FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Jamul Indian Village

VOLUME I

June 2016

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Jamul Indian Village

National Indian Gaming Commission
90 K Street, Suite 200
Washington DC 20002

VOLUME I

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APPENDICES

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ACRONYMS

A

AB - Assembly Bill
ADT - Average Daily Trips
AHJ - Authorities Having Jurisdiction
AIRFA - American Indian Religious Freedom Act
ARFA - Archaeological Resources Protection Act
ALS - Advanced Life Support
AMR - American Medical Services
APCD - Air Pollution Control District
ARB - California Air Resources Board
ASTs - aboveground storage tanks

B

BACT - Best Available Control Technology
BIA - Bureau of Indian Affairs
BMPs - best management practices
BMO - Biological Mitigation Ordinance
B.P. - before present

C

CAA - Clean Air Act
CAAQS - California Ambient Air Quality Standards
Caltrans - California Department of Transportation
CAPCOA - California Air Pollution Control Officers Association
CBC - California Building Code
CCR - California Code of Regulations
CDF - California Department of Forestry and Fire Protection
CDFW - California Department of Fish and Wildlife
CEC - California Electrical Code
CERCLA - Comprehensive Environmental Response, Compensation Liability Act
CERFA - Community Environmental Response Facilitation Act
CEQ - Council on Environmental Quality
CEQA - California Environmental Quality Act
CESA - California Endangered Species Act
CFC - California Fire Code
CFR - Code of Federal Regulations
CHP - California Highway Patrol
CH_4 - Methane
CIE2 - Cieneba loam
CIWMP - County of San Diego Integrated Waste Management Plan
CMC - California Mechanical Code
CmrG - Cieneba loam
CNDDB - California Natural Diversity Database
CNEL - Community Noise Equivalent Level

CNPS	-	California Native Plant Society
CMP	-	Construction Management Plan
CO	-	carbon monoxide
CO_2	-	carbon dioxide
CO_{2e}	-	carbon dioxide equivalent
COSE	-	Conservation and Open Space Element
CPC	-	California Plumbing Code
CRHR	-	California Register of Historic Places
CSE	-	Countywide Sitting Element
CWA	-	Clean Water Act

D

DaE, DaD	-	Diablo clay
dB	-	decibels
Diesel PM	-	diesel particulate matter

E

EA	-	Environmental Assessment
Ec	-	Eocene sandstone
EIS	-	Environmental Impact Statement
EO	-	Executive Order
ESA	-	environmentally sensitive area
Esc	-	Escondido loam

F

FaD2	-	Fallbrook sandy loam
FaC2	-	Fallbrook loam
FaE2	-	Fallbrook sandy loam
FCF	-	Flow Control Facility
FeE2	-	Fallbrook loam
FEMA	-	Federal Emergency Management Agency
FESA	-	Federal Endangered Species Act
FHWA	-	Federal Highway Administration
FIFR	-	Federal Insecticide, Fungicide, and Rodenticide Act
Final EIS	-	Final Environmental Impact Statement
FONSI	-	Finding of No Significant Impact
FvE	-	Fallbrook-Vista sandy loam
FxG	-	Friant loam

G

gb	-	gabbro
GHG	-	greenhouse gases
GIS	-	Geographic Information System
GMA	-	Gaming Management Agreement
gpm	-	gallons per minute
gr-m	-	gneiss
grMZ	-	granodiorite and quartz monzonite

H

HAPs - hazardous air pollutants
HCFA - Heartland Communication Facility Authority
HCM - Highway Capacity Manual
HET - high efficiency toilet
HrD2 - Huerhuero loam
HU - hydraulic unit

I

IBC - International Building Code
IFC - International Fire Code
ILV - Intersecting Lane Vehicle
IPCC - Intergovernmental Panel on Climate Change
ITE - Institute of Transportation Engineers

J

JIV - Jamul Indian Village

K

KHA - Kimley-Horn and Associates
kWh - kilowatt hours

L

LKAR-CA - Lakes Kean Agrovitz Resorts – California
LOS - level of service
LpC2 - Las Posas loam
LpD2 - Las Posas fine sandy loam
LpE2 - Las Posas loam

M

m - schist/gneiss
Mc - sandstone
MSATs - mobile source air toxics
MBR - membrane bioreactor
MG - million gallons
MHPA - Multiple Habitat Planning Areas
MPH - miles per hour
MSCP - Multi-Species Conservation Plan
MT - metric tons
MVC - mechanical vapor compression
MWD - Metropolitan Water District of Southern California
Mzv - felsic volcanic rock

N

NAGPRA - Native American Graves Protection and Repatriation Act
NAHC - Native American Heritage Commission
NAQQS - National Ambient air Quality Standards

NEC	-	National Electric Code
NEPA	-	National Environmental Policy Act
NFPA	-	National Fire Protection Association
NIGC	-	National Indian Gaming Commission
NHPA	-	National Historic Preservation Act
NO	-	nitric oxide
NOA	-	Notice of Availability
NO_X	-	nitrogen oxides
NO_2	-	nitrogen dioxide
NPDES	-	National Pollutant Discharge Elimination System
NRCS	-	Natural Resource Conservation Service
NRHP	-	National Register of Historic Places
N_2O	-	nitrous oxide
NSR	-	New Source Review
NTU	-	nephelometric turbidity units

O

OSHA	-	Occupational Safety and Health Act
O_3	-	Ozone

P

P	-	Pleistocene sandstone
Pb	-	lead
PCB	-	poly-chlorinated biphenyl
PCE	-	passenger car equivalent
PeC_2, PfC	-	Placentia sandy loam
PHF	-	peak-hour factor
PHV	-	percent of heavy vehicle
PM	-	particulate matter
$PM_{2.5}$	-	fine particles
PM_{10}	-	inhalable particles
PPE	-	personal protection equipment
PRC	-	Public Resources Code

Q

Q	-	Quaternary alluvium

R

RaC	-	Ramona sandy loam
RaC2	-	Ramona loam
RCRA	-	Resource Conservation and Recovery Act
RJER	-	Rancho Jamul Ecological Reserve
ROD	-	Record of Decision
ROW	-	right-of-way
RPO	-	Resource Protection Ordinance
RTP	-	Regional Transportation Plan
RWQCB	-	Regional Water Quality Control Board

S

SanBIOS	-	San Diego County database
SANDAG	-	San Diego Association of Governments
SCIC	-	South Coastal Information Center
SDAB	-	San Diego Air Basin
SDCWA	-	San Diego County Water Authority
SDG&E	-	San Diego Gas and Electric Company
SDGV	-	San Diego Gaming Ventures
SDRFD	-	San Diego Rural Fire Protection District
SEIS	-	Supplemental Environmental Impact Statement
SHPO	-	State Historic Preservation Office
SO_2	-	sulfur dioxide
SR-94	-	State Route 94
SWAMP	-	Surface Water Ambient Monitoring Program
SWQCB	-	State Water Quality Control Board
SWPPP	-	Storm Water Pollution Prevention Plan

T

TAC	-	toxic air contaminant
Tribal EE	-	Tribal Environmental Evaluation
Tribal EIS/R	-	Tribal Environmental Impact Statement/Report
TSCA	-	Toxic Substance Control Act

U

UBC	-	uniform building code
UCMP	-	University of California Museum of Paleontology
USA	-	Underground Service Alert
USACE	-	United States Army of Corps of Engineers
USC	-	United States Code
USDA	-	United States Department of Agriculture
U.S. EPA	-	United States Environmental Protection Agency
USFWS	-	United States Fish and Wildlife Service
USGS	-	United States Geological Survey
UST	-	underground storage tanks

V

VaA	-	Visalia sandy loam
VMT	-	vehicles miles traveled
VOC	-	volatile organic compounds
VsE, VsG	-	Vista course sandy loams

W

WmC	-	Wyman loam

SECTION 1.0

EXECUTIVE SUMMARY

SECTION 1.0

EXECUTIVE SUMMARY

1.1 INTRODUCTION

This Final Supplemental Environmental Impact Statement (Final SEIS) has been prepared to address revisions to the Proposed Action previously addressed in the *Final Environmental Impact Statement: Jamul Indian Village*, which was completed in 2003. The 2003 version of the Proposed Action included a federal action for a 101-acre fee-to-trust followed by development of a gaming facility and ancillary uses ("Gaming Facility") on the existing Jamul Indian Village (JIV) Reservation and newly acquired trust lands. Significant changes to that original Proposed Action have been made since the original application was made to the Bureau of Indian Affairs (BIA) in 2003. Most significant is that the 101-acre fee-to-trust component has been removed and the Gaming Facility complex has been revised to fit entirely on-Reservation. This revised Gaming Facility was evaluated through the 1999 Tribal-State Compact process. Through this process, the Tribe prepared a Draft Tribal Environmental Evaluation (Draft TEE) in 2012 and provided it to the public for review and comment. Incorporating the comments that were received from agencies, organizations and individuals, the Tribe provided responses and a final environmental evaluation in the 2013 Final Tribal Environmental Evaluation (Final TEE). The Gaming Facility is currently under construction and is scheduled to open in summer 2016. Thus, the scope of the current Proposed Action is limited to the Gaming Management Agreement (GMA) between JIV and the proposed operator (San Diego Gaming Ventures [SDGV]) subject to approval by the National Indian Gaming Commission (NIGC).

The Final SEIS has also been prepared to update environmental conditions from when the 2003 Final Environmental Impact Statement (Final EIS) was prepared.

1.2 LOCATION

The JIV Reservation is located in the unincorporated portion of southwestern San Diego County approximately one mile south of the community of Jamul on approximately six-acres of land held in federal trust. **Figure 1-1** and **Figure 1-2** show the location of the Reservation site on a regional and local scale. The Reservation is located within portions of Section 10 and un-sectioned areas of Township 17 S, Range 1 East, San

Bernardino Baseline and Meridian, Dulzura, CA and Jamul Mountains, CA, U.S. Geological Survey (USGS) 7.5-minute Quadrangles.

1.3 GAMING FACILITY PLANNING HISTORY

Since the late 1990s, JIV has planned to develop a Gaming Facility on its Reservation. In 2001, the BIA and the NIGC issued an Environmental Assessment (EA) for a Proposed Action that would have brought 101+/- additional acres adjacent to the Reservation into federal trust, while the existing 6+/- acre Reservation would have been developed with a Gaming Facility. The EA addressed proposed development of a Gaming Facility and other land uses on what would be an expanded Reservation. The BIA initially issued a Finding of No Significant Impact (FONSI), but subsequently determined on appeal that the mitigation proposed for traffic impacts associated with construction and operation of the Gaming Facility were beyond the ability of the Tribe to implement independently of State and local agencies. Therefore, JIV's ultimate implementation of the traffic mitigation measures was considered too provisional and that an Environmental Impact Statement (EIS) was required.

In August 2003, the BIA completed a Final EIS for the 101-acre Fee-to-Trust Transfer, Gaming Project, and GMA. The Final EIS evaluated the environmental consequences associated with placing 101+/- acres into federal trust for JIV and subsequent development of the proposed Gaming Facility, which was to include a 205,194 square-foot Gaming Facility together with a 222,985 square-foot 300-room hotel. The 2003 project also included a 2,550 space parking structure on an adjacent 87-acre parcel to the north of the Reservation, as well as 18 homes for Tribal members on a 10-acre parcel north of Melody Road.

The 2003 Final EIS represented the completion of the environmental review process for the BIA/NIGC. A final BIA/NIGC decision was never rendered on the 2003 version of the project. JIV eventually withdrew the BIA fee-to-trust application and instead moved forward in 2006 with a revised project that placed a Gaming Facility entirely on the existing Reservation. In terms of square footage, the 2006 version of the Gaming Facility was identical to the 2003 proposal at 205,194 square feet, while the hotel was increased to 400-rooms totaling 361,900 square feet. The overall size of the 2006 proposal represented a 32% increase from the 2003 version. Proposed Tribal housing on the 10-acre lot north of Melody Road was removed in the 2006 version. This revised plan also eliminated the previously proposed federal trust request for addition of 101 +/- acres to the Reservation.

Following redesign, JIV commenced preparation of the 2006 Tribal Environmental Impact Statement/Report (Tribal EIS/R) pursuant to the Tribal-State Compact. The

project revisions resulted in the elimination of BIA authority because BIA approval of the fee-to-trust transfer was no longer proposed. The Tribal EIS/R analyzed the off-reservation impacts of the development and operation of the gaming facility, hotel and supporting land uses on the Reservation. JIV initiated construction of the Gaming Facility following completion of the environmental work and Tribal approval of the on-Reservation gaming/hotel project; however, JIV did not continue with the project due to unresolved access issues on State Route 94 (SR-94).

In 2010, JIV made changes to the 2006 project design, including the removal of the hotel component and proposing to construct the project in a single phase rather than multiple phases. The result was a 203,000 square-foot Gaming Facility, which was 64% smaller than the 2006 version and 53% smaller than the 2003 version. In 2012, JIV prepared a Draft TEE pursuant to the 1999 Tribal-State Compact that addressed impacts associated with the revised project. In January 2013, JIV certified the Final TEE as adequate/ complete and approved the Gaming Facility. The Final TEE identified traffic mitigation measures, including improvement of an existing access road from SR-94 to the Reservation known as Daisy Drive and located on a 4-acre parcel adjacent to the JIV Reservation

As project plans moved forward following the January 2013 approval of the Final TEE, minor modifications were made to the project, which resulted in JIV's processing of four addenda to the Final TEE in 2014 and 2015. The first addendum addressed issues related to a shift in uses on the project site, the addition of a south bridge over Willow Creek on the Reservation, and other construction related adjustments such as increased excavation hauling and the use of the adjacent 4-acre parcel for construction related staging and possible redevelopment of the fire station. It also became clear that more than one disposal facility for excavation materials would be used during the construction period. To address this issue from an air quality standpoint, JIV had an air quality supplement prepared to ensure all air quality effects were adequately analyzed. The first Addendum including the Air Quality Supplement was approved by the Tribal Council in February 2014. All features of the February 2014 Addendum have been completed except for the construction of the fire station on the adjacent 4-acre parcel.

As excavation of the Reservation for the Gaming Facility moved forward in early 2014, JIV proposed replacing the use of short soil nails with long soil nails that would extend underground beyond the southern boundary of the Reservation into adjoining California Department of Fish and Wildlife (CDFW) land. This modification was proposed to shorten the construction period and to enhance safety and reduce site disturbance during construction. The *Addendum: Long Soil Nails* document addressed the effects of this project design modification. This Addendum was adopted by JIV in June 2014. A subsequent agreement was approved between JIV and the State of California for a

subsurface easement into adjacent State property for the soil nails. The placement of the long soil nails is complete.

As construction planning progressed, it was determined that a change in the location of temporary employee parking and material laydown areas would increase site-related efficiencies during construction of the Gaming Facility. As a result, JIV analyzed the temporary use of approximately 2.1 acres of the adjacent 87-acre parcel during construction of the Gaming Facility for possible staging/laydown and parking. The document *Addendum: Temporary Construction Staging*, which addressed the effects of the project modification, was completed in October 2014 and adopted by JIV in November 2014. The temporary parking and laydown area was constructed in late 2014. Due to objections raised by San Diego County, the temporary parking area has been removed from the 87-acre parcel. Temporary construction parking was relocated east of SR-94 within the Peaceful Valley Ranch Property. The use of the Proctor Valley Ranch property for construction parking ceased in January 2016, when parking was relocated to the completed gaming parking structure on the JIV Reservation.

Finally, JIV proposed refinements to their previously used treated water generation estimates and water balance estimates. Modifications were made to the size and location of the on-site treated water storage tank, as well as the treated water disposal method. The water generation estimates were reduced due to calculation refinements made during construction, which resulted in changes to the water balance estimates. An above ground 130,000 gallon storage tank that measures 24 feet in height is now proposed instead a 200,000 gallon below ground storage tank. The treated wastewater disposal method changes from use of a mechanical vapor compression (MVC) system to a combination of on-site sub-surface disposal and water trucking. The wastewater treatment plant is currently under construction.

The list below presents the environmental study documents prepared for the current Gaming Facility:

1. Jamul Indian Village Final Environmental Impact Statement (August 2003);
2. Tribal Environmental Impact Statement/Report (December 2006);
3. Jamul Indian Village Gaming Development Final Tribal Environmental Evaluation (January 2013);
4. Addendum to Final Tribal Environmental Evaluation; Jamul Indian Village Gaming Development Project (February 2014);
5. Addendum: Long Soil Nails (June 2014);

6. Addendum: Temporary Construction Staging (October 2014); and

7. Wastewater Addendum: Tribal Environmental Evaluation (May 2015).

The Final TEE analyzed three access options to improve access to the Reservation and mitigate and/or avoid traffic impacts that would occur by using the intersection of Reservation Road with SR-94. The three options were: (1) Improve Reservation Road, (2) Improve Daisy Drive, and (3) New Access from Melody Road. Based on the analysis presented in the Final TEE, JIV selected Daisy Drive in its approval of the Final TEE. The California Department of Transportation (Caltrans) is currently conducting engineering and environmental review on these three access options, as well as other intersection improvements, and issued a Draft Environmental Impact Report in July, 2015. Caltrans environmental study documents prepared and released to-date include:

1. State Route-94 Improvement Project Preliminary Environmental Analysis Report (January 2014);

2. Project Study Report-Project Development Support (PSR-PDS) To Request Scope Approval for Project-Funded-by-Others On Route 94 (Campo Road) Between Post Mile 20.4 And Post Mile 21.4 (March 2014);

3. State Route-94 (Jamul) Improvement Project Air Quality Study Report (May 2014);

4. State Route-94 (Jamul) Improvement Project Visual Impact Assessment (May 2014);

5. State Route-94 Improvement Project Community Impact Assessment (June 2014);

6. State Route-94 Improvement Project Natural Environment Study (June 2014);

7. Phase 1 Environmental Site Assessment for the Access Alternatives, State Route 94 Improvement Project (June 2014);

8. Noise Study Report, SR-94 Improvement Project (August 2014); and

9. State Route-94 Improvement Project Draft Environmental Impact Report (July 2015).

Each of these studies can be accessed through the Caltrans District 11 website at: http://www.dot.ca.gov/dist11/Env_docs/94Improvement.html.

1.4 PURPOSE AND NEED

The Purpose and Need for approving the GMA between JIV and SDGV is to provide for a level of professional management of the Gaming Facility that would ultimately improve the long-term economic condition of JIV and its members through the development of a stable, sustainable source of employment and revenue. Revenues generated from the economic development will be used to support social and educational programs for the elderly, the poor and younger Tribal members. The Proposed Action serves the need of the NIGC to ensure that the operator of the Gaming Facility meets federal standards for such practices.

1.5 PROPOSED ACTION

The Proposed Action is the implementation of a fully executed GMA, whereby JIV and SDGV agree that SDGV will assume responsibility for operation and management of the Gaming Facility. If the GMA is approved by the NIGC, SDGV would have the "…exclusive authority to conduct and direct all business and affairs in connection with the day-to-day operation, management and maintenance of the Gaming Facility…" SDGV would have control and operation of the Gaming Facility, the property on which the Gaming Facility is located, and the adjacent 4-acre parcel during the 7-year term of the contract.

1.6 NO ACTION ALTERNATIVE/BASELINE CONDITIONS

A No Action Alternative, which includes Tribal operation of the JIV Gaming Facility, is also considered in this Final SEIS. Section 3.0 *Proposed Action and No Action Alternative*, notes that JIV would operate the Gaming Facility should the Proposed Action (approval of the GMA) not go forward. JIV would assume responsibility for the day-to-day operation, management and maintenance of the Gaming Facility under the No Action Alternative. The environmental effects of this Alternative are presented in Section 5.3 *Environmental Consequences of the No Action Alternative/Baseline Conditions*.

The JIV Gaming Facility is considered as part of the No Action Alternative baseline conditions. The Gaming Facility has undergone complete environmental review through the preparation of the Final TEE and related addenda and has been approved by JIV in accordance with the Tribal-State Compact process. The Gaming Facility is currently under construction and is expected to open for business in summer 2016. A complete discussion of the environmental effects associated with construction and operation of the JIV Gaming Facility can be found in Section 5.3 *Environmental Consequences of the No Action Alternative/Baseline Conditions*.

1.7 ISSUES TO BE RESOLVED AND AREAS OF CONTROVERSY

The topic of a Gaming Facility on the JIV Reservation has garnered local interest since JIV originally made a fee-to-trust application to the BIA in early 2000. Area residents, Caltrans, San Diego County and others have all expressed concern over the increase of traffic that would result as a consequence of the operation of the Gaming Facility. Public comments concerning environmental issues received during the scoping period (April 10, 2013 through May 10, 2013) for this Final SEIS raised the following environmental concerns related to gaming on the JIV Reservation:

- Transportation/circulation,
- Biology,
- Socioeconomic effects,
- Cultural Resources,
- Visual Resources,
- Public Services and Utilities,
- Noise, and
- Air Quality.

It should be noted, however, that these issues relate to the environmental effects of the Gaming Facility, which is a component of the No Action Alternative baseline conditions, not Proposed Action (GMA approval).

