest end along both sides of Robertson Boulevard, the main thoroughfare into and through the community (Figure 7-3). Robertson Boulevard was still sparsely developed with only 13 farm residences sited along both sides of the 3.5-mile roadway between Avenue 23½ to Avenue 20½.

After World War II, Chowchilla began expanding at the southwest end of town and along Robertson Boulevard. A subdivision that appears on the 1919 USGS topographic map had been developed and infilled by 1948. Additionally, the 3.5-mile segment of Robertson Boulevard between Avenue 23 1/2 and Avenue 20 1/2 began filling in with residences along both sides of the roadway. By 1960, the number of residences along this segment of the boulevard increased to 85 (Figure 7-4 and Figure 7-5). As with the development surrounding the residential core of Fairmead, the Robertson Boulevard residential corridor was sited with houses oriented toward the roadway and farmland located at the interior of the lots.



Source: USGS, 1960

**Figure 7-4 Robertson Boulevard (North) 1960 Pattern of Residential Development**



Source: USGS, 1960

**Figure 7-5. Robertson Boulevard (South) 1960 Pattern of Residential Development**

Residential building styles along Robertson Boulevard, as well as in the surrounding agricultural subdivisions—Dairyland, the Nebraska-California Tract, the Orchard and Alfalfa Colony, the Fairmead Colony, the Central Colonies, the El Nueva Tract, and the Berenda Tract—reflected both vernacular and national influences. During the 1920s and 1930s, the application of the Craftsman style to many single-family homes in the area reflected a broader national trend of using this style for small residential buildings in both urban and rural settings. The Craftsman style emphasized horizontal planes and commonly featured large entry porches, low overhanging eaves, and front-facing double gables. In addition to the Craftsman style, modest, Vernacular-style residences constructed of wood and largely devoid of architectural embellishments were also built during this period. By the 1940s a new form of minimalist architecture, the Minimal Traditional style, became popular both nationally and in the APE. The style emphasized a small boxy profile, a low to moderate-pitched hipped roof with shallow eaves, wood board or stucco

siding, and minimal ornamentation. The style was applied to rural houses into the early 1950s. Additionally by this time, residences in the APE were increasingly being built in another national style, the Ranch style, which remained popular through the 1960s. Homes constructed in this style featured low-pitched roofs, a broad rambling façade, an integral garage, and exterior wall cladding consisting of stucco, wood, and/or brick.

While the Ranch-style residences found along Robertson Boulevard and the rural roads that bisect the area's orchards and fields are nearly indistinguishable from those built in the dense suburban housing tracts surrounding the cities of Merced and Madera, their siting within the surrounding landscape indicates that agriculture, rather than the demographic pressures associated with rapid suburbanization, remained the key factor in influencing the spatial organization and pace of residential development within the study area.



## 8 PROPERTIES IDENTIFIED—FINDINGS

This HASR has been prepared as part of the Authority's and the FRA's compliance with the Section 106 PA and applicable sections of the NHPA and its implementing regulations of the Advisory Council on Historic Preservation as these pertain to federally funded undertakings and their impacts on historic properties. All historic architectural resources were also evaluated in accordance with CEQA Guidelines section 15064.5(a)(2)–(3) using the criteria outlined in California Public Resources Code section 5024.1. This HASR will be submitted to the California SHPO for concurrence with the adequacy of the identification and evaluation findings.

This section focuses on the summary of findings for all properties within the Central Valley Wye APE survey population. A total of 977 parcels are located in the APE. Table 8-1 provides a breakdown by county of NRHP and CRHR eligible resources, ineligible resources, and parcels that were exempt from evaluation.

**Table 8-1 Area of Potential Effect Survey Population Summary**

County	Number of Parcels Per County	Merced to Fresno NRHP/CRHR Eligible	Merced to Fresno Ineligible	Central Valley Wye NRHP/CRHR Eligible	Central Valley Wye Ineligible	Central Valley Wye Vacant, Agricultural, or No Effect	Central Valley Wye Exempt from Evaluation	Central Valley Wye Phased ID
Merced	215	0	4	0	21	130	47	13
Madera	762	1	33	1	158	283	232	54
<b>Total</b>	<b>977</b>	<b>1</b>	<b>37</b>	<b>1</b>	<b>179</b>	<b>413</b>	<b>279</b>	<b>67</b>

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

NRHP = National Register of Historic Places

CRHR = California Register of Historical Resources

ID = Identification

Parcels that were exempt from evaluation (692) are those parcels that were vacant, agricultural land, contained buildings constructed after 1965 (not yet 50 years of age), or met one of the criteria in the Section 106 PA Attachment D.

The remainder of this section describes the portion of the survey population located within the Central Valley Wye APE that includes 285 properties with buildings or structures built in 1965 or earlier. Table 8-2 through Table 8-6 provide a breakdown of recordation and NRHP and CRHR evaluation status.

Section 8.1, Properties Identified as Eligible for the National Register of Historic Places, briefly describe the two eligible resources (out of the 285 properties) in the APE and applicable NRHP and CRHR criterion or criteria; the DPR forms provided in Appendix D provide further detail on the description and significance of these resources. There were no “CEQA-only” properties (i.e., resources not eligible for the NRHP, but considered historical resources for the purposes of CEQA) identified within the APE.

Section 8.2, Properties Identified as Not Eligible for the National Register of Historic Places, provides summaries of the 216 properties located in the APE that fall under this category. Detailed descriptions and evaluations of the nonexempt and nonstreamlined historic architectural resources may be found in the respective DPR 523 forms, which are attached in Appendix D and Appendix E (156 properties). Appendix F provides detailed documentation for streamlined properties (23 properties). Findings for 37 properties previously identified as not eligible as part of the Merced to Fresno HPSR (Authority and FRA 2012b) and Merced to Fresno HASR (Authority and FRA 2012a) and located in the area of the Central Valley Wye APE that overlaps those study areas are summarized in Table 6-5 in Section 6.1.1 and also in Section 8.2.3. Because the SHPO has concurred on their eligibility as part of the Merced to Fresno Section, those DPR 523 forms are not attached to this HASR. Copies of the Merced to Fresno HPSR (Authority and FRA 2012b) and Merced to Fresno HASR (Authority and FRA 2012a) can be made available upon request.

Section 8.3, Properties in the Area of Potential Effects That Require Further Study, provides information on the remaining 67 of the 285 properties in the Central Valley Wye APE that have been identified as containing buildings constructed in 1965 or earlier but have not been formally evaluated under NRHP or CRHR criteria because access was not granted and the resources could not be adequately surveyed.

## 8.1 Properties Identified as Eligible for the National Register of Historic Places

There are two NRHP and CRHR eligible resources in the APE, the Chowchilla Canal and Robertson Boulevard Tree Row. Both are considered historical resources for the purposes of CEQA and historic properties under Section 106. Table 8-2 and Table 8-3 provide a summary of these resources and this section provides a short description of each historic property.

### 8.1.1 Chowchilla Canal

The Chowchilla Canal (Figure 8-1; Table 8-2) was built in 1872 by the Miller & Lux Company and W. S. Chapman. The entire canal is approximately 24 miles long, 8 feet wide at the top, and 5 feet deep, with a bottom surface that is V-shaped.



Camera facing south from SR 152  
Photo taken 12/19/2014

**Figure 8-1 Chowchilla Canal Segment**

The Chowchilla Canal was one of the first large-scale canals constructed in the region and was central to an extensive water conveyance system managed by the Miller & Lux Company. The canal carries water northward from the San Joaquin River at Mendota to its terminus near the Chowchilla River. It was originally constructed as an earthen canal, but large segments of the Chowchilla Canal were later lined with concrete. The segment of the canal in the APE is approximately 3 miles long, of which approximately 1 mile has been converted to underground pipe.

The Chowchilla Canal was evaluated using the evaluation approach described in Section 6.3. The complete evaluation is presented on the DPR form included in Appendix D. This segment of the canal largely maintains its historic alignment, despite changes to its materials and form. Overall, this segment of the canal system continues to convey its significance as one of the first large-scale canals constructed in the region.

Based on the current evaluation, the Chowchilla Canal is eligible for listing in the NRHP at the local level of significance under NRHP Criterion A and CRHR Criterion 1 as an individual linear structure, for its association with an extensive, early irrigation system that transformed the development of agriculture in the San Joaquin Valley. Essential character-defining features of the Chowchilla Canal that enable the resource to convey its historic significance are its historic alignment, its agricultural setting, and its ability to transport water.

Although the portions of the canal have diminished integrity of design, materials, and workmanship in areas where the canal has been tunneled underground and where the original earthen-banks of the canal have been lined with concrete, it still retains all three key aspects of integrity as defined in the evaluation approach: it is located in the historic alignment, it is located in an agricultural setting, and it continues to function as it historically did by conveying water for agricultural irrigation. With both significance and sufficient integrity, the Chowchilla Canal is eligible for listing in the NRHP under Criterion A and the CRHR under Criterion 1.

The DPR form set can be found in Appendix D.



**Table 8-2 Newly Identified Historic Architectural Resource Found Eligible as a Result of this Study**

Map ID <sup>1</sup>	Map Sheet	Historic Name	APN	Address	City	County	Year Built	Eligibility		OHP Status Code
								CRHR	NRHP	
197	15, 18, 21, 22	Chowchilla Canal	020100015 020100039 020130014	N/A	Vicinity of Chowchilla, California	Madera	1872	Criterion 1	Criterion A	3S

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

<sup>1</sup>The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B and further documentation is provided in Appendix D.

APN = Assessor's Parcel Number

CRHR = California Register of Historical Resources

N/A = not applicable

NRHP = National Register of Historic Places

OHP = Office of Historic Preservation

3S = appears eligible for NRHP as an individual property through survey evaluation

### 8.1.2 Robertson Boulevard Tree Row

The Robertson Boulevard Tree Row (Figure 8-3, Table 8-3) extends approximately 9.4 miles southwest along SR 233 from SR 99 east of downtown Chowchilla to Avenue 18-1/2 (Bowen 2010:2). The tree row consists of Canary Island palms, short Mexican fan palms, and oleanders that Orlando Robertson, founder of Chowchilla, planted in 1912 as part of the development of the Chowchilla town center. With a period of significance of 1912–1913, the tree row was designated a California Point of Historical Interest in 1989. This resource meets NRHP Criterion A and CRHR Criterion 1 in the area of community development and NRHP Criterion C and CRHR Criterion 3 in the area of landscape architecture as an early 20th century designed landscape feature.

Essential character-defining features of the Robertson Boulevard Tree Row that enable the resource to convey its significance are its historic alignment, the combination of plant types, and its visibility as a recognizable landmark in Chowchilla.

This resource is also within the APE of the Merced to Fresno Section and has been previously determined eligible for listing in the NRHP and CRHR by the FRA, with concurrence from SHPO on March 13, 2012 as part of the Merced to Fresno Section project.

The linear resource extends from SR 99 to Avenue 18-1/2, a length of 9.4 miles that has been described previously as approximately 11 miles (Bowen 2010:1). The resource was investigated during a field survey conducted on July 18, 2016, and a DPR update was prepared. The DPR 523 form set for this historic property is included in Appendix D.



Camera facing southwest from Robertson Boulevard  
Photo taken 4/22/2010

**Figure 8-2 Robertson Boulevard Tree Row**

**Table 8-3 Historic Architectural Resource Located in the Area of Potential Effects—Previously Recorded Eligible**

Map ID <sup>1</sup>	Map Sheet	Primary Number	Trinomial	Historic Name	APN	Address	City	County	Year Built	Eligibility			OHP Status Code
										Local Register	CRHR	NRHP	
423	49, 50, 58, 66, 70, 71, 72, 79, 85, 86	N/A	N/A	Robertson Boulevard Tree Row	N/A	Robertson Boulevard	Chowchilla	Madera	1912–1913	No	Criteria 1 and 3	Criteria A and C	3S

Source: Authority and FRA, 2012b

<sup>1</sup>The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B.