1.8 SUMMARY OF ENVIRONMENTAL EFFECTS

Neither the Proposed Action nor the No Action Alternative would result in an impact to the environment. The GMA approval contemplated under the Proposed Action deals exclusively with the operation and maintenance of the Gaming Facility. Should the NIGC not approve the GMA, JIV would simply assume management responsibilities for the Gaming Facility under the No Action Alternative, instead of delegating such responsibilities to SDGV. In no case is either the Proposed Action or the No Action Alternative expected to result in greater patronage than presented for the baseline conditions.

SOURCE: Microsoft Streets and Trips, 2012; EDS, 2016

Figure 1-1
Regional Location Map

SOURCE: Digital Globe, 2012; EDS, 2016

Figure 1-2
Vicinity Map

SECTION 2.0

INTRODUCTION

SECTION 2.0

INTRODUCTION

2.1 INTRODUCTION

The Proposed Action consists of NIGC consideration and possible approval of a GMA between JIV and SDGV to permit SDGV to manage the JIV Gaming Facility on the JIV Reservation. The Final SEIS supplements the Final EIS released in August 2003, which evaluated a previous version of the GMA and Gaming Facility on the Reservation and adjoining land. The Final SEIS has been prepared to address the revised Proposed Action (GMA). The Final SEIS also updates the existing environmental conditions from when the original Final EIS was prepared.

The NIGC is the Lead Agency under NEPA and has prepared this Final SEIS to identify and evaluate the potential environmental effects associated with implementation of the Proposed Action. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the Proposed Action, and to recommend feasible mitigation measures, if needed. Adoption of the Final SEIS is required before the NIGC can undertake action to approve/deny the JIV GMA application (Proposed Action).

This document was prepared in accordance with the requirements of NEPA (42 United States Code 19 [USC] 4341 *et seq*.) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA 20 (40 Code of Federal Regulations [CFR] 1500-1508). An SEIS is required when there are substantial changes in a proposed action that are relevant to environmental concerns, or significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (NEPA Sec. 1502.9(c)). The NIGC, in consultation with JIV, determined that a SEIS was needed to update the environmental baseline and evaluate potential significant environmental impacts given the time that has passed and the changes that have been made to the scope of the Proposed Action.

2.2 STATEMENT OF PURPOSE AND NEED

The August 2003 statement of Purpose and Need has been updated to reflect the changes to the scope of federal approval sought. The **previous** Purpose and Need read as follows:

> The purpose and need for taking the property into federal trust and approving the Development and Management Contract is to carry out the federal government's trust responsibilities to the Tribe [JIV] and to develop uses that will improve the long-term economic condition of the Tribe and its members through the development of stable, sustainable source of employment and revenue that takes advantage of the Tribe's reservation. Revenues generated from the economic development would be used to support social and educational programs for the elderly, the poor and younger JIV members. Additionally, the JIV Government desires to acquire some of its historical territory and incorporate the land back into its Indian Village for spiritual purposes. The project would also support the Tribe's desire to preserve and upgrade biological features on the 101+/- acre site. The Proposed Action serves the needs of the BIA and NIGC to promote economic development and the self-governance capability of the JIV through the highest and best use of the Tribe's land.

Given that the fee-to-trust action and Gaming Facility construction and operation are no longer a component of the Proposed Action, the Purpose and Need has been revised to now read:

> The Purpose and Need for implementing the GMA with SDGV is to provide for a level of professional management of the Gaming Facility that will ultimately improve the long-term economic condition of JIV and its members through the development of stable, sustainable source of employment and revenue. Revenues generated from the economic development will be used to support social and educational programs for the elderly, the poor and younger JIV members. The Proposed Action serves the need of NIGC to ensure that the operator of the Gaming Facility meets federal standards for such practices.

2.3 DESCRIPTION OF REVISED PROPOSED ACTION

2.3.1 LOCATION

The JIV Reservation is located in the unincorporated portion of southwestern San Diego County approximately one mile south of the community of Jamul on approximately six-acres of land held in federal trust. **Figure 1-1** and **Figure 1-2** show the location of the Reservation on a regional and local scale. The Reservation is located within portions of Section 10 and un-sectioned areas of Township 17 S, Range 1 East, San Bernardino

Baseline and Meridian, Dulzura, CA and Jamul Mountains, CA, USGS 7.5-minute Quadrangles.

SR-94 provides regional access to the Reservation from downtown San Diego, which is located approximately 20 miles to the west where it intersects with Highway 5. Local access to the Reservation is provided directly from SR-94 via Daisy Drive. From the Reservation, SR-94 travels briefly north and then west to Downtown San Diego, passing through the unincorporated communities of Jamul, Casa de Oro, Spring Valley and Lemon Grove.

2.3.2 PROPOSED ACTION EVOLUTION

As shown in Section 1.3, the Proposed Action has evolved over the years since the 2003 Final EIS was completed. The list below presents the **previous** Gaming Facility proposal and the original Development and Management Contract proposal as they appeared in the original 2003 Final EIS:

1. Phase A Development

    a. Land Trust Action: JIV sought BIA approval to take three adjacent parcels totaling 101+/- into federal trust on behalf of JIV. Parcel 1 was a 4-acre parcel (APN#597-060-04-00), Parcel 2 was a 87 acre parcel (APN#597-060-05-00) and Parcel 3 was a 10 acre parcel (APN#597-042-13-00).

    b. Development and Management Contract: A Development and Management Contract was submitted to the NIGC for JIV to enter into with Lakes Kean Argovitz Resorts-California (LKAR-CA).

    c. Development of Gaming Facilities: The proposed Gaming Facility, to be located on the existing Reservation, was sized at 205,194 square feet and would have employed an estimated 1,819 employees.

    d. Conservation and Revegetation Program: JIV worked with the United States Fish and Wildlife Service (USFWS) to have 57.7-acres of trust land set-aside north of the Reservation for a conservation easement, which was to include a revegetation program.

    e. Parcel #2 Development: Parcel #2 was the adjacent parcel north of the Reservation and would be developed with a 30,000 square-foot human resource building, a new fire station, a wastewater treatment and disposal facility and bus and recreational vehicle parking.

f. Parcel #3 Development: Parcel #3 was a 10-acre parcel located north of Melody Road and was to be developed with 18 JIV housing units and a 10,000 square-foot JIV Government and Health Center.

2. Phase B Development

a. Hotel: Development of a 300-bed hotel on adjacent trust property.

b. Event Center: Development of a 24,000 square-foot event center on the existing Reservation.

c. Employee Parking: Development of 300+/- parking spaces on adjacent trust property.

The current Proposed Action as evaluated in this Final SEIS is:

1. Gaming Management Agreement (GMA): A GMA submitted to the NIGC for JIV to enter into a contract with SDGV for the purpose of managing the Gaming Facility.

As previously discussed in Section 1.0, the JIV Gaming Facility has moved forward on a separate path governed by the 1999 Tribal/State Compact. In addition, JIV has selected Daisy Drive on the adjacent 4-acre parcel as its preferred access route to and from SR-94, subject to Caltrans review[1].

2.4 ENVIRONMENTAL DOCUMENTATION

2.4.1 SCOPE AND CONTENT OF THE SEIS

A SEIS is required when an agency makes substantial changes in a proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (NEPA Sec. 1502.9(c)). Accordingly, NIGC, in consultation with JIV, determined that it was necessary to prepare this Final SEIS to address changes in the scope of the Proposed Action and to update the analysis presented in the 2003 Final EIS. The Final SEIS supplements the 2003 Final EIS that evaluated a previous design for constructing and operating a Gaming Facility and other uses on the Reservation and adjoining land. The intent of this Final SEIS is to update the analysis of the environmental setting and impacts based on changes that have occurred since the Final EIS was completed in 2003. NEPA compliance is required before the NIGC can approve the GMA between JIV and SDV (the Proposed Action).

[1]/ The Final TEE (January 2013) identified access road mitigation, which includes shifting access to the Reservation to one of three locations, including Daisy Drive, Reservation Road and Melody Road. These options are currently undergoing engineering and environmental review by Caltrans (District 11), which has idenfied Daisy Drive as its preferred access alternative.

2.4.2 LEAD AND COOPERATING AGENCIES

NIGC is the Lead Agency for evaluating potential impacts and proposing mitigation measures under NEPA. JIV is serving as the Cooperating Agency for this Proposed Action. The BIA is providing environmental staffing services to the NIGC; however, the BIA does not have approval authority over the Proposed Action.

2.4.3 INTENDED USES OF THIS SEIS

The NIGC will consider the Final SEIS when deciding whether to approve or disapprove the proposed GMA. The final decision on the Proposed Action may be made no sooner than 30 days following publication of the Notice of Availability (NOA) of the Final SEIS in the Federal Register. The final decision will be announced in a Record of Decision (ROD) issued by the NIGC. If the Proposed Action is approved with conditions, the ROD will contain those conditions. These conditions would be made legally binding in connection with the NIGC's action on the GMA.

2.4.4 SEIS ORGANIZATION

The Final SEIS is organized into three volumes: (1) Volume I: Final SEIS Text, (2) Volume II: Final SEIS Appendices, and (3) Volume III: Final SEIS Public Comments Received and Responses to Comments.

Volume I of the Final SEIS consists of five main sections following the Executive Summary and Introduction: (1) *Proposed Action and Alternatives* (Section 3.0), which describes the components of the Proposed Action, describes the No Action Alternative and makes a comparison of alternatives; (2) *Description of Affected Environment* (Section 4.0), which updates the setting from the 2003 EIS for each technical section; (3) *Environmental Consequences* (Section 5.0), which addresses the effects of the Proposed Action and No Action Alternative; and (4) *Mitigation Measures* (Section 6.0), which identifies any measures designed to reduce the impacts of the Proposed Action, as needed.

Volume II of the Final SEIS consists of the thirteen appendices listed in the Table of Contents.

Volume III of the Final SEIS consists of all public comments received during the Draft SEIS comment period (see Section 1.0 *Public Comments Received*), and detailed responses to comments (see Section 2.0 *Responses to Comments*). A total of nine comment letters/e-mails were received during the Draft SEIS 45-day public comment period. The Notice of Availability (NOA) was published in the Federal Register by the NIGC on March 14, 2016. The public comment period ran until April 28, 2016. The

NOA was also published by the Environmental Protection Agency (EPA) on April 8, 2016, which extended the comment period until May 23, 2016. No changes to the Draft SEIS resulted from the public comments received (see Section 3.0 *Revisions to Draft SEIS Text (SEIS Errata*).

SECTION 3.0

PROPOSED ACTION AND NO ACTION ALTERNATIVE

SECTION 3.0

PROPOSED ACTION AND NO ACTION ALTERNATIVE[1]

3.1 INTRODUCTION

This section presents a detailed description of the Proposed Action and the No Action Alternative, while also presenting a comparison of the two. As previously stated, several changes to both the physical components of JIV's development plans and the agency approvals needed to effectuate those plans have occurred since the 2003 Final EIS was completed. Several major items have been removed from JIV's overall development program, including the 101-acre fee-to-trust, hotel, housing and the conservation/ revegetation plan. The JIV Gaming Facility has been redesigned to fit entirely within the existing Reservation, and all environmental effects of the Gaming Facility have been evaluated through preparation of a Final TEE (2013) for the redesigned facility in accordance with the 1999 Tribal/State Compact. No BIA action is now needed for construction and operation of the JIV Gaming Facility and associated improvements.

3.2 BACKGROUND

In 2000, JIV proposed construction and operation of a gaming complex and approval of a gaming development and management agreement for operation of that Gaming Facility. The Gaming Facility proposal was evaluated in a Final EIS prepared in 2003. The 2003 Final EIS described the proposals as follows:

- BIA consideration of placing 101+/- acres into federal trust status for gaming-related uses;
- NIGC consideration of a Gaming Development and Management Contract;
- Casino development on the existing JIV site;
- Development of Tribal housing on adjacent land;
- Implementation of a Conservation and Revegetation Plan; and

[1] / Consistent with NEPA Regulations, including Sections 1502.14 and 1508.25, the NIGC has determined that the only reasonable alternative to the Proposed Action - the approval of a GMA - is no GMA approval.

- Development of various gaming related facilities[2] on adjacent land.

Several years ago, JIV withdrew its 101-acre fee-to-trust application. In doing so, this removed the possibility of using the adjacent land for gaming related uses. Subsequent to removal of the fee-to-trust application, JIV revised its Gaming Facility design to locate all gaming related uses on its existing Reservation. The revised JIV Gaming Facility was evaluated under the 1999 Tribal-State Compact and a Final TEE was duly prepared and approved by JIV in early 2013 in accordance with the terms of the 1999 Tribal-State Compact. Consequently, construction and operation of the JIV Gaming Facility is not subject to BIA approval. However, the proposed GMA between JIV and SDGV for the day-to-day management of the JIV Gaming Facility does require NIGC approval.

Under the authority of the 1999 Tribal-State Compact, the JIV Gaming Facility is being constructed on the existing JIV Reservation. The construction and operation of the JIV Gaming Facility development is not dependent on approval of the GMA; the Gaming Facility can readily be constructed and operated in its absence, and is, in fact, already under construction in the absence of an approved GMA. JIV expects to complete and open the JIV Gaming Facility in summer 2016. There is already in place between JIV and SDGV a loan and development agreement. Additionally, SDGV could provide Gaming Facility operational consulting services to JIV with or without the GMA. For these reasons, the JIV Gaming Facility can, and is expected to, proceed without the GMA such that the JIV Gaming Facility is not required to be viewed as a connected action to the GMA. In other words, the GMA does not give rise to the construction or operation of the JIV Gaming Facility.

This following discussion describes the Proposed Action as revised since the *Jamul Fee-to-Trust and Gaming Project Final EIS* was completed in 2003. The No Action Alternative is also described. No other alternatives are described in the Final SEIS.

3.3 PROPOSED ACTION

JIV and SDGV have executed the proposed GMA that is under review by the NIGC. If approved, SDGV will have the "…exclusive authority to conduct and direct all business and affairs in connection with the day-to-day operation, management and maintenance of the Gaming Facility…" In other words, SDGV will control operation of the Gaming Facility during the term of the contract, which is 7 years. Examples of the matters that SDGV would control include: use of vendors; rates; pricing; charges to guests or patrons; concessioners; the issuance of credit; the granting of complementaries; the terms of admittance to the Gaming Facility for purposes of entertainment; staffing levels; organizational structure; and the type and character of publicity, marketing, advertising, entertainment and promotion.

[2] / Including parking structure, wastewater treatment plant and disposal facility, hotel, and RV surface parking.

The Gaming Facility is described in Section 3.4.1 of the Final SEIS. SDGV would secure expert, licensed services for operation/ maintenance of items such as the wastewater facility, fire services, electrical/heating, food services, etc. SDGV would not attempt to operate/manage these facilities itself. Additionally, the external appearance of the facility would be maintained by SDGV in a manner consistent with the description provided in the Final TEE and Section 3.4.1 of the Final SEIS. The GMA does not grant SDGV the authority to construct or operate gaming related facilities beyond those identified in the Final TEE and already approved for construction by JIV.

3.4 NO-ACTION ALTERNATIVE

The Final Rule for the Department of Interior's Implementation of NEPA (October 15, 2008) states that the No Action Alternative is not the alternative that results in no change to the environment; rather, it represents the state of the environment without the Proposed Action or any of the alternatives. The Council on Environmental Quality's (CEQ) *Forty Most Asked Questions* concerning NEPA also addresses the issue of the No Action Alternative (Question Number 3). In its response, the CEQ stated that "*(w)here a choice of "no action" by the agency would result in predictable actions by others, this consequence of the "no action" alternative should be included in the analysis. For example, if denial of permission to build a railroad to a facility would lead to construction of a road and increased truck traffic, the EIS should analyze this consequence of the "no action" alternative*." Therefore, this Final SEIS, evaluates what predictable action would be made by the JIV should its GMA request be denied by the NIGC.

For purposes of the Final SEIS, the No Action Alternative baseline is assumed to result in the JIV's completion of Gaming Facility construction and Tribal management of the Gaming Facility's day-to-day operations. The JIV would assume responsibility for selection of all vendors; setting of prices/rates; charges to guests/patrons; concessioners; issuance of credit; granting of complementaries; the terms of admittance to the Gaming Facility for purposes of entertainment; staffing levels; organizational structure; and the type and character of publicity, marketing, advertising, entertainment and promotion. The facility would be run in a manner consistent with the description presented in Section 3.4.1 of the Final SEIS. The JIV would secure expert, licensed services for operation/maintenance of items such as the wastewater facility, fire services, electrical/heating, food services, etc. Additionally, the external appearance of the facility would be maintained by JIV in a manner consistent with the description provided in the Final TEE and Section 3.4.1 of the Final SEIS.

3.4.1 JAMUL GAMING FACILITY

The Final TEE (2013) and 2014/2015 Addenda have fully analyzed the environmental effects of the construction and operation of the Gaming Facility, which is part of the No Action Alternative baseline conditions. Relevant technical information from the following documents is used and incorporated by reference into the Final SEIS as follows:

1. *Jamul Indian Village Gaming Development Final TEE* (January 2013): Addressed the environmental impacts (that have the potential to occur both on and off the Reservation) associated with the construction and operation of the proposed Gaming Facility and associated facilities. The JIV Gaming Facility Project was approved by JIV in early 2013 and is under construction.

2. *Addendum to Final Tribal Environmental Evaluation; Jamul Indian Village Gaming Development Project* (February 2014): Addressed the construction of temporary and permanent features on the Reservation and adjacent 4-acre parcel. Activities on the Reservation included the relocation of the wastewater treatment plant from the east to west side of the Reservation (underway), reconfiguration of surface parking on the west surface lot (completed), construction of a new Willow Creek crossing on the south side (completed), relocation of the bridge pilings within the 100-year floodplain (completed), and revised quantity and schedule of excavated material (completed). Activities to occur on the adjacent 4-acre parcel include temporary construction staging (currently in operation), optional construction of a fire station (not yet constructed), and construction of a temporary haul route (constructed and currently in use). This modification also includes a habitat restoration plan for affected areas of the 4-acre parcel. An Air Quality Supplement to this Addendum (February 2014) addressed the air quality effects associated with the transport of excavated material from the Reservation to disposal facilities (completed).

3. *Addendum: Long Soil Nails* (June 2014): Addressed the proposed modification of using “long” soil nails to secure below-grade walls along the south and east-side of the Reservation. This modification was proposed to shorten the construction period and to enhance safety and reduce site disturbance during construction. The installation of the long soil nails has been completed.

4. *Addendum: Temporary Construction Staging* (October 2014): Addressed the temporary use of approximately 2.1 acres of the adjacent 87-acre parcel during construction of the Gaming Facility for possible staging/laydown and parking. The temporary parking and laydown was constructed in late 2014. This modification also includes a habitat restoration/enhancement plan for affected areas of the 87-acre parcel.

5. *Wastewater Addendum: Tribal Environmental Evaluation* (April 2015): Addressed the refinement of treated water generation estimates, water balance estimates, modification of on-site treated water storage tank capacity and location, and modification of treated water disposal methods. The only physical changes that result to the Reservation would be the size/location of the treated water tank, as well as the method of treated water disposal. Rather than being a 200,000 gallon below ground storage tank, the proposal is now for an above-ground 130,000 gallon storage tank that measures 24 feet in height. The storage tank would be located within the current footprint of the wastewater treatment plant on the west side of the Reservation. The treated wastewater disposal method changes from use of a mechanical vapor compression (MVC) system to a combination of on-site subsurface disposal on the west side of the Reservation and water trucking. The wastewater treatment plant is currently under construction.

The Gaming Facility is currently being constructed on the Reservation, and JIV is proceeding with plans to implement Final TEE mitigation measures related to Gaming Facility traffic impacts by working with Caltrans as Caltrans undertakes preparation of engineering plans for proposed roadway improvements and conducts its environmental review of the effects of implementation of those roadway improvements. The construction of the JIV Gaming Facility is expected to be completed in the summer of 2016. A detailed description of the JIV Gaming Facility can be found in: (1) Section 3.0 of JIV's Final TEE; (2) Section 4.0 of *Addendum: Jamul Final Tribal Environmental Evaluation* (February 2014); (3) Addendum Project Description in *Addendum: Long Soil Nails* (June 2014); (4) Addendum Project Description in the June 2014 Addendum; (4) Addendum Project Description in *Addendum: Temporary Construction Staging* (October 2014), and (5) Addendum Project Description in *Addendum: Wastewater Addendum* (May 2015). These descriptions are hereby incorporated into the Final SEIS by reference and are available for review on the JIV Website: http://www.jamulindianvillage.com/relevant-documents/.