APN = Assessor's Parcel Number

CRHR = California Register of Historical Resources

N/A = not applicable

NRHP = National Register of Historic Places

OHP = Office of Historic Preservation

3S = appears eligible for NRHP as an individual property through survey evaluation

## **8.2 Properties Identified as Not Eligible for the National Register of Historic Places**

A total of 216 historic architectural resources addressed in this HASR have been previously determined or, based on work conducted as part of this study, are found not eligible for listing in the NRHP or CRHR. Section 8.2.1, Department of Parks and Recreation 523 Forms Prepared for the Central Valley Wye, includes a summary of those properties in the Central Valley Wye APE that were surveyed and evaluated and found ineligible for the NRHP and for which SHPO concurrence is being requested. The DPR 523 forms for these evaluated resources are included in Appendix E. Section 8.2.2, Streamlined Properties, presents those properties that were streamlined. Section 8.2.3, Merced to Fresno Section Findings, provides an overview of 37 ineligible properties in the APE that were previously recorded during the Merced to Fresno Section and had been determined to be ineligible for listing in the NRHP and CRHR, with SHPO concurrence.

### **8.2.1 Department of Parks and Recreation 523 Forms Prepared for the Central Valley Wye**

Of the 216 ineligible resources addressed in this HASR, 156 were formally inventoried and evaluated under NRHP and CRHR criteria as newly recorded resources as part of this study. Among the resources are many single-family residences that have an agricultural component or are related to the development and continued production of irrigated agriculture in rural areas. Others are industrial, commercial, civic, and infrastructure-related buildings and structures.

For a full evaluation and history of each property, refer to the DPR 523 forms in Appendix E. The properties listed in Table 8-4 are ineligible for listing in the NRHP and CRHR.

**Table 8-4 Historic Architectural Resources Evaluated as Not Eligible for the NRHP for Which SHPO Concurrence is Requested (arranged by Map ID)**

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
2	2	N/A	085290031 085290030	13051 Carlucci Road	Dos Palos	Merced	ca. 1954	6Z
15	1, 2	San Juan Canal	073420043000 085400070000	Crosses Henry Miller Road	Dos Palos	Merced	ca. 1910–1916	6Z
28	2, 3, 5, 7	N/A	073390019	12593 S Elgin Road	Dos Palos	Merced	1962	6Z
33	2, 3, 4, 5	Temple Santa Rita Canal	073420065000 085400050000	Crosses Henry Miller Road	Dos Palos	Merced	ca. 1916–1946	6Z
34	4, 5	N/A	085280030	13533-13471 Elgin Road	Dos Palos	Merced	ca. 1960	6Z
48	4, 5	N/A	085270007	13749 Palm Avenue	Dos Palos	Merced	1935	6Z
52	4, 5	Orchard Ditch	073420052000 085400011000	North Of Hutchins Road	Dos Palos	Merced	ca. 1916–1946	6Z
70	4, 5, 6	Santa Rita Ditch	085400014000	Crosses Hutchins Road	Dos Palos	Merced	ca. 1910–1916	6Z
90	8, 9, 10	Lucerne Ditch	085400074000 085400016000	Crosses Hutchins Road	Dos Palos	Merced	ca. 1910–1916	6Z
98	8, 9, 10	Riverside Canal	085400018000	Near Willis Road	Dos Palos	Merced	ca. 1910–1916	6Z
104	9, 10	N/A	074150010	13757 S Harmon Road	Merced	Merced	ca. 1920	6Z
109	8, 12	N/A	074170012	15067 Harmon Road	Dos Palos	Merced	1950	6Z
120	12	N/A	74170019	15373 Flanagan Road	Dos Palos	Merced	1943	6Z
124	12	N/A	074170004	15405 S Flanagan Road	El Nido	Merced	ca. 1960	6Z
149	13, 15	N/A	074160020	14023 Redtop Road	El Nido	Merced	ca. 1950	6Z
150	13, 14, 15, 16	N/A	074160040	13701 S SR 59	El Nido	Merced	ca. 1955	6Z
170	15	N/A	020090016	3700 SR 152	Chowchilla	Madera	1965	6Z
171	15	N/A	020090021	22742 Road 4	Chowchilla	Madera	1961	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
175	15	N/A	020090014	22794 Road 4	Chowchilla	Madera	1948	6Z
178	17	N/A	020160010	20513 Road 4	Chowchilla	Madera	ca. 1962	6Z
181	15	N/A	020100036	22153–22655 Road 4	Chowchilla	Madera	ca. 1920	6Z
182	15	N/A	020100030	4138 SR 152	Chowchilla	Madera	ca. 1948	6Z
185	16	N/A	020032015	4444 Avenue 24	Chowchilla	Madera	ca. 1945	6Z
191	17, 18, 21, 22	N/A	020160014	5100 Avenue 21	Chowchilla	Madera	1948	6Z
193	15	N/A	020032012	4831 SR 152	Chowchilla	Madera	1955	6Z
202	15, 19	N/A	020100009	5386 SR 152	Chowchilla	Madera	1935	6Z
204	22	N/A	021040008	5609 Avenue 21	Chowchilla	Madera	1930	6Z
206	21, 22	N/A	021070002	5874 Avenue 21	Chowchilla	Madera	1938	6Z
208	22	N/A	021040009	21282 Road 6	Chowchilla	Madera	1951	6Z
209	19	N/A	020040021	5841 SR 152	Chowchilla	Madera	1922	6Z
210	19	N/A	021010005	22764 Road 6	Chowchilla	Madera	1935	6Z
212	19	N/A	021010040	22738 Road 6	Chowchilla	Madera	1928	6Z
214	21, 22	N/A	021070003	6202 Avenue 21	Chowchilla	Madera	1950	6Z
220	21, 22	N/A	21070005	6418–6448 Avenue 21	Chowchilla	Madera	1922	6Z
222	19, 20	N/A	020060040000	6465 SR 152	Chowchilla	Madera	1949	6Z
227	19	N/A	020060013	23258 Road 7	Chowchilla	Madera	1945	6Z
229	19	N/A	021010042	22810 Road 7	Chowchilla	Madera	1940	6Z
230	19	N/A	020060015	23190 Road 7	Chowchilla	Madera	1949	6Z
231	19	N/A	020060014	23212 Road 7	Chowchilla	Madera	1945	6Z
233	21, 22	N/A	021080001	7178 Avenue 21	Chowchilla	Madera	ca. 1950	6Z
242	22	N/A	021050002	7479 Avenue 21	Chowchilla	Madera	1930	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
248	19	N/A	020080015	7733 SR 152	Chowchilla	Madera	ca. 1940	6Z
250	22	N/A	021080040	7828 Avenue 21	Chowchilla	Madera	ca. 1960	6Z
251	19, 26	N/A	025160009	8117 SR 152	Chowchilla	Madera	1955	6Z
260	26	N/A	025160011	8507 SR 152	Chowchilla	Madera	1938	6Z
277	24, 25	N/A	021090002	9434 Avenue 21	Chowchilla	Madera	1944	6Z
290	24, 25, 26	Ashview Canal	N/A	Crosses Avenue 21	Chowchilla	Madera	ca. 1946–1958	6Z
293	26	N/A	025180006	23271 Road 10	Chowchilla	Madera	ca. 1940	6Z
321	41, 42, 53, 54	N/A	025190007	23294 Road 12	Chowchilla	Madera	1940	6Z
323	39, 40, 52, 59	N/A	024010013000	22676 Road 12	Chowchilla	Madera	1935	6Z
325	42, 43, 54, 55	N/A	025190002000	23726–23508 Road 12	Chowchilla	Madera	1945	6Z
327	64	N/A	075100031	8501 E Sandy Mush Road	Chowchilla	Merced	ca. 1915	6Z
330	36, 49	N/A	24090004	20602 Robertson Boulevard	Chowchilla	Madera	1940	6Z
331	37, 38, 50, 51	N/A	024060022	21746 Road 12	Chowchilla	Madera	1945	6Z
333	37, 50	N/A	024060031	11892 Avenue 21 1/2	Chowchilla	Madera	ca. 1925	6Z
338	53, 59	N/A	024020001	22711 Road 12	Chowchilla	Madera	ca. 1950	6Z
345	53, 54	N/A	025200004	23435 Road 12	Chowchilla	Madera	1951	6Z
347	49	N/A	024090010	20565 Robertson Boulevard	Chowchilla	Madera	1937	6Z
356	49, 58	N/A	024090008	20741 Robertson Boulevard	Chowchilla	Madera	1940	6Z
370	55, 60, 67, 75	N/A	025140006	12433 Avenue 24	Chowchilla	Madera	ca. 1938	6Z
372	53, 54	N/A	025200006	12576 Avenue 23 1/2	Chowchilla	Madera	1948	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
375	49, 50, 51, 52, 53, 58, 59, 67, 73, 74, 75, 76, 77	Bethel Canal	N/A	Crosses Avenue 23	Chowchilla	Madera	ca. 1946–1958	6Z
377	51	N/A	024030022	12553 Avenue 22	Chowchilla	Madera	1922	6Z
381	58	N/A	024070032	Not Listed Avenue 21	Chowchilla	Madera	ca. 1925	6Z
386	51, 71	N/A	024030017	12659 Avenue 22	Chowchilla	Madera	1956	6Z
389	71	N/A	024030018	12675 Avenue 22	Chowchilla	Madera	ca. 1939	6Z
394	54, 55, 74, 75	N/A	025200003	23542 Road 13	Chowchilla	Madera	1953	6Z
398	72	N/A	024030004	12750 Avenue 22 1/2	Chowchilla	Madera	1920	6Z
399	52, 59, 66, 72	N/A	024020023	22656 Road 13	Chowchilla	Madera	ca. 1930	6Z
400	71, 72	N/A	024030014	12741 Avenue 22	Chowchilla	Madera	1914	6Z
404	63	N/A	025020015	26498 Road 13	Chowchilla	Madera	1946	6Z
413	73, 74	N/A	025200010	23420 Road 13	Chowchilla	Madera	1938	6Z
419	70, 71	N/A	024070014	21649 Robertson Boulevard	Chowchilla	Madera	1920	6Z
422	77, 78	N/A	025090015	25565 Road 13	Chowchilla	Madera	1961	6Z
425	77	N/A	025090007	13188 Avenue 25 1/2	Chowchilla	Madera	1938	6Z
427	66, 72	N/A	024040005	13307 Avenue 22 1/2	Chowchilla	Madera	1920	6Z
428	73, 74	N/A	025210003	13196 Avenue 23 1/2	Chowchilla	Madera	1930	6Z
430	71, 72	N/A	024050002	22300 Robertson Boulevard	Chowchilla	Madera	1920	6Z
437	71, 72	N/A	024070020	22151 Robertson Boulevard	Chowchilla	Madera	1930	6Z
449	70	N/A	024120028	13394 Avenue 21 1/2	Chowchilla	Madera	1920	6Z
453	70	N/A	024120029	13300 Avenue 21 1/2	Chowchilla	Madera	1942	6Z



Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
454	71, 72	N/A	024050006	22433 Robertson Blvd	Chowchilla	Madera	1935	6Z
457	73, 74	N/A	025210012	13406 Avenue 23 1/2	Chowchilla	Madera	1935	6Z
463	74, 86	N/A	025210005 025210031 025210028 025210006	13611–55 Avenue 23 1/2	Chowchilla	Madera	1924	6Z
465	66, 72, 79, 84	N/A	024050003	22609 Robertson Blvd	Chowchilla	Madera	1945	6Z
468	70, 82	N/A	024120007	13610 Avenue 21 1/2	Chowchilla	Madera	ca. 1935	6Z
469	66, 73, 79	N/A	024040012	22766 and 22776 Robertson Boulevard	Chowchilla	Madera	1935	6Z
470	73, 74, 85, 86	N/A	025210040	13678 Avenue 23 1/2	Chowchilla	Madera	1956	6Z
473	73, 85	N/A	025220001	23172 Robertson Boulevard	Chowchilla	Madera	1944	6Z
476	70, 71, 82, 83	N/A	024120002	21642 Road 14	Chowchilla	Madera	ca. 1921	6Z
478	64, 98	N/A	075110013	10726 Harvey Pettit Road	Chowchilla	Merced	1954	6Z
486	85	N/A	025210016	23316 Robertson Boulevard	Chowchilla	Madera	1923	6Z
494	86	N/A	025230015	13810 Avenue 23 1/2	Chowchilla	Madera	ca. 1955	6Z
496	85, 86	N/A	025230009	23420 Valeta Drive	Chowchilla	Madera	1956	6Z
497	85	N/A	025230017	23404 Valeta Drive	Chowchilla	Madera	1964	6Z
499	85	N/A	025230019	23334 Robertson Boulevard	Chowchilla	Madera	1958	6Z
500	85	N/A	025230018	23348 Robertson Boulevard	Chowchilla	Madera	1962	6Z
502	86	N/A	025230027	23468 Valeta Drive	Chowchilla	Madera	1963	6Z
506	85	N/A	025230007	23362 Robertson Boulevard	Chowchilla	Madera	ca. 1960	6Z
511	85	N/A	025230032	23372 Roberson Boulevard	Chowchilla	Madera	ca. 1960	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
514	86	N/A	025210025	13875 Avenue 23 1/2	Chowchilla	Madera	ca. 1960	6Z
515	85	N/A	026271028	23363 Robertson Boulevard	Chowchilla	Madera	1946	6Z
516	85, 86	N/A	025230024	23404 Robertson Boulevard	Chowchilla	Madera	1963	6Z
519	86	N/A	025230020	13892 Avenue 23 1/2	Chowchilla	Madera	1958	6Z
532	86	N/A	026310015	23500 Robertson Boulevard	Chowchilla	Madera	1953	6Z
538	86	N/A	026310014	23542 Robertson Boulevard	Chowchilla	Madera	1917	6Z
541	81, 82	N/A	024120024	21287 Road 14	Chowchilla	Madera	1940	6Z
545	86	N/A	026271025	23519 Robertson Boulevard	Chowchilla	Madera	1962	6Z
552	82	N/A	024120019	14276 Avenue 21 1/2	Chowchilla	Madera	1918	6Z
554	86	N/A	026271054	23561 Robertson Boulevard	Chowchilla	Madera	1953	6Z
558	85, 86	N/A	026272011	14181 SR 152	Chowchilla	Madera	1960	6Z
561	79	N/A	024100008	22800 Road 14 ½	Chowchilla	Madera	1950	6Z
562	79	N/A	024100026	22812 Road 14 1/2	Chowchilla	Madera	ca. 1950	6Z
566	81, 82, 91, 92	N/A	024120022	14734 Avenue 21 1/2	Chowchilla	Madera	1925	6Z
570	79, 85, 94, 95	N/A	024100028	22877 Road 14 1/2	Chowchilla	Madera	ca. 1945	6Z
584	91, 92	N/A	024130011	21375 Road 15	Chowchilla	Madera	ca. 1955	6Z
592	95, 104	N/A	026280027	15447 SR 157	Chowchilla	Madera	1940	6Z
594	108	N/A	024110027	22774 Road 15 1/2	Chowchilla	Madera	1960	6Z
598	101, 107	N/A	024130023	21215 Road 15 1/2	Chowchilla	Madera	1945	6Z
608	108	N/A	024110008	22688 Road 16	Chowchilla	Madera	1944	6Z
616	104	N/A	026280074, 026280075	23362 Road 16	Chowchilla	Madera	ca. 1916	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
618	104	N/A	026280073	23180 Road 16	Chowchilla	Madera	1939	6Z
619	104	N/A	026280034	23258 Road 16	Chowchilla	Madera	1950	6Z
664	109, 113, 114, 127, 130, 131, 132, 134	Califa Canal	027093006	Crosses Avenue 23	Fairmead	Madera	ca. 1950	6Z
665	121, 127, 130, 134	N/A	027091001	18282 SR 152	Chowchilla	Madera	1920	6Z
674	131	N/A	027054039	23515 Chowchilla	Chowchilla	Madera	1954	6Z
684	131	N/A	027054019	23663 Fairmead Boulevard	Chowchilla	Madera	1924	6Z
686	131	N/A	027054023	23521 Fairmead Boulevard	Chowchilla	Madera	1949	6Z
700	131	N/A	027061003	23652 Road 18 3/4	Chowchilla	Madera	1945	6Z
701	131	N/A	027061004	23598 Road 18 3/4	Chowchilla	Madera	1946	6Z
725	128, 133	N/A	027221013	20720 Road 19	Chowchilla	Madera	1958	6Z
731	128	N/A	027221006	20408 Road 19	Chowchilla	Madera	1925	6Z
750	124	N/A	027031047	24890 Road 19	Chowchilla	Madera	1923	6Z
753	129, 133	N/A	027192028	21213 Road 19	Chowchilla	Madera	1960	6Z
755	130, 140	N/A	027062043	19157 Avenue 23	Chowchilla	Madera	1942	6Z
775	140	N/A	027062020	19341 Avenue 23	Chowchilla	Madera	1950	6Z
782	141	N/A	027062034	23482 Road 19 1/12	Chowchilla	Madera	1957	6Z
789	140	N/A	027062021	23130 Road 19 1/2	Chowchilla	Madera	1964	6Z
790	140	N/A	027062022	23164 Road 19 1/2	Chowchilla	Madera	ca 1970	6Z
793	139, 140	N/A	027102007	22872 Road 19 1/2	Chowchilla	Madera	1948	6Z
802	140	N/A	027071019	23115 Road 19 1/2	Chowchilla	Madera	ca. 1950	6Z
803	140	N/A	027071018	19515 Avenue 23	Chowchilla	Madera	1947	6Z

Map ID <sup>1</sup>	Map Sheet	Common Name (if applicable)	APN	Address	City	County	Year Built	OHP Status Code
829	148	N/A	027072011	23181 Road 20	Chowchilla	Madera	1916	6Z
836	147, 150	N/A	027172021	22680 Road 20 1/2	Chowchilla	Madera	1953	6Z
851	138, 145, 146, 154, 159, 160, 163, 164	Lateral 32.2	N/A	North of Avenue 22	Fairmead	Madera	ca. 1953	6Z
860	155, 158, 166	N/A	029030004	21492 Road 22	Madera	Madera	1946	6Z
867	164, 166	N/A	029020005	22621 Avenue 22	Madera	Madera	ca. 1940	6Z
920	170	N/A	029210029	19514 Road 25	Madera	Madera	1961	6Z
930	168, 169	Lateral 24.2	N/A	Crosses Avenue 19	Madera	Madera	ca. 1946–1953	6Z
1280	148, 149	N/A	027072009	20296 Avenue 23 1/2	Fairmead	Madera	1947	6Z
1306	26	N/A	025180005	23391 Road 10	Chowchilla	Madera	ca. 1950	6Z
1307	26, 27	N/A	025180004	10436 Avenue 23 1/2	Chowchilla	Madera	1964/1940	6Z
1314	27	N/A	025120007	10517 Avenue 24	Chowchilla	Madera	1930/1955	6Z
1331	48	N/A	025120015	24496 Road 11	Chowchilla	Madera	1953/1993	6Z
1332	45, 48	N/A	025130001	24749 Road 11	Chowchilla	Madera	1930	6Z
1335	42, 43	N/A	025190001	11154 Avenue 24	Chowchilla	Madera	1959	6Z

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

<sup>1</sup>The Map ID number is the unique code of identifying individual resources. A map location for each resource is provided in Appendix B and further documentation is provided in Appendix E.