The JIV Gaming Facility is expected to employ approximately 1,600 employees when fully operational. Features of the JIV Gaming Facility approved by JIV in accordance with the 1999 Tribal/State Compact include:

1. 203,000 square-foot gaming building on the (east side of the Reservation);

2. Eight-level, 1,888 parking space parking structure located under the gaming building;

3. Fifty-three (53) space surface parking lot (on the west side of the Reservation);

4. Membrane bioreactor wastewater treatment facility, storage tank and subsurface disposal (on the west side of the Reservation);

5. Two bridge crossings of Willow Creek on the north and south sides of the Reservation;

6. Water delivery from the Otay Water District via a 12-inch water line within Reservation Road;

7. New fire station either on-Reservation (Option 1) or the adjacent 4-acre parcel (Option 2);

8. Improved access to/from the SR-94/Reservation as described in Section 3.4.1 below;

9. Compliance with 2012 International Building Code and 2013 California Building Code (CBC): Title 24, including all California fire (2013), plumbing (2013), electrical (2013), mechanical (2013), building energy efficiency standards (2010), green building standards (2013) and related codes;

10. Implementation of "Problem Gaming Measures" consisting of policies and procedures to address the issue of problem gaming;

11. Implementation of a Habitat Restoration Plan for activities on the adjacent 4-acre and 87-acre parcels[3]; and

12. Good faith efforts by JIV to implement all mitigation measures identified in the Final TEE in accordance with the Tribal-State Gaming Compact.

Subsequent to the Final TEE, the JIV has been in discussions with the San Diego Rural Fire Protection District to provide services to the Gaming Facility in lieu of the JIV developing its own fire station. As such, the Final SEIS assumes that either fire protection and emergency medical services would be provided by the San Diego Rural Fire Protection District or by the development of a JIV fire station on the 4-acre parcel.

The JIV Gaming Facility is being constructed in one phase and includes one main structure on the east side of the Reservation (gaming/parking building). A wastewater treatment plant and disposal fields are being constructed on the west side of the Reservation. **Figure 3-1** provides an overview of the Gaming Facility and access road options. Construction activities are limited to 7 am to 5 pm Monday through Friday. The Gaming Facility will measure approximately 105 feet from the lowest to the highest levels of the structure; however, the visible height will be approximately 45 feet from the surrounding grade as viewed from passersby on SR-94. The difference in height is caused by the sloping topography on the Reservation and underground portion of structures.

JIV is responsible for regulating development of the Gaming Facility and implementation of mitigation measures. Mitigation Measures identified in the Final Tribal Environmental Evaluation and included within a Mitigation Monitoring and Reporting Plan are identified in Section 6 of the

[3] / The Restoration Plans for the 4-acre and 87-acre sites would be implemented following cessation of temporary construction staging/parking.

Final SEIS. JIV committed to implementation of theses mitigation measures when adopting the Mitigation Monitoring and Reporting Plan in January 2013. The JIV Environmental Agency has been appointed by the General Council of JIV to monitor the JIV's obligations and report on the status to the Executive Council and General Council.

3.4.2 ACCESS ROAD OPTIONS

Mitigation measures analyzed in the Final TEE include three access road options that would provide improved access to the JIV Reservation. The three access options were identified as potential mitigation options to improve access and avoid traffic impacts that would occur by using the existing intersection of Reservation Road with SR-94. The existing intersection of Reservation Road with SR-94 provides inadequate access due to the sharp angle at which the Reservation Road meets SR-94 and the curves and hill on SR-94 near the intersection, which taken together, result in inadequate sight distances. The three access road options reviewed in the Final TEE are summarized below.

Option 1. Improve Reservation Road

This option would improve the intersection of Reservation Road and SR-94 to meet Caltrans' design standards (**Appendix 1, Figures 1a** and **1b**). This option includes improvements to SR-94 and the intersection of SR-94 and Melody Road/Peaceful Valley Ranch Road. Approximately 0.9 miles of SR-94 would be improved. The roadway would be realigned to reduce curves, re-graded to flatten hills and improve slopes, and widened to provide wider shoulders and lanes. An exclusive left-turn lane would be added on SR-94 to provide for the north to west turn onto Reservation Road. A second southbound through lane would be added between Reservation Road and Melody Road. At the intersection of SR-94 and Melody Road/Peaceful Valley Ranch Road, exclusive left-hand turn lanes would be added in all four travel directions. Traffic lights would be installed at intersections of SR-94 and Reservation Road and SR-94 and Melody Road/Peaceful Valley Ranch Road. Retaining walls (to support a cut) would be utilized along 850 feet of the east side of SR-94 between Peaceful Valley Ranch Road and Reservation Road and would vary from 10 to 20 feet in height. Another retaining wall (to support fill) would be used along 200 feet of the south side of Melody Road and would vary from 8 to 16 feet in height (Caltrans, 2014).

Option 2. Improve Daisy Drive

This option would improve the existing road (Daisy Drive) that currently provides access to the Reservation (**Appendix 1, Figures 2a** and **2b**). The intersection of Daisy Drive with SR-94 would be developed to Caltrans design standards. Similar to Option 1, this option includes improvements to SR-94 and the intersection of SR-94 and Melody Road/Peaceful Valley Ranch Road. Approximately 0.8 miles of SR-94 would be

improved. The roadway would be realigned to reduce curves, re-graded to flatten hills and improve slopes, and widened to provide wider shoulders and lanes. An exclusive left-turn lane would be added on SR-94 to provide for the northwest to south turn onto Daisy Drive. Additional southbound and northbound lanes would be added between Daisy Drive and Melody Road/Peaceful Valley Ranch Road. At the intersection of SR-94 and Melody Road/Peaceful Valley Ranch Road, exclusive left-hand turn lanes would be added in all four travel directions. Traffic lights would be installed at intersections of SR-94 and Daisy Drive and SR-94 and Melody Road/Peaceful Valley Ranch Road. Retaining walls (to support a cut) would be utilized along 400 feet of the east side of SR-94 between Peaceful Valley Ranch Road and Daisy Drive and would vary from 10 to 16 feet in height. Another retaining wall (to support fill) would be used along 200 feet of the south side of Melody Road and would vary from 8 to 16 feet in height. Under this option, Reservation Road would no longer connect to SR-94 (Caltrans, 2014).

Option 3. New Access from Melody Road

This option would provide access from Melody Road instead of from SR-94 directly. A new access road would be constructed from Melody Road across the adjacent 87-acre and 4-acre parcels to the Reservation (**Appendix 1, Figures 3a** and **3b**). Similar improvements to the intersection of SR-94 and Melody Road/Peaceful Valley Ranch Road; however, additional improvements would be made along SR-94 and Melody Road. This option would provide an additional northbound through lane on SR-94 north of Melody Road to accommodate a second exclusive left-turn lane on Melody Road. A second exclusive left-turn lane would provide for the north to west move from SR-94 to Melody Road. A second through lane would be needed for westbound Melody Road leading to the proposed access driveway. Approximately 0.8 miles of SR-94 would be improved. Retaining walls (to support a cut) would be utilized along 250 feet of the east side of SR-94 north of Daisy Drive and would vary from 8 to 10 feet in height. A retaining wall (to support fill) would be used along 150 feet of the south side of Melody Road and would vary from 6 to 12 feet in height (Caltrans, 2014).

Based on the analysis presented in the Final TEE, JIV selected Option 2: Daisy Drive in its approval of the Final TEE. Caltrans District 11, which is currently conducting engineering and environmental review on these access options, has also formally selected Daisy Drive as its Preferred Alternative. Accordingly, the Final SEIS assumed Daisy Drive would be approved and built. Nevertheless, because the Caltrans has yet to complete its review and formal approval of an improved Reservation access design option, all three access options are included within the analysis of the No Action Alternative baseline. Additionally, SR-94 intersection improvements that would also be completed by JIV as traffic mitigation for the JIV Gaming Facility are also part of Caltrans' current review and are included in the No Action Alternative baseline. The environmental impacts of these intersection improvements are analyzed within Section 7 of the Final SEIS.

The No Action Alternative baseline presented in the Final SEIS, which will be used for comparison of environmental effects of the Proposed Action, assumes the gaming traffic use of an improved Daisy Drive as proposed in the Caltrans SR-94 Improvement Project EIR. **Figure 3-1** shows what those improvements would be for the No Action Alternative within Daisy Drive and adjoining SR-94.

3.5 PERMITS AND APPROVALS NEEDED FOR PROPOSED ACTION

Besides NIGC GMA approval, the Proposed Action would not require any other federal, state and local permits and approvals.

3.6 COMPARISON OF ALTERNATIVES

Selection of the Proposed Action or No Action Alternative could result in different management approaches for the JIV Gaming Facility. Observation of the gaming industry suggests that the main difference between the Proposed Action and No Action Alternative is expected to be a difference in net operating profits realized. The initial net operating profits would be expected to be less under the No Action Alternative given that a “learning curve” would be experienced by JIV at the outset. JIV is pursuing the GMA in the Proposed Action in order to maximize profits from the beginning of operation by having a professional organization, SDGV, operate the facility. However, there would be no difference in environmental effects between the Proposed Action and the No Action Alternative since possible differences in initial profitability are unrelated to environmental impacts. As described in **Section 5.0**, neither the Proposed Action nor the No Action Alternative would result in environmental effects.

SOURCE: Digital Globe, 2012; Natural Investigations Co., 2015; EDS, 2016

Figure 3-1 Jamul Gaming Facility Site Plan

SECTION 4.0

DESCRIPTION OF AFFECTED ENVIRONMENT

SECTION 4.0

DESCRIPTION OF AFFECTED ENVIRONMENT

4.1 INTRODUCTION

The Description of the Affected Environment was originally published in Section 3.0 of the 2003 Final EIS, with each resource discussed by subsection as set forth below:

1. Land Resources (Section 3.2),
2. Water Resources (Section 3.3),
3. Air Quality (Section 3.4),
4. Biological Resources (Section 3.5),
5. Cultural and Paleontological Resources (Section 3.6),
6. Socioeconomic Conditions (Section 3.7),
7. Resources Use Patterns (Section 3.8),
8. Public Services (Section 3.9),
9. Other Values (Section 3.10), and
10. Environmental Justice (Section 3.11).

The sections from the *Final Environmental Impact Statement: Jamul Indian Village* (2003) are hereby incorporated into the Final SEIS by reference. The 2003 Final EIS can be reviewed at the JIV website: http://www.jamulindianvillage.com/relevant-documents/. Each resource area identified above has been updated where needed in Section 4.0 of the Final SEIS. Information contained herein is also reproduced from the various Affected Environment subsection discussions presented in the 2013 Final TEE.

4.2 LAND RESOURCES

The Land Resources discussion of the 2003 Final EIS addressed Topography (3.2.1), Geologic Setting (3.2.2), Soils (3.2.3), Seismicity (3.2.4), and Mineral Resources (3.2.5). An update to each of these discussions, where needed, is presented below. Some information contained below is the same as presented in the 2003 Final EIS, because environmental circumstances remain unchanged.

4.2.1 TOPOGRAPHY

The elevation of the Gaming Facility site ranges from 870 to 960 feet. The Gaming Facility site lies on moderately steep slopes. The steeper gradients are situated in the southwestern portion of the area. The site slopes down from the east and west to Willow Creek, which bisects and drains the entire Gaming Facility site. Willow Creek flows south to Jamul Creek.

4.2.2 GEOLOGIC SETTING

The Gaming Facility site is located within the foothills of the Jamul Mountains, south of the town of Jamul. In the vicinity, pre-Tertiary granitic and metavolcanic bedrock is locally overlain by Quaternary alluvial and colluvial deposits which are locally covered by shallow fill. **Figure 4-1** shows a map of the geologic units in the vicinity, where Ec = Eocene sandstone, gb = gabbro, gr-m = gneiss, grMZ = granodiorite and quartz monzonite, m = schist/gneiss, Mc = sanstone, Mzv = felsic volcanic rock, P = Pleistocene sandstone, and Q = Quaternary alluvium. Surficial materials include undocumented fill, alluvium, colluvium and possible landslide deposits. The fill at the site consists of silt and sand. It is composed of locally derived stream terrace deposits and colluvium generated from cutting into the natural slope during grading for previously existing structures. Alluvial deposits are material such as sand, silt, or clay that has been deposited by streams. Alluvial deposits are present along the drainage which traverses the site. The alluvial soils are composed of sand and silty sand with scattered gravel. Colluvium is soil material or rock fragments that have moved by creep, slide, or local wash and were deposited at the base of steep slopes. Colluvium locally covers the granitic bedrock on the slopes. The colluvial materials consist of sand and silt mixtures. Possible landslide deposits at the site were mapped based on surficial expression and stereoscopic photographs. Landslide deposits are composed of intermixed surficial soil and granitic bedrock. Pre-Tertiary granitic bedrock underlies the site soil deposits. The granitic bedrock is considered as undifferentiated igneous crystalline bedrock that locally forms bold outcrops. The granitic bedrock is composed mainly of diorite with contact metamorphic zones. Pre-Tertiary volcanic and metamorphic bedrock is exposed on the southwest corner of the site. The bedrock forms outcrops and is hard and dense. It is composed of intermixed volcanic and sedimentary rocks that have experienced low-grade metamorphism.

4.2.3 SOILS

The soils of the Gaming Facility area are eroded coarse sandy loams to loams which have developed from granodiorite, granitic alluvium, basic igneous rock, or metamorphosed sandstone. Soils that have been formed from basic igneous rock and granitic alluvium can be found on terraces or alluvial fans. Some upland soils have been developed from metamorphosed sandstone and granodiorite. Soils found on gently rolling to hilly topography have formed in material weathered from granitic rock (Applied Engineering and Geology, 2003).

The United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) has mapped 10 soil types in the vicinity of the Gaming Facility, but primarily the Cieneba loam (codes CIE2, CmrG), Escondido loam (Esc), Fallbrook loam

(FaD2, FaE2), Friant loam (FxG), Las Posas loam (LpC2, LpE2), Ramona loam (RaC2), and Wyman loam (WmC). **Figure 4-2** displays these soil types and their codes in relation to the Gaming Facility area. NRCS classifies the soils according to their shrink/swell nature: the Cienaba, Escondido, and Friant soils have low shrink/swell capabilities; the Fallbrook, Ramona, and Wyman soils have moderate shrink/swell capabilities; and the Las Posas soils have high shrink/swell capabilities. The soils are well drained to somewhat excessively drained and have a low to moderately low water-holding capacity and slow to moderately rapid permeability. Runoff is slow to very rapid. Soil depth to bedrock varies with topography (0 to over 70 inches) (Applied Engineering and Geology, 2003).

In the land capability classification system used by the NRCS, soils are grouped by Soils Capability Class: Class I is the least restricted with Class VIII being severely limited and nearly precluded from use for commercial crop production. Prime soils are those located on land which has a combination of physical and chemical characteristics best suited to produce forage, feed, food, and other crops. Based on information from the NRCS soils survey, Soils Capability classes on the site range from II to VII. The capability subclassification indicates that the Las Posas fine sandy loam, Escondido very fine sandy loam, Wyman loam, Fallbrook sandy loam, Ramona sandy loam have a main limitation of erosion. The Friant rocky fine sandy loam and Cieneba very rocky coarse sandy loam have main limitation factors of shallow soil depths as well as being stony and subject to drought conditions.

Soils on the alluvial fan terraces are unconsolidated. As a result, runoff from storm events can pick up these unconsolidated soils and transport them. Intense storm events transport sediment from the alluvial fans terraces to the flat valley floor. The transported debris is immediately deposited. Rain events may transport sediment from deposited material into the wash area.

4.2.4 SEISMICITY

Over the last two centuries, only one large-magnitude earthquake has occurred in the San Diego County area. However, San Diego County area has been subject to ground shaking on many other occasions as a result of earthquakes in other regions. The Gaming Facility area is not mapped within a State-delineated Earthquake Fault Zone and there are no known faults in the immediate vicinity of the study area. The closest active fault or fault zone to the site is the Rose Canyon fault zone, located about 15.5 miles to the west-southwest. The Elsinore Fault is located approximately 30 miles to the northeast and the San Andreas Fault is located approximately 80 miles to the east.

As defined by the California Geological Survey, an active fault is one that has had surface displacement within the Holocene Epoch (roughly the last 11,000 years). This definition is used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Special Studies Zones Act of 1972 and revised in 1994 and 1997 as the Alquist-Priolo Earthquake Fault Zoning Act and Earthquake Fault Hazard Zones. The intent of this act is to require fault investigations on sites located within Earthquake Fault Hazard Zones to preclude new construction of certain habitable structures across the trace of active faults. Based on the Construction Testing & Engineering (2011) review of available literature, the site is not located within an Alquist-Priolo Earthquake Fault Zone. No evidence of active faulting is present on the site.

The California Geological Survey broadly groups faults as “Class A” or “Class B” (Cao et al, 2003). Class A faults are identified based upon relatively well constrained paleoseismic activity, and a fault slip rate of more than 5 mm per year. In contrast, Class B faults have comparatively less defined paleoseismic activity and are considered to have a fault slip rate less than 5 mm per year. The following **Table 4-1** presents the nearest faults to the site and their magnitude and fault classification.

Liquefaction occurs when saturated fine-grained sands, silts or low plasticity clays lose their physical strength during earthquake-induced shaking and behave as a liquid. This is due to loss of point-to-point grain contact and transfer of normal stress to the pore water. Liquefaction potential varies with groundwater level, soil type, material gradation, relative density, and the intensity and duration of ground shaking. Since the site soils and bedrock are very dense, the potential for liquefaction is considered low.

4.2.5 MINERAL RESOURCES

The California Geological Survey classifies land in western San Diego County according to the presence or absence of construction aggregate resources. However, the Gaming Facility area itself does not offer a suitable combination of soils and minerals types to warrant extraction of aggregates. There are no known mapped mines within the area. The geologic surveys performed for the Gaming Facility did not indicate any significant mineral resources.

4.2.6 GEOLOGIC HAZARDS

Geologic hazards in the area are limited primarily to those caused by strong shaking from earthquake-generated ground motions (**Appendix 2**). Nevertheless, presented next is a discussion of potential geologic hazards affecting the design and development of the Gaming Facility.

TABLE 4-1
PARAMETERS FOR EARTHQUAKE FAULTS IN THE VICINITY

FAULT NAME	DISTANCE FROM SITE (miles)	MAXIMUM EARTHQUAKE MAGNITUDE	CLASSIFICATION
Rose Canyon	15.5	7.2	B
Coronado Bank	27.5	7.6	B
Elsinore-Julian	32.2	7.1	A
Elsinore-Coyote Mountain	34.6	6.8	A
Earthquake Valley	35.6	6.5	B
Newport-Inglewood (Offshore)	45.2	7.6	B
Elsinore-Temecula	47.3	6.6	A
San Jacinto-Coyote Creek	52.0	6.8	A
San Jacinto-Borrego	52.2	6.6	A
San Jacinto-Anza	55.7	7.2	A
SOURCE: Construction Testing & Engineering, 2011			

4.2.6.1 Tsunamis and Seiche Evaluation

The site is about 15 miles inland from the Pacific Ocean at an elevation of approximately 900 feet above sea level. Therefore, risk of damage from seismic sea waves (tsunamis) is not anticipated (**Appendix 2**). The site is not downslope of a large body of water that could adversely affect the site in the event of earthquake-induced failures or seiches (wave oscillations in an enclosed or semi-enclosed body of water).

4.2.6.2 Landsliding

Based on surface expression, possible landslides have been mapped in the northeast corner of the Gaming Facility site (**Appendix 2**).

4.2.6.3 Compressible and Expansive Soils

Encountered site soils consisted of non-expansive sands and hard bedrock with low compressibility. Therefore, compressible and/or expansive site materials are not anticipated to adversely impact the Gaming Facility development (**Appendix 2**).

4.2.6.4 Fault Rupture and Earthquake Hazard Evaluations

Over the last two centuries, only one large-magnitude earthquake has occurred in the San Diego County area. However, San Diego County area has been subject to ground shaking on many other occasions as a result of earthquakes in other regions. The project area is not mapped within a State delineated Earthquake Fault Zone and there are no known faults in the immediate vicinity of the study area. The closest active fault or fault zone to the site is the Rose Canyon fault zone, located about 15.5 miles to the west-southwest. The Elsinore Fault is located approximately 30 miles to the northeast and the San Andreas Fault is located approximately 80 miles to the east.

4.2.7 REGULATORY SETTING

4.2.7.1 Federal Regulations

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." The Gaming Facility area does not contain any rare, high quality, or scientifically significant geologic or topographic resources, and does not encompass any areas designated as National Natural Landmarks.

4.2.7.2 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act (Amended in 1994) (California Public Resources Code Section 25523(a); 20 California Code of Regulations (CCR) 1752(b) and (c)) was created to mitigate seismic hazards. Its main purpose is to prevent the construction of buildings on the surface trace of active faults. Before a project can be permitted in an Alquist-Priolo Earthquake Fault Zone, municipalities must require a geologic investigation to demonstrate that potential buildings would not be constructed across active faults.

The California Building Code (CBC) contains minimum standards for design and construction of structures in California. Local standards may be adopted if those standards are stricter. Design considerations associated with seismic hazards should address the appropriate building codes.

The Greenbook Standard Specifications for Public Works Construction is produced by a joint committee of the Southern California Chapter of the American Public Works Association and the Southern California Districts of the Associated General Contractors of California. The Greenbook is focused on public works projects and includes geologic and soil standards related to construction materials/methods (e.g., grading and fill/base material placement), utilities, landscaping/irrigation facilities, pipelines, aggregate, and concrete/asphalt pavement.

4.2.7.3 Local Laws, Ordinances, Regulations, and Standards

The County of San Diego Codes and Regulations regulates vegetation clearing and grading through the Clearing of Vegetation/Grading and Clearing Ordinance (No. 9547) (administered by the Dept. of Planning and Landuse). The Sensitive Habitats / Resource Protection Ordinance (Nos. 7968, 7739, 7685 and 7631) protects steep-slope lands, wetlands, floodplains.