APN = Assessor's Parcel Number

ca. = circa

CHRS = California Historical Resource Status

N/A = not applicable

OHP = Office of Historic Preservation

SR = State Route

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation.

## 8.2.2 Streamlined Properties

Twenty-three properties were inventoried in accordance with the Section 106 PA Attachment C, which provides a framework for evaluating resources in the APE through streamlined documentation. These 23 properties are not eligible for listing in the NRHP or CRHR and are listed in Table 8-5. The corresponding streamlined documentation is provided in Appendix F. As stated in Section 6.5, properties with buildings that were streamlined in the APE exhibited at least three substantial modifications. The most frequently observed combination of building alterations were as follows:

- Replacement of exterior wall cladding (e.g., originally wood and now is stucco or vinyl)
- Non-compatible window and door replacements
- Non-compatible additions to the original floor plan

## 8.2.3 Merced to Fresno Section Findings on Ineligible Properties

There are 37 properties containing historic-era buildings or structures that have been determined ineligible for listing in the NRHP and CRHR as part of the Merced to Fresno Section reports and which are also located in the Central Valley Wye APE. Refer to Table 6-5 in Section 6.1.1, Merced to Fresno Section Historic Property Survey Report and Historic Architecture Survey Report Determinations.

## 8.3 Properties in the Area of Potential Effects That Require Further Study

Table 8-6 lists the 67 properties in the Central Valley Wye APE that have been identified as containing buildings constructed in 1965 or earlier but could not be adequately recorded from public right-of-way and permission to enter was either denied or had yet to be granted by the property owner by the time surveys were completed. These properties are generally located in the rural agricultural area of Merced and Madera Counties and the buildings are sited on large agricultural parcels. Overall, these 64 properties were not formally recorded from the public thoroughfares because property access was denied by the land owner, or views of some or all of the buildings on the properties were blocked by tree coverage, or could only be accessed by private roads. The 64 properties will be surveyed and formally evaluated under NRHP and CRHR criteria as access is gained during the post-record of decision design phase and prior to construction, according to the Section 106 PA (Stipulation IV. Identification and Evaluation of Historic Properties, Section E. Phased Identification).

**Table 8-5 Properties in the Area of Potential Effect Evaluated as Ineligible for the National Register of Historic Places and California Register of Historical Resources Evaluated through Streamline Documentation for Which State of Historic Preservation Officer Concurrence Is Requested (arranged by Map ID)**

Map ID <sup>1</sup>	Map Sheet	APN	Address	City	County	Year Built	OHP Status Code
24	2, 3	073390008	8956 Henry Miller Road	Los Banos	Merced	ca. 1950	6Z
224	22	021040018000	6509 Avenue 21	Chowchilla	Madera	1947	6Z
376	51	024070004	12580 Avenue 22	Chowchilla	Madera	1947	6Z
379	50	024070029	21448 Robertson Boulevard	Chowchilla	Madera	ca. 1950	6Z
390	56, 60, 67, 76	025140007	12700 Avenue 25	Chowchilla	Madera	1951	6Z
396	49, 58, 68, 69	024090012000	20776 Road 13	Chowchilla	Madera	ca. 1935	6Z
402	53, 59, 66, 73	024020040	12852 SR 152	Chowchilla	Madera	1953	6Z
410	64	075110017	8040 SR 99	Le Grand	Merced	ca. 1940	6Z
412	66	024020033	22722 Road 13	Chowchilla	Madera	ca. 1946	6Z
456	76, 77	025090010	13493 Avenue 25	Chowchilla	Madera	1940	6Z
490	86	025210009	13783 Avenue 23 1/2	Chowchilla	Madera	1928	6Z
510	86	025230021	23491 Valeta Drive	Chowchilla	Madera	1961	6Z
542	86	026271026	23471 Robertson Boulevard	Chowchilla	Madera	1963	6Z
543	86	026310013	23566 Robertson Boulevard	Chowchilla	Madera	1949	6Z
548	86	026310012	23576 Robertson Boulevard	Chowchilla	Madera	1961	6Z
574	91, 92	024120023	14734 Avenue 21 1/2	Chowchilla	Madera	1920	6Z
585	99	068190035	9158 S Minturn Road	Chowchilla	Merced	1959	6Z
719	132	027061037	23815 Road 18 3/4	Chowchilla	Madera	1930	6Z

Map ID <sup>1</sup>	Map Sheet	APN	Address	City	County	Year Built	OHP Status Code
770	140	027062015	19279 Avenue 23	Chowchilla	Madera	1938	6Z
857	158, 159, 166	029030005	21656 Road 22	Madera	Madera	1949	6Z
1269	71, 72, 83, 84	024100005	22158 Road 14	Chowchilla	Madera	1950	6Z
1271	79, 94	024100029	22752 Road 14 1/2	Chowchilla	Madera	1960	6Z
1303	27	025170002	23668 Road 10	Chowchilla	Madera	ca. 1940	6Z

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

<sup>1</sup> The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B and further documentation is provided in Appendix D.

APN = Assessor's Parcel Number

OHP = Office of Historic Preservation

ca. = circa

SR = State Route

6Z = Found ineligible for NRHP, CRHR, or Local designation through survey evaluation.