4.3 WATER RESOURCES

The Water Resources discussion of the 2003 Final EIS addressed Surface Water, Drainage and Flooding (3.3.1), Groundwater (3.3.2), and Water Quality (3.3.3). An update to each of these discussions, where needed, is presented below. Some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.3.1 SURFACE WATER, DRAINAGE, FLOODING

The topography of the Gaming Facility site is rolling terrain, with a general slope to the south via the Willow Creek drainage, which bisects the Reservation. **Figure 4-3** shows the relevant USGS 7.5-minute topographic quadrangles “Dulzura” and “Jamul Mountains”. The elevation ranges from approximately 850 feet to 950 feet above mean sea level. The climate is arid, with annual precipitation averaging only about 10 inches (Western Regional Climate Center 2011).

The Reservation is located within a small watershed (approximately 10 square miles) in the headwaters of Jamul Creek north of the Jamul Mountains (**Figure 4-4**). The Reservation is located within the Jamul Hydrologic Subarea (Hydrologic Unit 10.33), which is located within the Dulzura Hydrologic Area of the larger Otay Basin. The Otay Hydrologic Unit consists of the Otay River and its major tributaries. The Otay River is the second largest river draining into San Diego Bay. Damming in the early part of the 20th century created the Otay Reservoirs, which provide drinking water for southern San Diego County (Regional Water Quality Control Board (RWQCB) 2007b). Seventy percent of the Otay River watershed is open and undeveloped; agriculture occurs in ten

percent of the watershed, and urban or industrial land uses occur in twenty percent of the watershed (Regional Water Quality Control Board 2007b). Although the upper parts of the Otay watershed are protected, there has been rapid growth in certain regions, including the Jamul area. Large areas within the watershed are protected by state and federal wildlife refuges, and by the San Diego Water Department. Other major landowners include Caltrans, with jurisdiction over all freeways and highways in the watershed, tribes, and the US Navy (RWQCB 2007b).

The general direction of surface runoff in the area around the Reservation is to the south via Willow Creek, a drainage tributary to Jamul Creek, which is tributary to Dulzura Creek, which terminates in the Lower Otay Reservoir. The Lower Otay Reservoir is the terminus of the second San Diego Aqueduct. Surface runoff from over 160 square miles within the Otay Basin watershed flows ultimately to the south San Diego Bay (Pacific Ocean) (San Diego RWQCB 2007a).

All stormwater originating within the area around the Reservation, including the 4-acre parcel and 87-acre parcel, drains by sheet flow along surface grades to Willow Creek or, to a minor extent, to the ditches of the SR-94 right-of-way. The San Diego County Flood Control District currently maintains culverts along Willow Creek at the following locations: 1) a private roadway about 360 feet north of Melody Road with a 12-inch corrugated metal pipe; 2) Melody Road, with a 60-inch concrete pipe; and 3) JIV's private road, which has a 24-inch corrugated metal pipe. A tributary of Willow Creek collects runoff from a residential development (Calle Mesquite) north of Melody Road, and discharges runoff under Melody road via a 24-inch corrugated metal pipe.

The Reservation site and surrounding area (including the 4-acre parcel and 87-acre parcel) is designated Zone D for areas of undetermined flood risk, according to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel Number 06073C1975F. Within the Reservation, Willow Creek has a slope gradient of 3 to 4%, with side slopes having a variable gradient of between 12 and 50% (Martin and Ziemniak 2006; San Dieguito Engineering 2012). Results of hydrologic modeling by Martin and Ziemniak (2006) indicate that the flow within the channel during a 100-year storm event is 392 cubic feet per second. The total rainfall that would occur during a 6-hour 100-year rain event in the Jamul region is 3 inches (San Dieguito Engineering 2012).

4.3.2 GROUNDWATER

The RWQCB defines and describes groundwater in the region as follows:

"*Ground water is defined as subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated…..All major drainage basins in the San Diego Region contain ground water basins. The basins are relatively small in area*

and usually shallow. Although these ground water basins are limited in size, the ground water yield from the basins has been historically important to the development of the Region. A number of the larger ground water basins can be of future significance in the Region for storage of both imported waters and reclaimed wastewaters. Nearly all of the local ground waters of the Region have been intensively developed for municipal and agricultural supply purposes." (San Diego RWQCB 2011)

The groundwater in the vicinity of the Reservation flows through the geologic substrata such as alluvium, residuum (unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place), and crystalline bedrock. The effective porosity in crystalline bedrock and residuum is poor; consequently, groundwater occurs predominantly in alluvium. San Diego County well data indicates that in the low areas (inter-mountain basins) such as the Gaming Facility site, average depth to water is about 40 feet, but can vary widely from 7 to 250 feet; in higher areas (such as mountain erosional plains), depth to water is about 93 feet, with a range of 11 feet to 263 feet (San Diego County 1977).

4.3.3 WATER QUALITY

The RWQCB describes the quality of the Otay River watershed as follows: "*The Otay hydrologic unit (HU 910) is a watershed in the southern portion of San Diego County and is home to about 150,000 people and represents an important water resource in one of the most arid regions of the nation. Home to many endemic, rare, and endangered plants and animals, the ecological health of the Otay watershed is of increasing concern*" (RWQCB. 2007b).

The RWQCB assessed Jamul Creek as part of the statewide Surface Water Ambient Monitoring Program (SWAMP). The results of the bioassessment indicated that biological health was very poor, and Jamul Creek "did not support a healthy community of benthic macroinvertebrates". The following results were also published regarding the assessment of Jamul Creek (RWQCB 2007b):

- Physical habitat was moderately degraded, with only two components (embeddedness and channel flow) showing signs of severe alteration.
- Pesticides and other organic compounds were detected (PAHs, p,p'-DDT, and oxadiazon).
- Ammonia, manganese and specific conductivity exceeded aquatic life thresholds during sampling.
- Sediments were acutely toxic to amphipods (*Hyalella azteca*) in one of 3 samples, and most samples showed algal toxicity.

The study concluded that, "*This study's assessment of the Otay Hydrologic Unit suggests that the watershed is in moderately poor ecological health. Multiple lines of evidence support this conclusion. For example, several water chemistry constituents exceeded aquatic life thresholds, toxicity was observed at every site, and bioassessment of macroinvertebrate communities were in poor or very poor condition at most sampling events*." (RWQCB 2007b).

Land uses in the Jamul area have historically been rural in nature, and consisted largely of ranching and some dry crop farming. In the Jamul Creek watershed, cattle grazing has resulted in the introduction of manure into surface waterways and has increased erosion, compaction, and stream-bank degradation near surface waters. These and other effects of cattle grazing typically lead to increased temperature and decreased dissolved oxygen content of surface waterways (RWQCB 2007a).

4.3.3.1 Groundwater Quality

Groundwater in the Jamul area is characterized as shallow and low in volume, and generally unsuitable for domestic or industrial use due to its low yield and due to the presence of high nitrate and total dissolved solids concentrations (RWQCB 2007a,b). The San Diego RWQCB has identified beneficial uses for groundwater resources in the Otay Hydrologic Unit as follows: municipal and domestic supply, agricultural supply, and industrial service supply. The RWQCB has defined water quality objectives to protect these beneficial uses in the Otay Hydrologic Unit, summarized in **Table 4-2.**

TABLE 4-2
WATER QUALITY OBJECTIVES FOR GROUND WATERS IN THE DULZURA HYDROLOGIC AREA OF THE OTAY HYDROLOGIC UNIT

WATER QUALITY CONSTITUENT	WATER QUALITY OBJECTIVE
Total Dissolved Solids	1,000 mg/L
Chloride	400 mg/L
Sulfate	500 mg/L
Sodium	60 mg/L
Nitrate	10 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methylene Blue-Activated Substances	0.5 mg/L
Boron	0.75 mg/L
Turbidity	5 NTU
Color units	15
Fluoride	1.0 mg/L
SOURCE: San Diego Basin Plan (RWQCB 2007a).	

4.3.4 REGULATORY SETTING

4.3.4.1 Federal Regulations

Executive Order 11988 addresses floodplain management. Executive Order 11988 requires the evaluation of actions taken in a floodplain. Specifically, the order states that agencies shall first determine whether a proposed development would occur in a floodplain. Second, if an agency proposes to allow an action to be located in a floodplain, "the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains." Finally, if the only practicable alternative action requires siting in a floodplain, the agency shall "minimize potential harm to or within the floodplain." The water quality objectives for surface waters in the Dulzura Hydrologic Area of the Otay Hydrologic Unit are provided in **Table 4-3**.

TABLE 4-3
WATER QUALITY OBJECTIVES FOR SURFACE WATERS IN THE DULZURA HYDROLOGIC AREA OF THE OTAY HYDROLOGIC UNIT

WATER QUALITY CONSTITUENT	WATER QUALITY OBJECTIVE
Total dissolved solids	500 mg/L
Chlorides	250 mg/L
Sulfate	250 mg/L
Sodium	60 mg/L
Phosphorus and Nitrogen	0.05 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methylene Blue-Activated Substances	0.5 mg/L
Boron	0.75 mg/L
Turbidity	20 NTU
Fluoride	1 mg/L
pH	6.5 to 8.5 pH units
Dissolved Oxygen (warm habitat)	5.0 mg/L minimum
Fecal coliform	200 MPN/100 mL
SOURCE: San Diego Basin Plan (RWQCB 2007a).	

The basic federal law dealing with surface water quality control is the Federal Water Pollution Control Act, which was amended in 1972 and is commonly referred to as the Clean Water Act (CWA). The objective of the CWA is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters" to make all surface waters "fishable" and "swimmable".

The National Pollutant Discharge Elimination System (NPDES) program established pursuant to the CWA (33 USC §§ 1251 to 1387) is a national program for regulating and administering permits for discharges to receiving waters. The U.S. EPA is ultimately charged with regulating discharges to surface waters. In some states, the U.S. EPA has delegated permitting authority to a state agency. However, the U.S. EPA continues to regulate discharges originating on JIV lands into receiving waters. Under the CWA, Indian Tribes can be treated as states for the purposes of the NPDES program if they demonstrate similar management proficiency as the states [33 USC § 1377(e)].

4.3.4.2 State Regulations

The California Water Code contains provisions which control almost every consideration of water and its use. Division 2 of the Water Code provides that the State Board shall consider and act upon all applications for permits to appropriate waters. California Water Code section 2100 provides that the State Board may make a formal determination or judgment in order to protect ground water quality.

Division 7 of the California Water Code is the basic water quality control law for California, entitled the Porter-Cologne Water Quality Control Act. The Porter-Cologne Act establishes a regulatory program to protect water quality and to protect beneficial uses of the state waters. The Porter-Cologne Act established the State Board and the regional boards as the principle state agencies responsible for control of water quality. The Porter-Cologne Act empowers the regional boards to formulate and adopt, for all areas within the regions, a Water Quality Control Plan (Basin Plan) which designates beneficial uses and establishes such water quality objectives as in its judgment would ensure reasonable protection of beneficial uses. Each regional board establishes water quality objectives that would insure the reasonable protection of beneficial uses and the prevention of nuisance. In 1975, the Regional Board published the “Water Quality Control Plan for the San Diego Basin (9)”. The 1975 Basin Plan has been amended by the Regional Board on numerous occasions since 1975, and it is reviewed triennially. The latest version is dated 2011, and contains the most current water quality standards.

4.4 AIR QUALITY

The Air Quality discussion of the 2003 Final EIS addressed Regional Meteorology (3.4.1), Pollutants of Concern (3.4.2), and Existing Air Quality (3.4.3). An update to each of these discussions, where needed, is presented below. It may be that some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.4.1 AIR POLLUTANTS

"Air Pollution" is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation.

Six air pollutants of concern nationwide have been identified by U.S. EPA: carbon monoxide (CO); ozone (O_3); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead (Pb); and particulate matter (PM), which is subdivided into two classes based on particle size: fine particles ($PM_{2.5}$) and inhalable particles (PM_{10}). These pollutants are collectively referred to as criteria pollutants and are discussed in detail below. The sources of these pollutants, their effects on human health and the nation's welfare, and their final deposition in the atmosphere vary considerably.

In general, ambient concentrations of CO, O_3, and Pb are primarily influenced by motor vehicle activity. Emissions of SO_2 are associated mainly with various stationary sources. Emissions of NO_2 and PM come from both mobile and stationary sources.

The criteria pollutants that are most important for this air quality impact analysis are those that can be traced principally to motor vehicle operation and earth-moving activities. Of these pollutants, CO, nitrogen Oxides (NO_X), and PM are evaluated on a regional or "mesoscale" basis. CO is analyzed on a localized or "microscale" basis in cases of congested traffic conditions. Although PM_{10} and $PM_{2.5}$ have very localized effects, there is no U.S. EPA-approved methodology to evaluate microscale impacts of PM_{10} and $PM_{2.5}$.

In addition to the criteria pollutants, hazardous air pollutants (HAPs) and greenhouse gasses (GHG) are air pollutants of concern.

4.4.1.1 Carbon Monoxide (CO)

CO is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56

percent of all CO emissions nationwide. Other nonroad engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide. Higher levels of CO generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, and natural sources such as forest fires. Woodstoves, gas stoves, cigarette smoke, and unvented gas and kerosene space heaters are sources of CO indoors. The highest levels of CO in the outside air typically occur during the colder months of the year when inversion conditions are more frequent. The air pollution becomes trapped near the ground beneath a layer of warm air (U.S. EPA 2010a).

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (U.S. EPA 2010a).

The highest concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to problems caused by ozone, which tends to be a regional pollutant, CO problems tend to be localized. Overall, CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program.

4.4.1.2 Ozone (O_3)

Ozone (O_3) is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight. Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and NO_X in the presence of sunlight. VOC emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high VOC and NO_X levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional scale, ozone is a regional pollutant.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provides the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 2004).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 parts per million (ppm) for 1 to 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in permeability of respiratory epithelia; such increased permeability leads to an increased response of the respiratory system to challenges, and a decrease in the immune system's ability to defend against infection (Godish 2004).

4.4.1.3 Nitrogen Dioxide (NO_2)

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (U.S. EPA 2010a). The combined emissions of NO and NO_2 are referred to as NO_X and reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with ozone, the NO_2 concentration in a particular geographical area may not be representative of the local NO_X emission sources. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours,

an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions (U.S. EPA 2010a).

4.4.1.4 Sulfur Dioxide (SO_2)

SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for asthmatics. SO_2 in the atmosphere contributes to the formation of acid rain.

4.4.1.5 Lead (PB)

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed in detail below, metal processing is currently the primary source of lead emissions. The highest levels of lead in the air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, U.S. EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. U.S. EPA banned the use of leaded gasoline in highway vehicles in December 1995 (U.S. EPA 1996). As a result of U.S. EPA's regulatory efforts to remove Pb from gasoline, emissions of Pb from the transportation sector have declined dramatically (95 percent between 1980 and 1999), and levels of Pb in the air decreased by 94 percent between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13 percent of Pb emissions. A National Health and Nutrition Examination Survey reported a 78 percent decrease in the levels of Pb in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (U.S. EPA 2010a).

4.4.1.6 Particulate Matter (PM)

PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of PM is directly linked to the potential for causing health problems. The U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can

affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2010a). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. The U.S. EPA groups PM into two categories, $PM_{2.5}$ and PM_{10}, as described below.

Fine Particulate Matter ($PM_{2.5}$) Fine particles, such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller ($PM_{2.5}$). Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. Control of $PM_{2.5}$ is achieved primarily through the regulation of emission sources, such as U.S. EPA's Clean Air Interstate Rule and Clean Air Visibility Rule for stationary sources, the 2004 Clean Air Nonroad Diesel Rule, the Tier 2 Vehicle Emission Standards, and Gasoline Sulfur Program.

Inhalable Particulate Matter (PM_{10}) Inhalable particles (PM_{10}) include both fine and coarse dust particles; the fine particles are $PM_{2.5}$. Coarse particles, such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads. The health effects of PM_{10} are similar to $PM_{2.5}$. Control of PM_{10} is achieved primarily through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads. The criteria pollutants that are most important for this air quality impact analysis are those that can be traced principally to motor vehicles and to earth-moving activities. Federal Highway Administration (FHWA) and U.S. EPA released joint guidance for conducting qualitative analyses to evaluate microscale impacts of $PM_{2.5}$ and PM_{10} in March 2006 (FHWA 2006). FHWA and U.S. EPA are currently developing methods and modeling procedures for developing quantitative $PM_{2.5}$ and PM_{10} assessments; however, at the date of this report neither agency has issued quantitative guidance.

4.4.1.7 Hazardous Air Pollutants (HAPS)

In addition to the criteria air pollutants, U.S. EPA also regulates HAPs. Concentrations of HAPs are also used as indicators of ambient air quality conditions. A HAP is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. HAPs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those HAPs that may cause

cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which ambient standards have been established (see Table 2 in Section 4.3). Most HAPs originate from human-made sources, including on-road mobile sources, nonroad mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs)

The CAA identified 188 compounds as HAPs. U.S. EPA has assessed this expansive list of toxics and identified a group of 21 as mobile source air toxics (MSATs). MSATs are compounds emitted from highway vehicles and nonroad equipment (e.g., off-road construction equipment). Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. U.S. EPA also extracted a subset of this list of 21 compounds that it now labels as the seven priority MSATs. These are acrolein, benzene, 1,3-butadiene, diesel particulate matter (diesel PM) plus diesel PM organic gases, formaldehyde, naphthalene, and polycyclic organic matter (FHWA 2009). While these MSATs are considered the priority transportation toxics, U.S. EPA stresses that the lists are subject to change and may be adjusted in future rules (FHWA 2009). U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines. According to an FHWA analysis, even if the number of vehicle miles traveled (VMT) increases by 64 percent, reductions of 57 to 87 percent in MSATs are projected from 2000 to 2020 (FHWA 2009).

Diesel Exhaust Particulate

In 1999, the California Air Resources Board (CARB) identified particulate emissions from diesel-fueled engines as a toxic air contaminant (TAC)[1]. TAC is the term used in California similar to the federal HAP term. Once a substance is identified as a TAC, CARB is required by law to determine if there is a need for further control. This is referred to as risk management (CARB 2001). The process of further studies is ongoing at ARB, with committees meeting to analyze stationary and mobile diesel engine sources, as well as many other aspects of the problem. On September 28, 2000, CARB

[1] TACs, as defined in Section 39657 of the *California Health and Safety Code*, are chemicals that can cause adverse effects to human health or the environment, including substances that cause cancer, neurological, respiratory, and reproductive effects. The list of TACs also include HAPs as defined in subsection (b) of Section 112 of the federal Clean Air Act (42 U.S.C. Section 7412(b)).

approved the Proposed Diesel Risk Reduction Plan and the Proposed Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. CARB programs in progress relating to truck emissions are included in the following paragraphs. There are other programs for risk reduction for off-road diesel engines.

In February 2001, U.S. EPA issued new rules requiring cleaner diesel fuels in 2006 and beyond. However, since 1993, California's regulations have required cleaner diesel fuel than the federal requirements. The 1993 federal regulations reduced particulate emissions by 5%, while the California regulations reduced particulate emissions by 25%.

The control of emissions from mobile sources is a statewide responsibility of CARB that has not been delegated to the local air districts. However, the San Diego Air Pollution Control District (APCD) is participating in the administration programs to reduce diesel emissions, principally by procurement and use of replacement vehicles powered by natural gas. Some air districts have issued preliminary project guidance for projects with large or concentrated numbers of trucks, such as warehouses and distribution facilities. No standards exist for quantitative impact analysis for diesel particulates.

4.4.1.8 Greenhouse Gases

Certain gases in Earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining Earth's surface temperature. Solar radiation enters Earth's atmosphere from space. A portion of the radiation is absorbed by Earth's surface, and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from Earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Earth has a much lower temperature than the sun; therefore, Earth emits lower frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, chlorofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of Earth's climate, known as global climate change or global warming. It is unlikely that global climate change of the past 50 years can be explained without contribution from human activities (Intergovernmental Panel on Climate Change (IPCC), 2007).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors (CARB 2010a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation. Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, respectively, two of the most common processes of CO_2 sequestration.

4.4.2 REGULATORY SETTING

4.4.2.1 Federal Regulations

The CAA (42 USC §§ 7401-7671q) requires the adoption of National Ambient Air Quality Standards (NAAQS) to protect the public health and welfare from the effects of air pollution. The NAAQS are updated as needed. Current standards are set for SO_2, CO, NO_2, Ozone, PM_{10}, $PM_{2.5}$, and Pb, as shown in **Table 4-4.**

In addition to criteria pollutants, air quality regulations also focus on hazardous HAPs. U.S. EPA has identified 188 substances as HAPs. For those HAPs that may cause cancer, in general, there is no minimum concentration that does not present some risk, (i.e., there is no threshold level below which adverse health impacts may not be expected to occur). This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and ambient standards have been established (i.e., the NAAQS).