**Table 8-6 Properties in the Central Valley Wye Area of Potential Effect to be Treated under the Section 106 Programmatic Agreement Stipulation IV. Identification and Evaluation of Historic Properties, Section E. Phased Identification**

Map ID1	Map Sheet	APN	Address	City	County	Year Built
35	5	085270026	13252 Elgin Road	Dos Palos	Merced	1964
83	4, 5, 9, 10	085370006	5722 Hutchins Road	Dos Palos	Merced	1949
97	8, 9	085380021	14878 and 14996 Willis Road	Dos Palos	Merced	1962
132	13, 14	074160054	14001–14005 Coyote Road	El Nido	Merced	ca. 1941
217	22	021040010000	21269 Road 6	Chowchilla	Madera	1935
246	21, 22	021080003	7778 Avenue 21	Chowchilla	Madera	1947
264	26, 27	025160008	23410 Road 9	Chowchilla	Madera	1955
268	26	021020025	22648 Road 9	Chowchilla	Madera	1930
270	26	025160018	23292 Road 9	Chowchilla	Madera	1954
276	25	021060006	9432–9454 Avenue 21 1/2	Chowchilla	Madera	1940
304	25, 37, 44	024060012	10764 Avenue 21 1/2	Chowchilla	Madera	ca. 1940
319	37, 44	024060025	11459 Avenue 21	Chowchilla	Madera	1940
342	64	075110037	7251 Plainsburg Road	Chowchilla	Merced	1926
362	53, 54	025200005	12468 Avenue 23 1/2	Chowchilla	Madera	1951
366	62	075110048, 075110049	La Branza Road	Chowchilla	Merced	ca. 1950
371	50, 51, 70, 71	024070008	21548 Robertson Boulevard	Chowchilla	Madera	1925
378	51, 52, 71, 72	024030021	12594 Avenue 22 1/2	Chowchilla	Madera	1926
384	53, 59, 66	024020038	12602 SR 152	Chowchilla	Madera	ca. 1925
395	64	075110054	7560 SR 99	Chowchilla	Merced	1953



Map ID1	Map Sheet	APN	Address	City	County	Year Built
409	69, 70	024070017	13185 Avenue 21	Chowchilla	Madera	1935
414	72	024030006	22308 Road 13	Chowchilla	Madera	1932
434	78	025090014	13390 Avenue 26	Chowchilla	Madera	ca. 1930
455	66, 72	024040006	22812 Robertson Boulevard	Chowchilla	Madera	1930
458	73	025210019	13491 SR 152	Chowchilla	Madera	ca. 1950
504	86	025210042	13855 Avenue 23 1/2	Chowchilla	Madera	1935
509	85, 86	025230022	23431 Valeta Drive	Chowchilla	Madera	1959
529	82	024120018	21351 and 21389 Road 14	Chowchilla	Madera	ca. 1945
567	81, 91, 92	024120030	14593 Avenue 21	Chowchilla	Madera	ca. 1935
571	85, 95	026272037	23203 Road 14 1/2	Chowchilla	Madera	1953
572	98	075110045	Not Listed South Minturn Road	Merced	Merced	ca. 1940
575	95	026272017	23294 Road 15	Chowchilla	Madera	1947
589	95	026280049	15353 SR 152	Chowchilla	Madera	1935
614	107	024150007	20754 Road 16	Chowchilla	Madera	1954
622	104	026290018, 026290019, 026290010, 026290015	16299 SR 152	Chowchilla	Madera	ca. 1946
623	104, 116	026290022	23353 Road 16	Chowchilla	Madera	1935
624	103, 108, 111, 115	027081007	22601 Road 16	Chowchilla	Madera	1954
631	101, 107, 109, 113	027181002	21201 Road 16	Chowchilla	Madera	ca. 1960
632	100, 107, 109, 112	027211002	20691 Road 16	Chowchilla	Madera	1960

Map ID1	Map Sheet	APN	Address	City	County	Year Built
685	131	027054020	Not Listed Fairmead Boulevard	Chowchilla	Madera	1950
691	131	027061006	23543 Fairmead Boulevard	Chowchilla	Madera	1934
697	130	027061011	Not Listed Avenue 22 1/2	Chowchilla	Madera	ca. 1935
717	129	027191017	21319 Road 18 1/2	Chowchilla	Madera	1960
735	124	027010021	25306 Road 19	Chowchilla	Madera	1949
756	124, 151	027010010	25515 Road 19	Chowchilla	Madera	ca. 1945
773	124, 132, 135, 142, 143, 151	027032002	24337 Road 19	Chowchilla	Madera	1945
778	140	027062012	23140 Road 19 1/2	Chowchilla	Madera	ca. 1955
787	140	027062024	23334 Road 19 1/2	Chowchilla	Madera	1945
795	118, 125, 152, 153	026100002	27461 Road 19	Chowchilla	Madera	1930
831	144, 154	029090014	20653 Avenue 20	Madera	Madera	ca. 1930
845	148, 149, 161, 162	027072013	23479 Road 20 1/2	Chowchilla	Madera	1961
864	166	029040011	22179 Avenue 21	Madera	Madera	1960
877	165	029130008	23216 Avenue 20 1/2	Madera	Madera	1962
922	167, 170	029220020	19447 Road 25	Madera	Madera	1965
923	167, 169, 170	029220002	25311 Avenue 19	Madera	Madera	1953
1258	62	075100013	8841 Cross Road	Chowchilla	Merced	1930
1265	56	025080011	12441 Avenue 25	Chowchilla	Madera	ca. 1960
1268	64	75110035	10474 Harvey Pettit Road	La Grande	Merced	1961

Map ID1	Map Sheet	APN	Address	City	County	Year Built
1270	98	075110030000	Not Listed East Harvey Pettit Road	Merced	Merced	1963
1274	139, 150	027171003	22810 Road 20	Chowchilla	Madera	ca. 1960
1277	139	027171022	22574 Road 20	Chowchilla	Madera	1959
1279	150	027172030	22633 Road 20	Chowchilla	Madera	ca. 1960
1328	32, 63	075120055	Not Listed North of Avenue 26, on County Road 11	Chowchilla	Madera	ca. 1950
1339	62, 63	75120036	Not Listed North of Avenue 26, on County Road 11	Chowchilla	Merced	ca. 1962
1344	43, 48	025130005	11508 Avenue 24 1/2	Chowchilla	Madera	1955
1353	128	027221005	18697 Avenue 201 1/2	Chowchilla	Madera	ca. 1965
1354	137, 138	027201017	21251 Road 19 1/2	Chowchilla	Madera	1954
1358	167, 170	029210022	24701 Avenue 19	Chowchilla	Madera	1959

Sources: Survey results quantifications generated from historic resources surveys and evaluation conducted during 2010–2016.