In the 1990 revision of the CAA, Congress recognized that Indian Tribes have the authority to implement air pollution control programs. U.S. EPA's Tribal Authority Rule gives Tribes the ability to develop air quality management programs, write rules to reduce air pollution and implement and enforce their rules in Indian Country. While state and local agencies are responsible for all CAA requirements, Tribes may develop and implement only those parts of the CAA that are appropriate for their lands. U.S. EPA provides technical assistance and resources to help Tribes build their program capacity. U.S. EPA also implements the CAA requirements in Indian country through programs such as the Federal Air Rules for Reservations, Title V permits, and air toxics rules.

4.4.2.2 State Regulations

The CARB is the state agency responsible for implementing the CAA in California. The CARB oversees the activities of local and regional air pollution control districts. These districts regulate industrial pollution sources. They also issue permits, develop local plans to attain healthy air quality and ensure that the industries in their area adhere to air quality mandates. CARB has established California Ambient Air Quality Standards (CAAQS) that are generally more restrictive than the NAAQS (**Table 4-4**).

4.4.2.4 Climate Change

U.S. EPA has not promulgated explicit guidance or methodology to conduct project-level GHG analysis. The CEQ issued revised draft guidance in December 2014 on how and when Federal agencies should consider the effects of GHG emissions and climate change in NEPA documents. Specifically, the guidance states that if a proposed action would cause emissions of less than 25,000 metric tons (MT) or more of CO_2 equivalent (CO_{2e}) GHG emissions on an annual basis, a quantitative analysis is not warranted unless such quantification is easily accomplished. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2014).

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction would be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012.

4.4.3 EXISTING SETTING

4.4.3.1 Environmental Setting, Climate and Meteorology

The Gaming Facility project is located in the SDAB, which is coincident with San Diego County. The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. One of the main determinants of the climatology is a semi-permanent high-pressure area (the Pacific High) in the eastern Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. In San Diego County, the months of heaviest precipitation are November through April, averaging

TABLE 4-4
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	National[a]		California[b]
		Primary[c, d]	Secondary[c, e]	Concentration[c]
Ozone (O_3)	1 hour	—	Same as primary standard	0.09 ppm (180 µg/m^3)
	8 hour	0.075 ppm (147 µg/m^3)		0.070 ppm (137 µg/m^3)
Respirable particulate matter (PM_{10})	24 hour	150 µg/m^3	Same as primary standard	50 µg/m^3
	Annual arithmetic mean	—		20 µg/m^3
Fine particulate matter ($PM_{2.5}$)	24 hour	35 µg/m^3	Same as primary standard	No separate state standard
	Annual arithmetic mean	12 µg/m^3	15 µg/m^3	12 µg/m^3
Carbon monoxide (CO)	8 hour	9 ppm (10 mg/m^3)	None	9.0 ppm (10 mg/m^3)
	1 hour	35 ppm (40 mg/m^3)		20 ppm (23 mg/m^3)
	8 hour (Lake Tahoe)	—	—	6 ppm (7 mg/m^3)
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.053 ppm (100 µg/m^3)	Same as primary standard	0.030 ppm (57 µg/m^3)
	1 hour	0.100 ppm	None	0.18 ppm (339 µg/m^3)
Sulfur dioxide (SO_2)	24 hour	—	—	0.04 ppm (105 µg/m^3)
	3 hour	—	0.5 ppm (1,300 µg/m^3)	—
	1 hour	75 ppb	—	0.25 ppm (655 µg/m^3)
Lead[f] (Pb)	30-day average	—	—	1.5 µg/m^3
	Calendar quarter	1.5 µg/m^3	Same as primary standard	—
	Rolling 3-month average[g]	0.15 µg/m^3		—
Visibility-reducing particles	8 hour	No national standards		Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07 per kilometer (visibility of 30 miles for Lake Tahoe) because of particles when the relative humidity is less than 70%.
Sulfates	24 hour			25 µg/m^3
Hydrogen sulfide	1 hour			0.03 ppm (42 µg/m^3)
Vinyl chloride[f]	24 hour			0.01 ppm (26 µg/m^3)

Notes:

mg/m^3 = milligrams per cubic meter; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; µg/m^3 = micrograms per cubic meter

[a] National standards (other than those for ozone and particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

[b] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] The California Air Resources Board has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[g] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

SOURCE: ARB 2015a, U.S. EPA 2015a

about 9 to 14 inches annually. The mean temperature is 62.2°F, and the mean maximum and mean minimum temperatures are 75.7°F and 48.5°F, respectively (Ldn, 2014).

The Pacific High also influences the wind patterns of California. The predominant wind directions are westerly and west-southwesterly during all four seasons, and the average annual wind speed is approximately six miles per hour (Ldn, 2014).

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific High comes into contact with cooler marine air. The boundary between the layers of air represents a temperature inversion that traps pollutants below it. The inversion layer is approximately 2,000 feet above mean sea level during the months of May through October. However, during the remaining months (November through April), the temperature inversion is approximately 3,000 feet above mean sea level. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality (Ldn, 2014).

4.4.3.2 Regional and Local Air Quality

Specific geographic areas are classified as either “attainment” or “nonattainment” areas for each pollutant based on the comparison of measured data with federal and state standards. If an area is redesignated from nonattainment to attainment, the CAA requires a maintenance plan to demonstrate how the air quality standard will be maintained for at least 10 years. The Gaming Facility site is located in the SDAB, which currently meets the federal standards for all criteria pollutants except O_3 (U.S. EPA 2015b). The SDAB is a CO attainment-maintenance area following a 1998 redesignation as a CO attainment area. **Table 4-5** shows the federal attainment status for the SDAB.

On May 21, 2012, the U.S. Environmental Protection Agency (EPA) designated the San Diego Air Basin as a non-attainment area for the 2008 Eight-Hour Ozone standard and classified it as a marginal area. Effective July 5, 2013, U.S. EPA approved California’s request to redesignate the San Diego County ozone nonattainment area to attainment for the 1997 8-hour ozone standard and approved their maintenance plan for continuing to attain the 1997 ozone standard for ten years beyond redesignation (SANDAG, 2015). Redesignation to attainment of the 1997 standard did not affect the region's Marginal nonattainment status for the 2008 standard.

The SDAB currently meets state standards for all criteria pollutants except O_3, PM_{10}, and $PM_{2.5}$. The SDAB is currently classified as a state O_3 nonattainment area and a state nonattainment area for $PM_{2.5}$ and PM_{10} (ARB 2014).

TABLE 4-5
PROJECT AREA
FEDERAL ATTAINMENT STATUS

CRITERIA POLLUTANT	FEDERAL ATTAINMENT STATUS
Ozone (O_3)	Nonattainment – 2008 Marginal
Nitrogen Dioxide (NO_2)	Attainment – Unclassified
Carbon Monoxide (CO)	Maintenance
Particulate Matter (PM_{10})	Attainment – Unclassified
Particulate Matter ($PM_{2.5}$)	Attainment – Unclassified
SOURCE: US EPA, 2015b	

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by APCD. The monitoring station that represents the Reservation's area, climate, and topography in the SDAB is the El Cajon monitoring station, located at 1155 Redwood Ave., El Cajon, approximately 7 miles northwest of the Reservation. The station monitors NO_2, O_3, PM_{10}, and $PM_{2.5}$. **Table 4-6** summarizes the highest pollutant levels recorded at this station from 2012 through 2014, and the number of day the standards were exceeded, if any.

4.5 BIOLOGICAL RESOURCES

The Biological Resources discussion of the 2003 Final EIS addressed Regional Setting (3.5.1), Habitat Types within the Project Site (3.5.2), Federally Listed Species (3.5.3), Waters of the U.S. (3.5.4), and San Diego County Multi-Species Conservation Program (MSCP) (3.5.5). An update to each of these discussions, where needed, is presented below. Some information contained below is the same as presented in the 2003 Final EIS because the environmental circumstances remain unchanged.

4.5.1 REGIONAL SETTING

The Reservation is located within the Peninsular Ranges geographic subregion, which is contained within the Southwestern geographic subdivision of the larger California Floristic Province (Hickman 1993). The region is in climate Zone 21 – "Ocean-influenced southern California," characterized by infrequent frost, with mild to hot, dry summers and mild, wet winters moderated by marine air influx (Hickman 1993; Brenzel 2001). The topography in the area is undulating and slopes generally toward the Willow Creek drainage, and ultimately, to the south towards Jamul Creek The elevation ranges from approximately 800 feet to 1,000 feet above mean sea level.

TABLE 4-6
AMBIENT AIR QUALITY SUMMARY – EL CAJON MONITORING STATION

POLLUTANT STANDARDS	2012	2013	2014
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.059	0.051	0.048
Annual average (ppm)	0.012	0.012	*
Number of days standard exceeded			
CAAQS 1-hour (20 ppm (23 mg/m^3))	0.0	0.0	0.0
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.086	0.090	0.059
Maximum 8-hour concentration (ppm)	0.074	0.078	0.053
Number of days standard exceeded			
CAAQS 1-hour (>0.09 ppm)	0	0	0
CAAQS 8-hour (>0.070 ppm)	0	3	0
NAAQS 8-hour (2008) (>0.075 ppm)	0	1	0
Particulate Matter (PM_{10})			
National maximum 24-hour concentration (µg/m^3)	48.0	41.0	48.0
National second highest 24-hour concentration (µg/m^3)	47.0	40.0	36.0
State maximum 24-hour concentration (µg/m^3)	47.2	41.1	47.0
State second highest 24-hour concentration (µg/m^3)	45.8	41.1	36.1
State annual average concentration (µg/m^3)	23.4	24.4	*
Number of days standard exceeded			
NAAQS 24-hour (>150 µg/m^3)	0	0	*
CAAQS 24-hour (>50 µg/m^3)	0	0	*
Particulate Matter ($PM_{2.5}$)			
National maximum 24-hour concentration (µg/m^3)	37.7	23.1	38.1
National second highest 24-hour concentration (µg/m^3)	24.8	22.9	35.7
State maximum 24-hour concentration (µg/m^3)	37.7	23.1	43.4
State second highest 24-hour concentration (µg/m^3)	24.8	22.9	38.5
National annual average concentration (µg/m^3)	10.5	10.6	*
State annual average concentration (µg/m^3)	*	10.6	*
Number of days standard exceeded			
NAAQS 24-houre,g (>35 µg/m^3)	1	0	2

ppm = parts per million; ìg/m3 = micrograms per cubic meter: * = insufficient data
SOURCE: ARB, 2015b

The Reservation is currently under construction of the Gaming Facility. Previously, the Reservation had numerous residences, consisting of pre-fabricated structures. The far west portion of the Village parcel is owned by the Roman Catholic Church and contains a small cemetery and church.

The surrounding land uses are as follows: to the south, the Rancho Jamul Ecological Reserve and the Hollenbeck Canyon Wildlife Area, and private rangeland; to the north, the 4-acre parcel (former fire station), the 87-acre (used as cattle pasture), and residential subdivisions and the town of Jamul; to the east, Highway 94, the new fire station, private estates (Peaceful Valley Ranch Estates), and hayfields; and to the west, cattle pasture and private estates.

4.5.2 HABITAT TYPES WITHIN GAMING FACILITY PROJECT SITE

Most of the Reservation is developed with the Gaming Facility and associated wastewater treatment plant. Approximately 0.4 acres of coast live oak riparian habitat is located along Willow Creek. The three access road option areas contain the same four natural community/habitat types. **Table 4-7** summarizes the amount of each vegetation community by each access option.

TABLE 4-7
VEGETATION COMMUNITIES IN EACH ACCESS ROAD OPTION AREA

VEGETATION COMMUNITY TYPE	OPTION 1 (Improve Reservation Rd.) Acres	OPTION 2 (Improve Daisy Dr.) Acres	OPTION 3 (New Access from Melody Rd.) Acres
Non-native Grassland	0.95	0.79	4.68
Diegan Coastal Sage Scrub	0.05	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.22	0.22	0.57
Ruderal / Developed (not a protected habitat type)	9.02	8.78	9.55
Totals	10.02	9.79	14.8

SOURCE: Natural Investigations, Inc., 2014; EDS, 2014

Urbanized or developed areas that remain in the access road option project area consist of disturbed or converted natural habitat that is now either in a weedy and barren (ruderal) state, recently graded, or urbanized with pavement, landscaping, and structure and utility placement. Vegetation within this habitat type consists primarily of nonnative weedy or invasive ruderal species or ornamental plants lacking a consistent community structure. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages. However, common, disturbance-tolerant species did occur in these lands.

Non-native annual grassland was a plant community in the Gaming Facility project area and is currently in the access road option project area. These annual grasslands consist of open fields of non-native pasture grasses and weedy forbs. These annual grasslands have replaced native habitats of perennial bunchgrasses or coastal scrub. Grazing disturbances, rather than periodic wildfires, keep this plant community from undergoing successional changes to woodland or scrub. Plant species common in this community include European annual grasses (*Avena*, *Bromus*, *Hordeum*, *Festuca*), and forbs, such as turkey mullein (*Eremocarpus setigerus*), yellow star thistle (*Centaurea solstitialis*),

and black mustard (*Brassica nigra*). The conversion of native habitats to annual grasslands greatly reduces wildlife biodiversity and habitat value.

A coast live oak riparian corridor (Willow Creek) runs north-south through the Gaming Facility and access road option project area, but is severely degraded from cattle grazing. The dominant canopy tree is coast live oak (*Quercus agrifolia*); other characteristic riparian trees include canyon live oak and Engelmann oaks (*Quercus chrysolepis*, *Q. engelmannii*), willows (e.g. *Salix gooddingii* and *S. lasiolepis*), cottonwood, walnut, and non-native trees such as Eucalyptus. Understory vegetation is sparse, but includes elderberry, blackberry, and poison oak. This type of habitat is important to many wildlife species.

Remnants of Diegan coastal sage scrub habitat were present in one area on the southern boundary of the Gaming Facility and are present in the access road option project area. Remaining habitat consists largely of California sagebrush (*Artemisia californica*) and buckwheat (*Eriogonum*). Other common species in this habitat type are mule-fat (*Baccharis salicifolia*), tumbleweed (*Salsola*), white sage (*Salvia apiana*), and laurel-leaf sumac. Coastal scrub plant communities are adapted to wildfires and drought conditions, and provide habitat for many different types of wildlife. Cattle grazing has severely degraded the Diegan coastal sage scrub vegetation community and reduced the native shrub cover and allowed non-native weedy species to establish. Degraded scrub provides little habitat for wildlife. Granitic outcrops project area provide breaks in the scrub cover for reptiles to bask and birds to perch.

Two special-status communities were reported by the California Natural Diversity Database (CNDDB) (CDFW 2011) within a 5-mile radius of the Gaming Facility site: Southern Coast Live Oak Riparian Forest and Southern Interior Cypress Forest. One special-status community is present within the Gaming Facility project area: the Willow Creek riparian corridor contains Southern Coast Live Oak Riparian Forest (on the 87-acre parcel, the 10-acre parcel, and the Reservation). No critical habitat for any federally-listed species occurs within the Gaming Facility project area.

4.5.2.1 Habitat Connectivity and Wildlife Corridors

Wildlife movement corridors link remaining areas of functional wildlife habitat that are separated primarily by human developments, but natural barriers such as rugged terrain and abrupt changes in vegetation cover also exist. Wilderness and open lands have been fragmented by urbanization, which can disrupt migratory species and separate interbreeding populations. Corridors allow migratory movements and act as links between these separated populations. Within the region, several wildlife corridors exist: Jamul Creek drainage and the preserve areas (Rancho Jamul Ecological Reserve and

Hollenbeck Canyon Wildlife Area). Busy roadways (primarily SR-94) and their fences create barriers and regular sources of mortality. Culverts under roads and bridges, such as the bridge at Melody Road, allow some wildlife movement under busy roads; thus the Willow Creek riparian corridor within the Gaming Facility and access road option project area functions to a limited extent as a wildlife corridor, but the corridor terminates abruptly with the urbanization of the town of Jamul. No fishery resources exist in the Gaming Facility project area because all drainages flow only ephemerally or intermittently and are highly degraded.

4.5.3 PROTECTED WATER RESOURCES

4.5.3.1 Water Resources Under Federal Jurisdiction

A formal delineation of water features under federal jurisdiction (waters of the US) of the Reservation and surrounding parcels (the 87-acre parcel, the 4-acre parcel, the 10-acre parcel) and the SR-94 corridor was performed in summer 2011. This delineation was field verified by United States Corps of Engineers (USACE) in November 2011, and a preliminary jurisdictional determination was agreed upon by both USACE and JIV in 2013. Water features subject to USACE jurisdiction under the CWA in the Reservation vicinity consist of Willow Creek, its tributaries, and instream riverine marshes (**Figure 4-7**). Within the Reservation, only one water feature is present: Willow Creek. No wetlands, vernal pools, or other water features are present within the Reservation. Water features subject to USACE jurisdiction within the access road option project area include the Willow Creek channel and instream wetlands (Wetland A and B), and ephemeral tributaries to Willow Creek (Drainage B, Swales 2, 3, 4, 4B, and 5). The entire 4-acre Parcel has upland features and contains no water features and no waters of the US. All of the SR-94 Study Corridor has upland features and contains no water features and no waters of the U.S., except for small portions of Swale 4 and Swale 4B, which were given jurisdiction under the Preliminary Jurisdictional Determination. Elsewhere on the access option project area, swales, roadside ditches, and culverts are not subject to federal regulation. No vernal pools or other isolated wetlands were detected within the access option project area.

Willow Creek is an intermittent tributary of Jamul Creek, which spans approximately 269 feet within the Reservation and has an average channel width of 3 feet; this equates to an area of about 800 square feet (0.02 acre). One 36-inch corrugated metal pipe culvert conveys flows under Reservation Road. Within the access road option project area, the lower portions of Willow Creek flow seasonally from both surface runoff and the discharge of several springs. Wetlands A and B are riverine marshes located within the ordinary high water mark of Willow Creek that are completely within the 87-acre parcel and are severely degraded from use by cattle. Ordinary high water mark indicators for

this drainage include: shelving; drift lines; sediment deposits; destruction/absence of vegetation; bank erosion; and litter/debris packing. Where scouring did not remove vegetation, in-channel vegetation included: watercress (*Rorippa nasturtium-aquaticum*), curly dock (*Rumex crispus*), nutsedge (*Cyperus* sp.), Jimsonweed (*Datura stramonium*), tree tobacco (*Nicotiana* sp.), and various non-native annual grasses and weedy forbs. Where present, riparian canopy species included: Arroyo willow (*Salix lasiolepis*), coast live oak (*Quercus agrifolia*), Tree of Heaven (*Ailanthus altissima*), and pepper tree (*Schinus* sp.). The tributaries of Willow Creek (Drainage B, Swales 2, 3, 3B, 4, 4B, 5) are ephemeral channels that are deeply incised from unchecked erosion. These features transmit water only after rain events.

4.5.3.2 Water Resources Under State Jurisdiction

The Reservation is a federal Indian reservation that is not subject to California state laws. The access road option project area is within state jurisdiction. State jurisdiction is more broadly defined than federal jurisdiction. Under state law, the jurisdiction of the California Department of Fish and Wildlife (CDFW) includes Willow Creek and associated tributaries and wetlands, as well as associated riparian vegetation.

4.5.4 SPECIAL-STATUS SPECIES

Historical Records of Special-status Species' Occurrences

A list of special-status plant and animal species that historically occurred within the project area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the project area;
- Informal consultation with USFWS by generating an electronic Species List (available on the applicable Field Office website); and
- A spatial query (query of specified geographic area) of the CNDDB and SanBIOS (San Diego County database).

The CNDDB was queried and any reported occurrences of special-status species with historical occurrences within the Reservation and access option project area were plotted. Within a 5-mile buffer of the Reservation and access option project area, the CNDDB reported numerous special-status species occurrence records (**Figure 4-8**). Although no records occur directly within the Reservation area, the CNDDB reported two special-status species with historical occurrences within or very near the access option project area:

- *Ericameria palmeri* var. *palmeri* (Palmer's goldenbush). The CNDDB record reads: "*on a rock knoll southwest of the fire station near Peaceful Valley Ranch Road in Jamul; mapped as best guess by CNDDB in vicinity of Campo Road (Hwy 94), south of intersection with Melody Road; note - 2001 Reiser Report is the only source for this site; a dozen shrubs observed, unknown date; needs fieldwork*."

- *Polioptila californica californica* (coastal California Gnatcatcher). The CNDDB record reads: "*Just west of Saint Francis Xavier Cemetery, south of Jamul; habitat consists of coastal sage scrub, dominated by Artemisia californica and Eriogonum fasciculatum, on an east-facing slope; 2 adults observed on 8 Sep. 2001; report by Allen, Douglas (Pacific SW Biological Services). California Gnatcatcher (Polioptila californica californica) Presence/Absence Surveys for Jamul Rancheria Parcels, Jamul, San Diego County, California. 2001-10-02*."

The County's SanBIOS database was also spatially queried and reported no special-status species with a historical occurrence within the Reservation and access option project area. The County's database reported no special-status species with a historical occurrence within the Gaming Facility project area. Two special-status species occurrences were reported by SanBIOS database on adjacent properties: *Masitcophis flagellum* (coachwhip snake), Rancho Jamul, near SR-94; and *Myotis evotis* (Long-eared Myotis bat), 13993 Wanda Way, Jamul.