<sup>1</sup> The Map ID number is the unique code for identifying individual resources. A map location for each resource is provided in Appendix B.

APN = Assessor's Parcel Number

ca. = circa

SR = State Route



## 9 REFERENCES

This section provides the list of references cited in this HASR and HPSR and the definitions of the acronyms for those references. The definitions of the acronyms used in the text are provided at the beginning of this HASR. The DPR forms in Appendix D and Appendix E include context material and general research derived from the HASR, and thus the references for the DPR forms are also the references cited in this section. Certain properties required a greater level of research to address property-specific questions, and in those cases the references are included on the DPR form.

Authority	California High-Speed Rail Authority
Cal. Code Regs.	California Code of Regulations
Cal. Public Res. Code	California Public Resources Code
Caltrans	California Department of Transportation
CCID	Central California Irrigation District
CAL FIRE	California Department of Forestry and Fire Protection
C.F.R.	Code of Federal Regulations
DPR	Department of Parks and Recreation
ESRI	Environmental Systems Research Institute
FRA	Federal Railroad Administration
JRP	JRP Historical Consulting Services
OHP	California Office of Historic Preservation
USBR	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
U.S.C.	United States Code
U.S. DOC	U.S. Department of Commerce (Bureau of the Census)
U.S. DOI	U.S. Department of the Interior

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## 10 PREPARER QUALIFICATIONS

The cultural resources study presented in this HASR was conducted by or under the supervision of persons who qualify as historians and/or architectural historians under the Professional Qualification Standards of the U.S. Secretary of the Interior (as defined in 36 C.F.R. § 61). The staff listed in this section meet the standards for Qualified Investigator as defined in the Section 106 PA (Authority and FRA 2011).

### 10.1 Document Preparation and Field Survey

**Kathryn Haley** (M.A., history–public history, California State University, Sacramento) served as lead author of the HPSR and HASR. Ms. Haley is a historian with ICF International with 12 years of experience in the field of cultural resources management. Ms. Haley works on a variety of projects and is experienced in historic research, field inventory, and site assessment, typically conducted for the purposes of NHPA Section 106, NEPA, and CEQA compliance. Ms. Haley has consulted with a wide range of clients, including state, local, and federal agencies, and serves as project manager for cultural resource technical reports. As technical lead for the historic architectural analysis for the Central Valley Wye, Ms. Haley provided direction for QI staff, conducted research and surveys (reconnaissance and intensive levels), and provided guidance on documentation of properties (DPR 523 Forms and streamlined documentation) in the APE for historic architectural/architectural history.

**Melissa Cascella** (M.A., cultural resources management, Sonoma State University, Rohnert Park; B.A. history and B.S. anthropology, University of California, Riverside) prepared the geographic information system data for the HPSR and HASR. Ms. Cascella is an archaeologist, historian, and geographic information system analyst with ICF International, and has over 7 years of experience in the field of cultural resources management. She has worked on a wide range of projects, managing and directing archaeological investigations in California, Oregon, and Washington, and is experienced in archaeological excavations and survey; artifact analysis and curation; document preparation in compliance with CEQA, NHPA Section 106, and NEPA; geographic information system tasks such as analysis, digitization, map production, and database management; and primary and secondary historical research. As technical lead for the cultural resources geographic information system data for this project, Ms. Cascella oversaw the production of cultural data (APE), digitization and management of the cultural resources database (over 4,200 resources), and preparation of all report figures and site record maps. Ms. Cascella also led the recordation and evaluation of water conveyance resources in the study area, including the development of the historic context for water conveyance systems.

**Monte Kim** (Ph.D., history, University of California, Santa Barbara; M.A., history–public history, California State University, Sacramento; B.A., history, University of California, Santa Cruz) is a historian and architectural historian with ICF International and has over 10 years of experience in the field of cultural resources management. For this project, Mr. Kim contributed to the preparation of the historic architectural sections of the HPSR and HASR by leading several field surveys, conducting historic research, preparing and reviewing DPR 523 inventory forms, and assisting in the delineation of the APE for historic architectural/architectural resources.

**Tim Yates** (Ph.D., U.S. history, University of California Davis, and M.A., American studies, California State University, Fullerton) participated in field surveys, conducted historic research, prepared DPR 523 forms, and contributed to the HASR. He has authored and co-authored a variety of cultural resource reports for NHPA Section 106, NEPA, and CEQA compliance, as well as public interpretations, Finding of Effect documents for NRHP-eligible properties, and Historic American Buildings Survey, Historic American Engineering Record, and Historic American Landscapes Survey reports.

Additional ICF International Architectural Historian technical staff assisted in the preparation of the DPR 523 forms, property recordation, and data management: Andrew Bursan, John English, Aisha Fike, David Greenwood, Chris Hetzel, Elizabeth Hilton, Portia Lee, Katy Lain, Barbara Lamprecht, David Lemon, Michael Meloy, Peter Moruzzi, Margo Nayyar, Daniel Paul, Meghan Potter, Claire Tynan, James Williams, and Edward Yarbrough.

## 10.2 Internal Quality Assurance/Quality Control

During preparation of this report, technical guidance and peer review was provided by ICF International Senior Architectural Historian Susan Lassell (M.A., historic preservation, Cornell University).

## APPENDIX A: CENTRAL VALLEY WYE LOCATION AND VICINITY MAPS



## APPENDIX B: AREA OF POTENTIAL EFFECTS MAP





## APPENDIX C: CORRESPONDENCE



## **APPENDIX D: DEPARTMENT OF PARKS AND RECREATION 523 FORMS FOR ELIGIBLE PROPERTIES**



## **APPENDIX E: DEPARTMENT OF PARKS AND RECREATION 523 FORMS FOR INELIGIBLE PROPERTIES**



## **APPENDIX F: STREAMLINED DOCUMENTATION FOR SUBSTANTIALLY ALTERED PROPERTIES**





## APPENDIX G: HISTORICAL MAPS