A federal species list was also generated from the USFWS website using the USGS 7.5-minute quadrangle in which the Reservation is located, plus the surrounding quadrangles. The resulting species list from all databases is presented in **Appendix 3**.

The special-status species identified in these databases were further assessed for their likelihood to occur within the Reservation and access option project area based upon previously documented occurrences, field surveys, their habitat requirements, and the quality and extent of any suitable habitat within the Access Option project area. Each species was ranked for its likelihood to occur within the Access Option project area.

The results of these analyses are summarized in **Appendix 3**.

The following plant species were ranked "moderate" or "high" in potential occurrence in the Study Area: San Diego sagewort (*Artemisia palmeri*); Otay tarplant (*Deinandra conjugens*); Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*); Palmer's grapplinghook (*Harpagonella palmeri*); Ramona horkelia (*Horkelia truncata*); decumbent goldenbush (*Isocoma menziesii* var. *decumbens*); Gander's pitcher sage (*Lepechinia ganderi*); Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*); felt-leaved monardella (*Monardella hypoleuca lanata*); and Munz's sage (*Salvia munzii*).

The following animal species were ranked “moderate” or “high” in potential occurrence in the Study Area: Cooper's hawk (*Accipiter cooperii*); golden eagle (*Aquila chrysaetos*); orange-throated whiptail (*Aspidoscelis hyperythra*); coastal western whiptail (*Aspidoscelis tigris stejnegeri*); Dulzura pocket mouse (*Chaetodipus californicus femoralis*); Rosy boa (*Charina trivirgata*); northern red- diamond rattlesnake (*Crotalus ruber ruber*); yellow warbler (*Dendroica petechia brewsteri*); San Diego ringneck snake (*Diadophis punctatus similis*); southwestern willow flycatcher (*Empidonax traillii extimus*); Coronado skink (*Eumeces skiltonianus interparietalis*); prairie falcon (*Falco mexicanus*); San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); San Diego desert woodrat (*Neotoma lepida intermedia*); coast [San Diego] horned lizard (*Phrynosoma coronatum*); Coronado Island skink (*Plestiodon skiltonianus interparietalis*); coastal California gnatcatcher (*Polioptila californica californica*); and least Bell's vireo (*Vireo bellii pusillus*).

Note, however, that these species are likely to occur only in the undisturbed and undeveloped portions of the Reservation and access option project area (i.e., riparian corridors and regenerating coastal scrub on hillsides). Most of the vegetation has been removed from the Reservation to allow for construction of the Gaming Facility.

Analyses of Likelihood of Occurrence of Listed Species / Special-status Species

No critical habitat for any federally-listed species occurs within the Reservation and access road option project area. Because most of the vegetation has been removed from the Reservation, the potential likelihood of special-status species occurrences is low.

Wildlife surveys conducted from 2011 to 2014 of the access road option project area did not detect any special-status animals. Botanical surveys conducted from 2001 through 2013 of the access road option project area detected only three rare plant occurrences (Mooney & Associates 2000; Pacific Southwest Biological Services 2000b; Natural Investigations 2006, 2007a, 2009, 2011a,b,c, 2013; Pacific Southwest Biological Services 2011a,b,c, 2013). All of these rare plant occurrences are located on the 87-acre parcel in the non-native grassland and Diegan coastal sage scrub habitats:

- One stand of Palmer’s goldenbush. This plant is discussed further below.
- Four stands (approximately 16 square feet) of dwarf plantain (*Plantago erecta*). This species is not rare, but it is host to the federally-endangered Quino checkerspot butterfly. Impacts to this plant and the Quino checkerspot butterfly are discussed in Section 5.

- Two stands (approximately 8 square feet) of Spiny redberry (*Rhamnus crocea*). This species is not rare, but it is host to a candidate species for federal listing, Hermes copper butterfly (*Hermelycaena hermes*). Impacts to this plant and the Quino checkerspot butterfly are discussed in Section 5.

These rare plant occurrences are located entirely within the Option 3 (New Access from Melody Road) project area. The other access road option project areas do not contain any known special-status plant species.

Arroyo toad (*Anaxyrus californicus*), federally and state listed as endangered, has the following habitat requirements, as summarized by CDFW (2011a): "semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.; rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range." The nearest occurrence in the CNDDB is over 4 miles away. Arroyo toad has never been detected in the access road option project area in faunal surveys performed from 2001 to 2014. No suitable habitat exists within the access road option project area. One area near the access road option project area contain suitable habitat: the lower reaches of Willow Creek (within the Rancho Jamul Ecological Reserve). Critical habitat for Arroyo toad is found in the Sweetwater River corridor, but not present within the access road option project area.

The western yellow-billed cuckoo (*Coccyzus americanus*) is a candidate for federal listing. CDFW (2010a) describes its habitat requirements as, "riparian forest nester, along the broad, lower flood- bottoms of larger river systems; nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape." The nearest occurrence in the CNDDB is over 6 miles away in the Sweetwater River corridor. The access road option project area does not contain suitable habitat for this species because the only riparian habitat is within smaller intermittent streams that lack the correct vegetation structure and composition. No western yellow-billed cuckoos were observed during field surveys.

Southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally and state listed endangered species. USFWS describes the requisite habitat as, "For nesting, requires dense riparian habitats with microclimatic conditions dictated by the local surroundings. Saturated soils, standing water, or nearby streams, pools, or cienegas are a component of nesting habitat that also influences the microclimate and density of the vegetation component." The access road option project area does not contain suitable habitat for the species because the only riparian habitat is within smaller intermittent streams that lack the correct vegetation structure and composition. No southwestern willow flycatchers were observed during field surveys.

Quino Checkerspot Butterfly is federally designated as an endangered species. The access road option project area is not included in the designated critical habitat of the Quino checkerspot butterfly. The Quino checkerspot butterfly occurs in the vicinity of the access road option project area and a monitored reference site is located on the Rancho Jamul Ecological Reserve "in the vicinity of the intersection of Otay Lakes Road and State Route 94 between 800-1,000 ft in elevation" (USFWS, http://www.fws.gov/carlsbad/). Monitored primary host plant populations in San Diego County consisted of dwarf plantain (*Plantago erecta*), woolly plantain (*Plantago patagonica*), and thread-leaved bird's beak (*Cordylanthus rigidus*). Five USFWS protocol-level surveys were conducted in 2000 by Mooney & Associates of the Jamul Indian Village, 87-acre, 10-acre, and 4-acre parcels: no Quino checkerspot butterflies were observed. No host plants have been detected within the access road option project area in botanical surveys conducted before 2009. One *Plantago erecta* stand was detected adjacent to the access road option project area during the field survey in 2009 on the 10-acre parcel, but no special-status butterflies have ever been detected. Forensic Entomology Services (2011a,b,c;) performed Quino checkerspot butterfly protocol surveys during the 2011 lepidopteran season on the Jamul Indian Village and the Access Option project area. No Quino checkerspot butterflies were detected in any of the study areas. Forensic Entomology Services (2011a,b,c) concluded that the Jamul Indian Village, the 4-acre parcel, and the SR-94 study corridor provided no suitable habitat for Quino checkerspot butterfly habitation and follow-up protocol surveys were not necessary. However, Forensic Entomology Services (2011c) did conclude that the Option 3 (New Access from Melody Road) project area contained patches of *Plantago erecta*; that many locations on the 87-acre parcel contained suitable habitat for Quino checkerspot butterfly, and that future protocol surveys would be needed if impacts occurred on the 87-acre parcel (only for construction of Access Option 3). Quino checkerspot butterfly protocol surveys were performed again in 2012 and 2013 in the access road option project area and on the Reservation (Forensic Entomology Services 2012a,b,c, 2013). These surveys did not detect Quino checkerspot butterfly and reached the same conclusions regarding suitable habitat.

Hermes copper butterfly is a candidate species for listing under the federal Endangered Species Act. The obligate (necessary) host plant is spiny redberry. Hermes Copper butterfly was not detected during protocol surveys for butterflies in 2011 in the obligate project area (Forensic Entomology Services 2011a,b,c). Spiny redberry was detected on the 87-acre parcel during botanical surveys in 2011, but not anywhere else in the Study Areas. Forensic Entomology Services also performed protocol surveys for Hermes copper butterfly during the survey season in 2012 and 2013 in the access road option project area (Forensic Entomology Services 2012d,e,f, 2013). These surveys did not detect Hermes Copper butterfly.

Coastal California gnatcatcher is federally designated as a threatened species. This subspecies is an obligate, permanent resident of coastal sage scrub in southern California; occasionally, other habitats such as riparian zones and grasslands are used outside of the breeding season. The CNDDB reported a historical occurrence in 2011 very near the Jamul Indian Village, “Just west of Saint Francis Xavier Cemetery, south of Jamul.” USFWS protocol level surveys of the 87-acre, 10-acre, and 4-acre parcel were conducted for coastal California gnatcatcher by Pacific Southwest Biological Services during the 2000 and 2001 nesting seasons. These surveys did not detect this species within the survey area, but did spot two gnatcatchers on the Rancho Jamul Ecological Reserve just south of the Jamul Indian Village. Pacific Southwest Biological Services performed protocol surveys of the access road option project area in 2011 and in 2013; these surveys did not detect coastal California gnatcatcher and concluded that suitable habitat was lacking.

Least Bell’s vireo is federally and state designated as an endangered species. Least Bell’s vireo is a small, plain, insectivorous songbird that typically nests in willow thickets and other dense, shrubby vegetation communities found near water at elevations below 2,000 feet (CDFW (2011a). The Rancho Jamul Ecological Reserve was established, in part, to benefit least Bell's vireo. Some suitable habitat exists within the access road option project area within the Willow Creek riparian corridor, and the habitat improves southward, away from the Reservation. No least Bell’s vireos were observed during reconnaissance-level and USFWS protocol-level bird surveys over the last decade in the access road option project area (Natural Investigations Co. 2006, 2007, 2009, 2011, 2012; Pacific Southwest Biological Services 2000a, 2001, 2011d,e,f, 2013).

Palmer's goldenbush is ranked rare (1B.1) by California Native Plant Society (CNPS), is designated a State Species of Concern, and is a Covered Species under the MSCP (designated as Group B species and “Narrow Endemic Plant Species within the MSCP Subarea”). The CNDDB reported one historical occurrence in 2001 of Palmer's goldenbush very near the access road option project area “on a rock knoll southwest of the fire station near Peaceful Valley Ranch Road in Jamul.” One stand (“a single clone, about 2 meters in diameter”) of Palmer’s goldenbush was found within the 87-acre parcel west of the riparian corridor in the overgrazed non-native grassland / Diegan coastal sage scrub habitat (Pacific Southwest Biological Services 2011c, 2013). Construction of Access Option 3 might impact this patch by the construction of the new access road. No Palmer's goldenbush was detected in the other access road option project area.

4.5.5 REGULATORY SETTING

4.5.5.1 Special-status Species Regulations

The USFWS and the National Marine Fisheries Service implement the FESA of 1973 (16 USC §1531 et seq.). Threatened and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from "take" (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a project within its jurisdiction must determine whether any federally listed species may be present in the area and determine whether the project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act (CESA) of 1970 (California Fish and Game Code §2050 et seq., and CCR Title 14, §670.2, 670.51) prohibits "take" (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, CDFW has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to requirements of CESA, an agency reviewing projects within its jurisdiction must determine whether any state-listed species may be present in the project area and determine whether the project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Wildlife Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species "fully protected," making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 et seq.) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or

rare. Section 19131 of the code requires that landowners notify CDFW at least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are actively breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs, regardless of the species. Fish and Game Code §3511 designates certain bird species "fully protected," making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines a "rare" species in a broader sense than the definitions of threatened, endangered, or fully protected species. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species on the CNPS Lists 1A, 1B, or 2 are typically considered rare under CEQA. California "Species of Special Concern" is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

4.5.5.2 Protected Water Resources

Real property that contains water resources is subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described below.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into "waters of the United States." Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The USACE is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations. Any construction project that disturbs at least one acre of land requires enrollment in the State's general permitting program under the National Pollutant Discharge Elimination System and implementation of a storm water pollution prevention plan.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a project will result in the alteration or degradation of "waters of the State". The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the "stream zone," defined as "that portion of the stream channel that restricts lateral movement of water" and delineated at "the top of the bank or the outer edge of any riparian vegetation, whichever is more landward." CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

4.5.5.3 Local Laws, Ordinances, Regulations, and Standards

The Gaming Facility project area is located within an unincorporated portion of San Diego County. The Reservation is a federal Indian reservation that is not subject to County or State laws. Development of the access road option project area (except for Caltrans ROW) is guided by the Jamul/Dulzura Subregional Community Plan, which is the portion of the San Diego County General Plan that contains the County's goals, policies and maps for land use, conservation, recreation, and scenic highways for this subregion.

The County of San Diego Codes and Regulations protects natural resources under the following ordinances and policies (administered by the Department of Planning and Land Use):

- Clearing of Vegetation / Grading and Clearing Ordinance (No. 9547). No person may do any vegetation clearing or grading without a permit. No permit shall be issued, unless Habitat Loss Permit code has been complied with. Clearing up to 5 acres on a single-family residential lot, routine landscaping, maintenance, removal of dead trees, clearing for fire protection purposes within 100' of a dwelling, or incidental to repair or construction of a single-family dwelling outside the Multiple Species Conservation Plan (MSCP) Subarea is exempt. Within the MSCP, the Biological Mitigation Ordinance must be complied with (discussed in the next section). The Grading and Clearing Ordinance requires a permit for vegetation clearing (and a Habitat Loss Permit) for projects including 5 acres on a single-family residential lot.

- Coastal Sage Scrub Habitat Ordinance (No. 8365). This ordinance regulates development so as to avoid potential loss of Coastal Sage Scrub Habitat.

- Sensitive Habitats / Resource Protection Ordinance (Nos. 7968, 7739, 7685 and 7631). This ordinance protects steep-slope lands, wetlands, floodplains, and sensitive habitats (including mature riparian woodland). The Resource Protection Ordinance (RPO) limits impacts to several sensitive natural resources found throughout the County. These sensitive resources include coastal sage scrub. A Resource Protection Study is required for discretionary projects that may affect these sensitive natural resources. Impacts to sensitive habitat lands will be minimized and mitigated in accordance with the County guidelines and will provide equal or greater value to the affected species.

- Biological Mitigation Ordinance. This ordinance specifies mitigation standards for all projects requiring a discretionary permit. Projects should avoid sensitive biological resources (as defined in the Ordinance) to the maximum extent

practicable through siting the project in less sensitive areas, reducing road standards, and developing on steeper slopes (to avoid sensitive habitats). Projects should be designed so that they do not significantly contribute to edge effects or affect established movement corridors. Projects must mitigate potential effects to covered species and their habitats. These measures include identifying mitigation sites based on their value to covered species (based on data within the MSCP and Ordinance), avoiding known populations, avoiding special habitats (such as vernal pools), determining appropriate mitigation ratios, and grading restrictions.

In 1997, the County of San Diego adopted the MSCP South County Subarea Plan as part of a larger Natural Communities Conservation Program to provide long-term habitat conservation for a variety of sensitive habitats and species (County of San Diego, 1997). The Gaming Facility project area is located at the junction of 2 different planning segments: the Metropolitan-Lakeside-Jamul segment, and the South County Segment. The portions of the access road option project area that are east of SR-94, and areas north of Melody Road, are in the Metro-Lakeside-Jamul Segment. Some areas are designated as “Minor Amendment Areas” while others are designated "Take-Authorized Areas." The portions of the access road option project area that are west of SR-94, and areas south of Melody Road, are in the South County Segment. Some areas are designated as “Hardline preserve” or "Pre-approved mitigation areas" while others are designated "Take-Authorized Areas." MSCP designated areas are regulated under the authority of the County of San Diego in cooperation with the CDFW and the USFWS. Regulations associated with the different MSCP designations occurring within the Gaming Facility project area are summarized below and incorporated by reference in the San Diego County MSCP (County of San Diego, 1997).

- Metro-Lakeside-Jamul Segment. Within this segment, the take of covered species and their habitats is authorized for projects that meet the requirements of the Biological Mitigation Ordinance and conformance with the terms of the Subarea Plan. The Ordinance contains guidelines for the design and mitigation requirements for all projects subject to County discretionary authority. These guidelines include the following:

    - Project Design Criteria. Projects proposed within the segment will avoid sensitive biological resources (as defined in the Ordinance) to the maximum extent practicable through siting the project in less sensitive areas, reducing road standards, and developing on steeper slopes (to avoid sensitive habitats). Projects will also be designed so that they do not significantly contribute to edge effects or affect established movement corridors.

- Habitat and Species Based Mitigation. Several measures are identified to ensure that a project properly mitigates potential effects to both covered species and their habitats. These measures include identifying mitigation sites based on their value to covered species (based on data within the MSCP and Ordinance), avoiding known populations, avoiding special habitats (such as vernal pools), determining appropriate mitigation ratios, and grading restrictions.

- South County Segment. This segment is separated into two designations: areas where take is authorized, and Multiple Habitat Planning Areas (MHPA), also named preserve areas or hardline areas. Within take-authorized areas, projects must still conform to the Ordinance and the Subarea Plan. Land uses within the MHPA preserve areas are generally very limited. Some examples of land uses that may be authorized include hand clearing of vegetation for fuels management, habitat restoration, noxious weed control, scientific studies, and recreational trails.

Within the Metro-Lakeside-Jamul Segment, specific mitigation requirements for individual projects will be consistent with the mitigation requirements set forth in the MSCP, the County's Subarea Plan and the County's Biological Mitigation Ordinance. The mitigation ratios included in the Subarea Plan are identical to the mitigation ratios in the Biological Mitigation Ordinance.

4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

The Cultural and Paleontological Resources discussion of the 2003 Final EIS addressed Prehistory (3.6.1), Ethnography (3.6.2), Historical Context of the Project Area (3.6.3), Cultural Resources (3.6.4) and Paleontological Resources (3.6.5). An update to each of these discussions, where needed, is presented below. Some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.6.1 PREHISTORY

Located 12 miles from the coast, the Reservation is situated within an area of southern California that was occupied by different prehistoric cultures dating to at least 12,000 years ago (Moratto 1984; Gallegos 2002; Byrd and Raab 2007). Prehistoric archaeological research for the region is divided into three broad periods: Paleoindian, Archaic, and Late Prehistoric. The Paleoindian period (12,000–8,500 years before present [B.P.]) is characterized by a diverse mixture of hunting and gathering by relatively mobile groups, who relied on marine resources near the coast. During the Archaic Period (8,500 B.C.–A.D. 500), milling tools were added to the toolkit and

subsistence practices were more diversified, focusing more on plants and small animals. Groups likely traveled seasonally between coastal and inland sites, and had a continued reliance on fish and shellfish along the coast. The Late Prehistoric (A.D. 500–historic contact) is characterized by an increase in social complexity with central villages, associated satellite camps and specialized activity sites distributed along the coast and inland river valleys, a change in mortuary practices, and an expansion of trade networks. There was an increased reliance on acorns and other nuts at upland bedrock milling station seasonal camps. Artifacts associated with this period include the bow and arrow, mortars and pestles, ceramics, ornaments, and rock art.

The characteristics of the Late Prehistoric period are similar to the culture of the Yuman-speaking Native American group occupying this region at historic contact (Kroeber 1925; Luomala 1978). The Kumeyaay inhabited most of today's San Diego and Imperial Counties and portions of adjoining northern Baja California. The Tipai, a geographic division of the Kumeyaay, occupied the Jamul region, west to San Diego, and south into Baja California past Ensenada. Their diet depended on a variety of natural resources including large and small game, fish, shellfish, waterfowl, and seasonally available plant foods, some of which like the acorn were collected in the fall and then stored in granaries before processing with bedrock or portable mortars and pestles. In terms of seasonal resources, the Sweetwater River and Otay River/Jamul Creek drainage systems west, south and east of the Reservation would have been productive environments during prehistoric and ethnohistoric times. Ethnographic Tipai established villages along these waterways, and archaeological sites have been identified along their banks.

4.6.2 ETHNOGRAPHY

Most of today's San Diego and Imperial Counties was populated with Yuman-speaking peoples, collectively referred to today as the Kumeyaay, at the time of European contact. This diverse geographic Native American group, who were called the Diegueño by the Spanish occupied the Pacific coast region from central San Diego County southward into the Baja California region past Ensenada, extending eastward into the Yuha and Anza-Borrego Deserts to the Sand Hills (Kroeber 1925; Luomala 1978). Their language is a member of the California–Delta Yuman division of the Yuman-Cochimi language family (Mithun 2001:304, 577). 'Iipay, Kumeyaay, and Tiipay are the three main dialects of the Diegueño/Kumeyaay language. The first and third terms are from the word meaning "people."

Many local groups have currently banded together as the Kumeyaay Nation or Kumeyaay-Diegueño Nation (Kumeyaay.com 2013b). Preference for the name Kumeyaay was established over 30 years ago (e.g., Hedges 1975:77). In accord with

this preference, Kumeyaay is used here to refer to general characteristics found throughout all three geographic divisions.

Bands, the basic political unit among the Kumeyaay, generally controlled 10 to 30 miles along a drainage system (Shipek 1982:297). Bands were generally composed of 5 to 15 kinship groups (sib), some of which were divided among more than one band (Kroeber 1925:719; Shipek 1987:8). Within Kumeyaay territory were approximately 50 to 75 named kinship groups. A chief or *kwaaypaay* lived in the central village of each band and was responsible for internal and external band affairs. The chief gave advice, resolved disputes, and directed ceremonies. The position was typically inherited by the eldest son, with the approval of neighboring *kwaaypaay* (Shipek 1982:298). Generally, each band also had an assistant chief, and ceremonial singers and dancers.

After California officially became part of the United States in 1848, several Kumeyaay leaders signed the statewide 1852 treaty, but it was never ratified by Congress. After the mid-1870s, several reservations were formed from Kumeyaay lands in the Cuyamaca and Palomar Mountains and nearby valleys.

As of 2003, there were more than 2,570 enrolled members on 10 of the Kumeyaay reservations (CIAP 2003). A small band of Tipai had settled at least 65 years ago on six acres east of the community of Jamul (Kumeyaay.com 2013a). JIV was declared a reservation in 1981 (CIAP 2003:106). In 2015, JIV has 53 people enrolled members.

4.6.3 HISTORICAL CONTEXT OF THE RESERVATION

Early historic land use in the vicinity of the Reservation included establishment of the first Franciscan mission and the San Diego Presidio in Tipai territory in 1769, transportation routes, and Mexican land grants in the early 1800s. A portion of SR-94 and JIV lie within the northernmost extent of Rancho Jamul. Situated between Jamul and Dulzura, the rancho was provisionally granted in 1831 and regranted in 1845 to Pío Pico, who was the last Mexican Governor of California (Gudde 2004). It was sold several times in the late 1800s, and was part of the Jamul Portland Cement Manufacturing Company between 1889 and 1892 (Brackett 1960). During this same period, stage lines connecting to San Diego operated roughly along today's SR-94. In 1915, Rancho Jamul was purchased for use as a Wild West motion picture backdrop. By 1943, Campo Road (today's SR-94) connected the communities of Jamul, Indian Springs, and North Jamul. Settled by a small band of Tipai over 65 years ago, JIV was declared a reservation in 1981.

4.6.4 CULTURAL RESOURCES WITHIN GAMING FACILITY PROJECT SITE

A literature search by the South Coastal Information Center (SCIC) at San Diego State University in July 2009, a Sacred Lands file search by the Native American Heritage Commission (NAHC) and related communication with local Native American groups and individuals in 2009 and 2010, and pedestrian surveys in June 2010 and August 2011, involving transect spacing no greater than 15 meters apart, were conducted for the project. The NAHC August 2009 response stated their search does indicate the presence of Native American cultural resources within a one-half-mile radius of the project area of potential effects (APE). Of the letters and follow-up telephone calls made in June 2010 to the 14 tribes, groups or individuals on the contact list provided by the NAHC, three responses were received. Kenneth Meza, immediate past Chairperson of the Jamul Indian Village stated the tribe has no issues regarding the project. The response from the Barona Group of Capitan Grande was that the group had no concerns regarding the project. The Secretary for the Kumeyaay Cultural Heritage Preservation stated no issues had been raised by the tribe regarding the proposed Gaming Facility project.The SCIC records search indicated that portions of 23 cultural resources studies have been previously conducted within a one-half-mile radius of the Reservation, with an additional four studies including the Reservation. A total of 41 prehistoric and historic-era resources have been recorded within a one-half-mile radius but outside the Reservation. These include bedrock milling features, lithic scatters, shell scatters, rock cairns, pottery sherds, historic-era debris, and historic-era drainage ditches. Of these known cultural resources outside the Reservation, seven archaeological sites are mapped adjacent to the 4-acre parcel and areas potentially affected by the access road options. The potential for access options and traffic mitigation to affect cultural resources is addressed in **Section 7** Indirect Effects. Of the seven resources, two sites (CA-SDI-11050 and CA-SDI-7966/11410) have been determined eligible for National Register of Historic Places (NRHP) inclusion and thus qualify as historic properties/historical resources. These two sites include prehistoric bedrock milling, lithics, midden and possible village, and are located adjacent to the Reservation. Of the remaining five sites, two have been recommended not eligible for NRHP listing, and two have been destroyed and are thus ineligible. The last of the five sites (CA-SDI-14954) is located on the 4-acre parcel. This site was investigated in 2014; a series of 17 shovel test pits and one 1x1 meter test unit were placed within a 91x61 meter area. The testing revealed a light, subsurface lithic deposit. Based on the lack of integrity, the results of the subsurface testing, and the narrow range of artifacts recovered from the site, CA-SDI-14954 was determined to be ineligible for NHRP listing by the State Historic Preservation Officer (SHPO).

No built environment resources have been recorded within the Reservation and no cultural resources were identified within the Reservation during the pedestrian surveys in

2010 and 2011. Six archaeological sites (CA-SDI-7683, CA-SDI-7684, CA-SDI-7685, CA-SDI-7686, CA-SDI-7687, and CA-SDI -7688) previously recorded within the Reservation are not considered eligible for NRHP inclusion and have no potential to be impacted by the Gaming Facility project since each has been disturbed, removed or destroyed by natural or human agencies during the three decades since initial recordation in 1979.

4.6.5 REGULATORY FRAMEWORK

Cultural resources include prehistoric, ethnohistoric, or historic-era (>50 years old) archaeological artifacts, features and sites, districts, buildings, structures and objects that are protected under federal and state regulations and policies, including the National Historic Preservation Act of 1966 (NHPA), the Archaeological Resources Protection Act of 1979 (ARPA), NEPA, CEQA, and Section 5097.5 of the California Public Resources Code (PRC). Cultural resources that are judged to meet the criteria for listing in the NRHP are considered to be significant historic properties and, as such, must be considered during planning for federal undertakings under Section 106 of the NHPA (36 CFR 800). Historic properties listed in the NRHP are automatically listed in the CRHR maintained by the State Office of Historic Preservation. Both registers may include districts, sites, buildings, structures and objects with local, regional, state or national significance, although the CRHR may also include historical resources not listed in the NRHP.

Federal agencies are also required to consider the effects of their actions on items, resources, and locations of religious significance to Native Americans, as specified in the American Indian Religious Freedom Act (AIRFA), Executive Order (EO) 13007: Indian Sacred Sites, and EO 13287: Preserve America. On federal lands, including Native American Trust lands, Native American graves and burial grounds, including human remains, sacred and funerary objects, and objects of cultural patrimony, are protected under the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).

4.6.6 PALEONTOLOGICAL RESOURCES

Paleontological resources are the traces or remains of prehistoric plants and animals. Such remains often appear as fossilized or petrified skeletal matter, imprints or endocasts, and reside in sedimentary rock layers. Paleontological resources are protected by several federal and state regulations and policies, including the Antiquities Act of 1906, NEPA, CEQA, and PRC §5097.5.

The presence of paleontological resources at any particular site is influenced by geological composition resulting from formation processes occurring over long periods of time. Fossils typically reside in sedimentary layers, and may or may not become

mineralized dependent upon the mineral composition within their depositional environment.

A search of the University of California Museum of Paleontology (UCMP) database indicates more than 1,700 fossil localities occur within San Diego County, ranging in age from the Late Cretaceous (99–65 million years ago) to the Pleistocene (1.8–0.1 million years ago) (UCMP 2011). The localities, many of which are along the coast, contain mostly invertebrate fossils.

No significant paleontological fossils have been produced in the Gaming Facility project area or in the vicinity (UCMP 2011). The Gaming Facility project area is underlain by igneous Mesozoic granitic rocks (Strand 1962). Since granitic rocks are plutonic in origin, this geologic unit is determined to have no potential for paleontological resources.

The potential for off-reservation traffic mitigation to affect paleontological resources is addressed in Section 6.2.4.

4.7 SOCIOECONOMIC CONDITIONS

The Socioeconomic Conditions discussion of the 2003 Final EIS addressed Socioeconomic Characteristics of San Diego County (3.7.1), Socioeconomic Characteristics of JIV (3.7.2), Community Infrastructure (3.7.3), and Tribal Attitudes, Expectations, Lifestyle and Culture (3.7.4). An update to each of these discussions, where needed, is presented below. It may be that some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.7.1 SOCIOECONOMIC CHARACTERISTICS OF SAN DIEGO COUNTY

4.7.1.1 Population and Housing

The Reservation is located in the unincorporated portion of southwestern San Diego County. The site is approximately 4.5 miles south of the northern county line and approximately 1 mile south of the community of Jamul. San Diego County has grown over 25.7% in population from 1990 to 2012 (California, 2012a). During this period, the County grew from 2,498,016 residents to an estimated 3,140,069 residents (**Table 4-8**). Looking at the 2000 to 2012 time period, the population within the sub-regional area of Jamul grew 92.4% compared to 11% for the County. The growth rate for the sub-regional area of Jamul is expected to drop off to 1.2% for the period 2012 to 2020, compared to 7.9% for the County over the same period.

There are currently an estimated 1,165,818 housing units currently in San Diego County, while the sub-regional area of Jamul has approximately 5,181 units (0.44% of County total) (**Table 4-9**). The housing within San Diego County represented approximately 8.5% of all housing units in the State of California as of 2010. San Diego County saw its number of housing units grow by 11.7% from 2000 to 2012, while the sub-regional area of Jamul's housing stock grew by 28.8% during the same period.

TABLE 4-8
SAN DIEGO COUNTY AND JAMUL SUB-REGION POPULATION

Location	2000	2010	Current	2020	% Change 2000-2012	Est % Change 2012-2020
San Diego County	2,828,374	3,095,313	3,140,069	3,391,010	11.0%	7.9%
Jamul	9,398	12,258	18,079	18,289	92.4%	1.2%
SOURCE: California, 2012; U.S. Commerce, 2012; SANDAG, 2012a						

TABLE 4-9
HOUSING UNIT ESTIMATES

Location	2000 Units	2000 Vacancy Rate	2010 Units	2010 Vac. Rate	Current Units	Current Vac. Rate	% Change 2000-2012
San Diego County	1,043,606	4.4%	1,164,786	4.4%	1,165,818	5.4%	11.7%
Jamul	4,023	5.0%	5,065	3.4%	5,181	1.7%	28.8%
SOURCE: SANDAG, 2012a							

4.7.1.2 Employment and Income

As of 2010 (year that most recent data is available), there were approximately 2,390,470 people in the County that were 16 years and older. Of that number, approximately 65.9% or 1,575,742 were in the labor force (U.S. Census Bureau, 2012). The civilian labor force accounted for approximately 95% of the labor force, while the armed forces accounted for the remaining 5% of the labor force. Approximately 34.1% of those individuals over 16 years of age were not in the labor force as of 2010. San Diego County had a 7.8% unemployment rate as of 2010. Higher unemployment rates have been recorded since the U.S. Census data was published in 2010. The rate was 9.7% in April 2011, but came down to 8.7% in April 2012; however, both numbers are well higher than the recorded 2010 data.

Approximately 39.5% of the civilian work force in the County are employed in the management, professional, and related occupations. Sales and office jobs comes in

second with approximately 25.3% of the civilian work force, while service jobs employ approximately 18.1% of the civilian work force. Private wage and salary workers make up approximately 76.2% of the civilian employment force, while government workers make up 15.4%. Only 8.2% of workers are self-employed workers in the County.

The largest percent of earners in the county (approximately 17.7%) earn between $50,000 to $75,000 per year. Only 4.4% earn less than $10,000 per year, while approximately 6.2% make more than $200,000 per year. The median household income is estimated to be $63,069, while the mean household income is estimated to be $83,941 (U.S. Census Bureau, 2012). Approximately 23% of the population receives social security, while approximately 17% of the population receives retirement income.

The latest employment data provided by SANDAG for the Jamul sub-regional area is for 2009. Of the approximately 4,626 occupied households in 2009, the median household income is $74,790. Approximately 7.5% of the households make less than $15,000 (smallest unit of data provided) per year. Sixty-four percent of the households in the Jamul Sub-Regional area make less than $100,000 per year, while approximately 6.8% make more than $200,000 per year (SANDAG, 2012b).

4.7.2 SOCIOECONOMIC CHARACTERISTICS OF THE JAMUL INDIAN VILLAGE

JIV is a federally recognized sovereign Indian Tribe that currently has 53 tribal members. The tribal unemployment rate is 51 percent.

4.8 RESOURCE USE PATTERNS

The Resources Use Patterns discussion of the 2003 Final EIS addressed Transportation (3.8.1), Land Use (3.8.2), Agriculture (3.8.3), and Other Resources Uses (3.8.4). An update to each of these discussions, where needed, is presented below. It may be that some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.8.1 TRANSPORTATION

4.8.1.1 Road Network

The following provides a description of the existing street system within the vicinity of the Reservation.

SR-94 begins near downtown San Diego as an eight-lane, access-controlled freeway. As it proceeds to the east, it narrows to a four-lane facility, with the freeway terminating at Avocado Boulevard. SR-94 then becomes a four-lane major roadway with signalized at-

grade intersections between Avocado Boulevard and Jamacha Boulevard. In the relatively short section between Jamacha Boulevard and Jamacha Road, it is a six-lane road. South and east of Jamacha Road, it is a four-lane facility, which then transitions to a two-lane cross section. In the vicinity of the Reservation, it is a two-lane, undivided, conventional highway that is also known as Campo Road. Bike Lanes are currently not provided and curbside parking is prohibited along both sides of the roadway. Bus stops are provided intermittently along the roadway. SR-94 is part of the County of San Diego Bicycle Network System. SR-94 is approximately 26 feet wide with shoulders generally varying from 2 to 8 feet in the Reservation area. The posted speed limit is 55 mph. A two-way left-turn lane striping is provided along sections of the roadway where driveway access is denser. The segment between Cougar Canyon Road and Steele Canyon Road provides a two-way left-turn lane. SR-94 is classified as a prime arterial north of Melody Road and a major road south of Melody Road on the County of San Diego Circulation Element.

Jamacha Boulevard is constructed as a six-lane prime arterial south of SR-94. The posted speed limit along this corridor is 45 mph. This roadway segment is built to its ultimate classification.

Jamacha Road is constructed as a six-lane prime arterial east of SR-94. The posted speed limit along this corridor is 45 mph. This roadway segment is built to its ultimate classification.

Steele Canyon Road is currently constructed as a two lane undivided roadway, providing one travel lane in the north direction and one travel lane in the south direction. Steele Canyon Road is signalized at SR-94, Jamul Drive and Willow Glen Drive. Steele Canyon Road has a roadway width of 45 feet with no shoulders provided. The posted speed limit on Steele Canyon Road is 45 mph. Steele Canyon Road is classified as a collector road in the County of San Diego Circulation Element. Between Jamul Drive and Heatherwood, a two-way left-turn lane is provided to facilitate access to adjacent properties along both sides of the road.

Lyons Valley Road is a two-lane undivided roadway. Bike lanes are provided and curbside parking is prohibited. Lyons Valley Road has a current roadway width of 35 feet with no shoulders provided. The speed limit is posted at 45 mph.

Jefferson Road is a two-lane undivided roadway with a posted speed limit of 40 mph. Currently, Jefferson Road has a roadway width of 30 feet with no shoulders provided. Jefferson Road is an unclassified roadway within the County of San Diego.

Melody Road is currently constructed as a two-lane undivided roadway providing one lane of travel per direction. No bike lanes or bus stops are provided and curbside parking

is prohibited. No speed limit was posted, so the prima facie speed limit is 25 mph. Currently, Melody Road has a roadway width of 40 feet with no shoulders provided.

Jamul Drive is currently constructed as a two-lane undivided roadway providing one lane of travel per direction. Bike lanes are provided and curbside parking is prohibited. Left-turn lanes are provided intermittently within the corridor to facilitate access to existing driveways and roads along both sides for the roadway. The posted speed limit along Jamul Drive is 45 mph.

Willow Glen Drive is currently constructed as a two-lane undivided roadway providing one lane of travel per direction. Between Steele Canyon Road and the Cottonwood Golf Course, two westbound lanes, and an eastbound lane are provided. Bike lanes are present along the corridor. The posted speed limit along Willow Glen Drive is 45 mph.

Most recently, the Tribe has filed a fee-to-trust application with the BIA to take into federal trust the 4-acre parcel located north of the Reservation and immediately west of SR-94. Planned uses on this 4-acre parcel include an improved Daisy Drive connecting the Reservation with SR-94. A new fire station may also be constructed on the 4-acre parcel in the future.

4.8.1.2 Study Intersections

The study area analyzed was defined in coordination with Caltrans District 11 staff. All of the intersections along SR-94 between Via Mercado and Otay Lakes Road in Caltrans' jurisdiction were included. In addition, all intersections in the County of San Diego's jurisdiction where the Gaming Facility project would generate 25 or more directional peak-hour trips were included.

Table 4-10 lists all of the intersections included in the study area. As shown in **Table 4-10**, ten study intersections are signalized and nine study intersections are unsignalized. **Figure 4-9** displays the location of the study intersections. **Figure 4-10** shows the existing geometrics for the intersections within the study area.

4.8.1.3 Study Roadway Segments

The study area was determined in coordination with Caltrans District 11 staff and included all of the significant roadway segments providing access to the Reservation. In addition, County of San Diego's roadway segments were included in the study based on the County of San Diego's *Report Format & Content Requirements – Transportation and Traffic*, dated August 24, 2011. The roadway segments included in the analysis are:

- Sweetwater Springs Boulevard between Jamacha Boulevard and Austin Drive;

- Jamacha Boulevard between SR-94 and Sweetwater Springs Boulevard;
- Jamacha Road between SR-94 and Fury Lane;
- Jamacha Road between Willow Glen Drive and Brabham Street;
- Steele Canyon Road between SR-94 and Jamul Drive;
- Steele Canyon Road between Jamul Drive and Willow Glen Drive;
- Jamul Drive between Steele Canyon Road and Lyons Valley Road;
- Willow Glen Drive between Jamacha Road and Steele Canyon Road;
- Willow Glen Drive between Steele Canyon Road and Hillsdale Road;

TABLE 4-10
STUDY INTERSECTIONS

INTERSECTION	TRAFFIC CONTROL[1]
1. SR-94 and Via Mercado	Signal
2. SR-94 and Jamacha Blvd	Signal
3. SR-94 and Jamacha Rd	Signal
4. SR-94 and Cougar Canyon Rd	Signal
5. SR-94 and Steele Canyon Rd	Signal
6. SR-94 and Lyons Valley Rd	TWSC
7. SR-94 and Jefferson Rd	Signal
8. SR-94 & Maxfield Rd.	OWSC
9. SR-94 and Melody Rd	TWSC
10. SR-94 and Reservation Road	OWSC
11. SR-94 and Honey Springs Rd	OWSC
12. SR-94 and Otay Lakes Rd	OWSC
13. Jamacha Blvd. & Sweetwater Springs Blvd	Signal
14. Willow Glen Dr. & Jamacha Rd.	Signal
15. Steele Canyon Rd. & Willow Glen Dr.	Signal
16. Steele Canyon Rd & Jamul Dr.	Signal
17. Lyons Valley Rd & Jamul Dr	OWSC
18. Jefferson Rd. & Lyons Valley Rd.	OWSC
19. Melody Rd. & Proctor Valley Rd.	OWSC

[1]/ Signal = Traffic signal; OWSC = One –Way Stopped Control; TWSC = Two-Way Stopped Control
SOURCE: Kimley Horn, 2012

- Jamul Drive between Steele Canyon Road and Lyons Valley Road;
- Willow Glen Drive between Jamacha Road and Steele Canyon Road;
- Willow Glen Drive between Steele Canyon Road and Hillsdale Road;
- Lyons Valley Road between SR-94 and Jefferson Road;
- Lyons Valley Road between Jefferson Road and Jamul Drive;
- Lyons Valley Road between Jamul Drive and Myrtle Street;
- Jefferson Road between SR-94 and Lyons Valley Road;
- Melody Road between SR-94 and Proctor Valley Road;
- Proctor Valley Road between Melody Road and Pioneer Way;
- Honey Springs Road between SR-94 and Mother Grundy Truck Trail; and
- Otay Lakes Road between SR-94 and Otay Mountain Truck Trail.

4.8.1.4 Methodology

Analysis Process

The analysis process includes determining the operations at the study intersections for the weekday a.m. and p.m. peak periods. The peak hour represents the hour timeframe during the traffic counts with the highest volumes in the 7 to 9 am and 4 to 6 pm periods. Because the Gaming Facility project would generate higher peak-hour traffic during the Friday and Saturday afternoons, the Friday p.m. peak-hour and the Saturday p.m. peak-hour were also evaluated. In addition, the operations along the roadway segments are determined by using the County's volume to capacity ratio and the Highway Capacity Manual (HCM) peak-hour arterial and two-lane highway analysis.

<u>Signalized and Unsignalized Intersections HCM Methodology</u>

The 2000 *HCM* published by the Transportation Research Board establishes procedures to evaluate highway facilities and rate their ability to process traffic volumes. The terminology "level of service" is used to provide a qualitative evaluation based on certain quantitative calculations, which are related to empirical values.

Level of service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time.

Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay. The LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. At an all-way stop controlled intersection, the delay reported is the average control delay of the intersection. At a one-way or two-way stop controlled intersection, the delay reported represents the worst movement, which are typically the left-turns from the minor street approach.

The criteria for the various levels of service designations are given in **Table 4-11**.

TABLE 4-11
LOS CRITERIA FOR INTERSECTIONS

LOS	CONTROL DELAY (sec/veh)		DESCRIPTION
	Signalized Intersection (a)	Unsignalized Intersection (b)	
A	<10.0	<10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and <20.0	>10.0 and <15.0	Operations with good progression but with some restricted movement.
C	>20.0 and <35.0	>15.0 and <25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and <55.0	>25.0 and <35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and <80.0	>35.0 and <50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that is unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Notes:
(a) 2000 Highway Capacity Manual, Chapter 16, Page 2, Exhibit 16-2
(b) 2000 Highway Capacity Manual, Chapter 17, Page 2, Exhibit 17-2

Roadway Segments

In order to determine the impacts on the study area roadway segments within the County of San Diego, **Table 4-12** has been developed by the County and is used as a reference to evaluate the operation of its roadway segments. The segment traffic volumes below LOS E, as shown in this table, are considered at capacity because at LOS E the volume-to-capacity Ratio (v/c Ratio) is equal to 1.0.

The roadway segment analysis was only conducted for a typical weekday. The Friday and Saturday roadway operation was not analyzed for the following reasons:

- The Gaming Facility project daily traffic generation is the same for the weekday as for the Friday or Saturday operations; and
- Average daily traffic volumes within the study area are higher on weekdays.

TABLE 4-12
LOS CRITERIA FOR ROADWAY SEGMENTS
WITHIN THE COUNTY OF SAN DIEGO

ROAD			LEVEL OF SERVICE (LOS)				
CLASSIFICATION	LANES	X-Section[(a)]	A	B	C	D	E
Expressway	6	126/146	36,000	54,000	70,000	86,000	108,000
Prime Arterial	6	102/122	22,200	37,000	44,600	50,000	57,000
Major Road	4	78/98	14,800	24,700	29,600	33,400	37,000
Collector	4	64/84	13,700	22,800	27,400	30,800	34,200
Town Collector	2	54/74	3,000	6,000	9,500	13,500	19,000
Light Collector	2	40/60	1,900	4,100	7,100	10,900	16,200
Rural Collector	2	40/84	1,900	4,100	7,100	10,900	16,200
Rural Light Collector	2	40/60	1,900	4,100	7,100	10,900	16,200
Recreational Highway	2	40/100	1,900	4,100	7,100	10,900	16,200
Rural Mountain Road	2	40/100	1,900	4,100	7,100	10,900	16,200
Residential Collector	2	40/60	--	--	4,500	--	--
Residential Road	2	36/56	--	--	1,500	--	--
Residential Cul de sac or Loop road	2	32/52	--	--	200	--	--

Notes:
The volumes and the average daily level of service listed above are only intended as a general planning guideline.
Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic
Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
(a) XXX/XXX=Curb-to-curb width (feet)/right-of-way width (feet): based on the County of San Diego Public Road Standards.

SOURCE: County of San Diego Public Road Standards, Table 1 (page 9)

HCM Peak-Hour Arterial Analysis

A peak-hour arterial analysis was conducted for segments of SR-94 between Via Mercado and Jefferson Road - Proctor Valley Road using the 2000 HCM Chapter 15 procedures since this segment functions as an urban arterial due to the number of signals along this corridor. Peak-hour arterial analysis estimates average travel speed

on the given facility based on the operations of controlling intersections. This type of analysis provides a more accurate representation of street segment LOS than Average Daily Trip (ADT)-based evaluation because it considers peak-hour volumes and incorporates the capacity benefits of intersection turn lanes. Based on its speed, SR-94 is classified as a Class I arterial facility. The criteria for the various level of service designation for Class I arterials is given in **Table 4-13**.

TABLE 4-13
LOS CRITERIA FOR URBAN ARTERIALS CLASS I FACILITIES

LOS	AVERAGE TRAVEL SPEED (mph) (a)	DESCRIPTION
A	>42.0	Free-flow operations, motorists can travel at desired speed and passing demand is well below capacity.
B	>34.0 and <42.0	Stable flow, with speeds generally higher than 50 miles per hour. The passing demand to maintain desired speeds becomes significant.
C	>27.0 and <34.0	Stable flow at slower speeds. Individuals become noticeably affected by interactions with others, and percent time-spent-following drastically increases.
D	>21.0 and <27.0	Unstable flow, with slower speeds and long platoons. Turning vehicles and roadside distractions cause major shock waves in the traffic stream.
E	>16.0 and <21.0	Operating conditions at or near capacity. Speeds are slow, and passing is virtually impossible. Platooning becomes intense.
F	< 16.0	Heavily congested flow.

Notes:
Based on the Caltrans Highway Design Manual, Table 406 "Traffic Flow Conditions at Intersections at Various Levels of Operation", page 400-23.
(a) = Intersecting Lane Vehicles/hour (ILV/hr)
(b) = The amount of congestion depends on how much the ILV/hr value exceeds 1500. Observed flow rates will normally not exceed 1500 ILV/hr, and the excess will be delayed in a queue.

HCM Peak-Hour Two-Lane Highway Analysis

For the two-lane segment of SR-94 where the intersections are not signalized, the 2000 Highway Capacity Manual "two-lane highway" methodology was used.

According to the Caltrans SR-94 operations report, the highway is categorized as a Class I facility.

Level of service for Class I highways is based on a combination of two parameters: percent time-spent following (PTSF) and average travel speed in miles/hour (MPH). The PTSF is the average percent of total travel time that vehicles must travel in platoons behind slower vehicles due to inability to pass on a two-lane highway. This parameter represents the freedom to maneuver and convenience of travel along a facility. The criteria for the various level of service designations for Class I two-lane highway facilities are given in **Table 4-14**.

The two-lane highway calculations were performed using the HCS+ software (Version 5.4).

TABLE 4-14
LOS CRITERIA FOR TWO-LANE HIGHWAY CLASS I FACILITIES

LOS	PERCENT SPENT FOLLOWING (PTSF) (a)	AVERAGE TRAVEL SPEED (MPH) (a)	DESCRIPTION
A	<35.0	>55.0	Free-flow operations, motorists can travel at desired speed and passing demand is well below capacity.
B	>35.0 and <50.0	>50.0 and <55.0	Stable flow, with speeds generally higher than 50 miles per hour. The passing demand to maintain desired speeds becomes significant.
C	>50.0 and <65.0	>45.0 and <50.0	Stable flow at slower speeds. Individuals become noticeably affected by interactions with others, and percent time-spent-following drastically increases.
D	>65.0 and <80.0	>40.0 and <45.0	Unstable flow, with slower speeds and long platoons. Turning vehicles and roadside distractions cause major shock waves in the traffic stream.
E	<80.0	<40.0	Operating conditions at or near capacity. Speeds are slow, and passing is virtually impossible. Platooning becomes intense.
F	N/A	N/A	Heavily congested flow.

Notes:
(a) 2000 Highway Capacity Manual, Chapter 12

4.8.1.5 Existing Conditions

Intersection Conditions

Table 4-15 displays the peak-hour LOS analysis results for the study intersections under Existing Conditions for the weekday conditions. **Table 4-16** displays the peak-hour LOS

TABLE 4-15
EXISTING WEEKDAY CONDITIONS
PEAK-HOUR INTERSECTION LOS

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	Signal	AM	17.8	B
			PM	17.9	B
2	SR-94 & Jamacha Blvd.	Signal	AM	15.3	B
			PM	29.6	C
3	SR-94 & Jamacha Rd.	Signal	AM	23.8	C
			PM	21.2	C
4	SR-94 & Cougar Canyon Rd.	Signal	AM	17.9	B
			PM	10.2	B
5	SR-94 & Steele Canyon Rd.	Signal	AM	28.8	C
			PM	24.7	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd	Two-Way Stop	AM	589.6	**F**
			PM	73.6	**F**
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	Signal	AM	10.9	B
			PM	10.1	B
8	SR-94 & Maxfield Rd.	One-Way Stop	AM	12.3	B
			PM	14.8	B
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	Two-Way Stop	AM	14.5	B
			PM	14.4	B
10	SR-94 & Reservation Rd.	One-Way Stop	Under this scenario, this intersection does not have conflicting movements.		
11	SR-94 & Honey Springs Rd.	One-Way Stop	AM	12.0	B
			PM	11.0	B
12	SR-94 & Otay Lakes Rd.	One-Way Stop	AM	11.2	B
			PM	12.3	B
13	Jamacha Blvd. & Sweetwater Springs Blvd.	Signal	AM	24.9	C
			PM	20.1	C
14	Willow Glen Dr. & Jamacha Rd.	Signal	AM	45.2	D
			PM	32.3	C
15	Steele Canyon Rd. & Willow Glen Dr.	Signal	AM	38.3	D
			PM	26.6	C
16	Steele Canyon Rd. & Jamul Dr.	Signal	AM	16.7	B
			PM	15.1	B
17	Lyons Valley Rd. & Jamul Dr.	One-Way Stop	AM	12.2	B
			PM	12.3	B
18	Jefferson Rd. & Lyons Valley Rd.	One-Way Stop	AM	10.5	B
			PM	11.0	B
19	Melody Rd. & Proctor Valley Rd.	One-Way Stop	AM	7.7	A
			PM	7.5	A

Notes:
Bold values indicate Caltrans intersections operating at LOS D, E or F and San Diego County intersections operating at LOS E or F.
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0

TABLE 4-16
EXISTING FRIDAY/SATURDAY CONDITIONS
PEAK-HOUR INTERSECTION LOS

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	Signal	FRI PM	17.3	B
			SAT PM	11.6	B
2	SR-94 & Jamacha Blvd.	Signal	FRI PM	32.9	C
			SAT PM	15.8	B
3	SR-94 & Jamacha Rd.	Signal	FRI PM	24.5	C
			SAT PM	21.0	C
4	SR-94 & Cougar Canyon Rd.	Signal	FRI PM	10.0	B
			SAT PM	13.5	B
5	SR-94 & Steele Canyon Rd.	Signal	FRI PM	27.3	C
			SAT PM	26.2	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd	Two-Way Stop	FRI PM	125.3	**F**
			SAT PM	40.7	**E**
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	Signal	FRI PM	15.9	B
			SAT PM	13.8	B
8	SR-94 & Maxfield Rd.	One-Way Stop	FRI PM	14.2	B
			SAT PM	11.6	B
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	Two-Way Stop	FRI PM	16.6	C
			SAT PM	12.9	B
10	SR-94 & Reservation Rd.	One-Way Stop	Under this scenario, this intersection does not have conflicting movements.		
11	SR-94 & Honey Springs Rd.	One-Way Stop	FRI PM	12.0	B
			SAT PM	10.5	B
12	SR-94 & Otay Lakes Rd.	One-Way Stop	FRI PM	12.6	B
			SAT PM	10.6	B
13	Jamacha Blvd. & Sweetwater Springs Blvd.	Signal	FRI PM	21.5	C
			SAT PM	15.1	B
14	Willow Glen Dr. & Jamacha Rd.	Signal	FRI PM	36.3	D
			SAT PM	32.6	C
15	Steele Canyon Rd. & Willow Glen Dr.	Signal	FRI PM	27.9	C
			SAT PM	21.6	C
16	Steele Canyon Rd. & Jamul Dr.	Signal	FRI PM	12.7	B
			SAT PM	12.9	B
17	Lyons Valley Rd. & Jamul Dr.	One-Way Stop	FRI PM	11.8	B
			SAT PM	10.3	B
18	Jefferson Rd. & Lyons Valley Rd.	One-Way Stop	FRI PM	10.5	B
			SAT PM	9.6	A
19	Melody Rd. & Proctor Valley Rd.	One-Way Stop	FRI PM	7.5	A
			SAT PM	7.6	A

Notes:
Bold values indicate Caltrans intersections operating at LOS D, E or F and San Diego County intersections operating at LOS E or F.
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0

analysis results for the typical Friday and Saturday conditions. As shown in the tables, all intersections currently operate at LOS D or better during all peak periods analyzed, except for the following intersection:

- SR-94 (Campo Road) and Indian Spring Road/Lyons Valley Road (LOS F– weekday morning and afternoon peak-hour, Friday afternoon peak-hour, LOS E Saturday afternoon peak-hour)

SR-94 (Campo Road) and Lyons Valley Road intersection is currently a two-way stop controlled intersection. During the peak-hour operations, considerable delay is experienced by vehicles entering the intersection from Lyons Valley Road as the through traffic along SR-94 (Campo Road) does not provide sufficient vehicle gaps needed to enter the intersection.

Roadway Segment Conditions

Table 4-17 displays the roadway segments analysis under Existing Conditions for a typical weekday. As shown in the table, all roadway segments within the study area currently function at LOS D or better, except for the following roadway segment:

- Steele Canyon Road between Jamul Drive and Willow Glen Drive (LOS E)

TABLE 4-17
EXISTING ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
Sweetwater Springs Blvd.					
between Jamacha Blvd. and Austin Dr.	4 Lane Major Road	37,000	15,483	0.418	B
Jamacha Blvd.					
between SR 94 and Sweetwater Springs Blvd.	4 Lane Major Road	37,000	16,683	0.451	B
Jamacha Rd. (SR 54)					
between SR 94 and Fury Ln.	6 Lane Prime Arterial	57,000	41,605	0.730	C
between Willow Glen Dr. and Brabham St.	6 Lane Prime Arterial	57,000	23,521	0.413	B
Steele Canyon Rd.					
between SR 94 and Jamul Dr.	2 Lane Light Collector	16,200	6,379	0.394	C
between Jamul Dr. and Willow Glen Dr.	2 Lane Light Collector with Continuous Turn Lane	19,000	14,028	0.738	**E**

TABLE 4-17 cont.
EXISTING ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
Jamul Dr.					
between Steele Canyon Rd. and Lyons Valley Rd.	2 Lane Light Collector	16,200	2,433	0.150	B
Willow Glen Dr.					
between Jamacha Rd. and Steele Canyon Rd.	4 Lane Major Road	37,000	19,986	0.540	B
between Steele Canyon Rd. and Hillsdale Rd.	2 Lane Light Collector with Continuous Turn Lane	19,000	12,237	0.644	D
Lyons Valley Rd.					
between SR 94 and Jefferson Rd.	2 Lane Light Collector	16,200	5,522	0.341	C
between Jefferson Rd. and Jamul Dr.	2 Lane Light Collector	16,200	7,008	0.433	C
between Jamul Dr. and Myrtle St.	2 Lane Light Collector	16,200	8,493	0.524	D
Jefferson Rd.					
between SR 94 and Lyons Valley Rd.	2 Lane Light Collector	16,200	2,685	0.166	B
Melody Rd. (b)					
between SR 94 and Proctor Valley Rd.	2 Lane Light Collector	16,200	1,374	0.085	A
Proctor Valley Rd.					
between Melody Rd. and Pioneer Wy.	2 Lane Light Collector	16,200	1,630	0.101	A
Honey Springs Rd.					
between SR 94 and Mother Grundy Truck Trail	2 Lane Light Collector	16,200	1,579	0.097	A
Otay Lakes Rd.					
between SR 94 and Otay Mountain Truck Trail	2 Lane Light Collector	16,200	2,582	0.159	B

Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(b) Under the alternative Access from Melody Road, this roadway segment from the new access road to Proctor Valley Road would have a similar LOS.
Source: Kimley-Horn and Associates, 2012.

Peak-Hour Arterial Conditions

Table 4-18 displays the peak-hour arterial analysis along SR-94 between Via Mercado and Jefferson Road/Proctor Valley Road under Existing Conditions. The roadway segments currently function at LOS B or better.

TABLE 4-18
EXISTING PEAK-HOUR SR-94 ARTERIAL SEGMENT ANALYSIS
VIA MERCADO TO PROCTOR VALLEY ROAD

PEAK-HOUR CONDITION	DIRECTION	SPEED (a)	LOS (b)
Weekday - AM	EB	48.9	A
	WB	41.7	B
Weekday - PM	EB	45.4	A
	WB	42.3	B
Friday PM	EB	43.9	A
	WB	42.4	A
Saturday PM	EB	45.2	A
	WB	42.2	A

Notes:
(a) Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).
(b) The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.
Source: Kimley-Horn and Associates, 2014

Peak-Hour Two-Lane Highway Conditions

Table 4-19 displays the peak-hour two-lane highway analysis along SR-94 (Campo Road) between Jefferson Road/Proctor Valley Road and Otay Lakes Road under Existing Conditions. The table shows the results of the weekday conditions and Friday and Saturday afternoon peak-hour conditions. As shown in the table, all roadway segments within the study area currently function at LOS D.

TABLE 4-19
EXISTING SR-94
TWO-WAY TWO-LANE HIGHWAY SEGMENT ANALYSIS

HIGHWAY SEGMENT	PEAK HOUR	EXISTING		
		LOS (a)	Average Travel Speed (mph)	PTSF (b)
Proctor Valley Road to Melody Rd	Weekday AM	**D**	40.5	64.9%
	Weekday PM	**D**	40.5	64.8%
	Friday PM	**D**	40.2	68.7%
	Saturday PM	**D**	41.0	62.7%
Melody Rd to Otay Lakes Rd	Weekday AM	**D**	44.4	63.4%
	Weekday PM	**D**	44.4	63.5%
	Friday PM	**D**	44.0	66.0%
	Saturday PM	**D**	45.0	61.1%

Notes:
Bold values indicate intersections operating at LOS D, E or F.
(a) LOS is based on Average Travel Speed and Percent-time-spend-following per Chapter 12 of the 2000 Highway Capacity Manual.
(b) PTSF = Percent time-spent-following
SOURCE: Kimley-Horn and Associates, 2014

4.8.2 LAND USE

4.8.2.1 Regional Setting

The Gaming Facility project site is located in the southwestern portion of San Diego County, which is the southwestern most county in California. San Diego County is the second largest county by area in the state at 4,425 square miles, and is home to approximately 3.05 million people and contains 1.14 million housing units within the incorporated and unincorporated areas. The County extends from the Mexican border in the south, to Orange/Riverside Counties on the north, and Imperial County on the east.

The Pacific Ocean forms the western boundary of the County. The population in San Diego County, which grew 10 percent from 2000 to 2010, accounts for approximately 8.26 percent of California's 37 million population.

The County consists of eighteen incorporated cities and numerous unincorporated communities. The metropolitan area of the City of San Diego is the largest in the County, followed by Chula Vista, Oceanside and Escondido, respectively. Approximately fifty-five percent of County lands are held in the public trust as national

forests and state, county or local parks. Jamul is an unincorporated community within San Diego County measuring approximately 16.8 square miles. There are eighteen federally recognized Native American reservations within the County, covering 125,000 acres (County of San Diego, 2011). The Jamul Reservation, measuring approximately 6 acres in size, is the only Indian reservation within the unincorporated Jamul Community.

4.8.2.2 Jamul/Dulzura Subregion Setting

The Jamul/Dulzura Subregion of San Diego County encompasses approximately 168 square miles extending southward to the U.S./Mexico border (**Figure 4-11**). Land within the Jamul/Dulzura Subregion is characterized by rolling hills with flat, broad valleys. The Subregion is home to approximately 10,159 people and 3,231 housing units. As of January 2012 the Jamul/Dulzura Subregion was home to approximately 9,542 people and 3,305 housing units (SANDAG, 2012). There are several unincorporated communities within the Jamul/Dulzura Subregion including Jamul, Steel Canyon, Dulzura and Barrett Junction. The Jamul Community, located in the northwestern portion of the Jamul/Dulzura Subregion, is the largest of these communities and houses a majority of the Subregion's population. State Route 94, which traverses the Subregion in a northwest to southeast direction, provides regional access to the area.

The northwest section of this Subregion has recently felt residential growth pressures according to the San Diego County Jamul/Dulzura Sub regional Plan adopted in August 2011 (San Diego County, 2011). As of January 1, 2010, there were 3,231 housing units divided between single-family (3,010 units), multi-family units (125 units), and mobile/other homes (96 units) within the Jamul/Dulzura Sub regional planning area. Commercial development, consisting primarily of strip commercial, is generally confined to two nodes in the Jamul Community. Agricultural uses occur in small, scattered areas and include dry land farming, grazing, and some row crops.

4.8.2.3 Jamul Community Setting

The unincorporated Jamul Community (census designated place) covers a land area of 17 square miles and, as of 2010, was home to 6,163 people. The population growth from 2000 to 2010 equaled a 4% growth rate, while the State of California experienced a 10% growth rate during the same period. As of 2010, the Jamul community contained 1,974 housing units with a median value of $706,000 (U.S. Census, 2012). The U.S. Census estimates that Jamul Community has a population density of approximately 3.04 people per household (Caltrans 2014).

Within the vicinity of the proposed access road, existing land uses consist primarily of rural residences and open space. The natural terrain consists of sparsely vegetated rocky hillsides with open tree-lined drainages, and is interrupted by vegetated residential

lots. The San Diego Rural Fire Protection District (SDRFD) has recently opened a new fire station on Peaceful Valley Ranch Road. A SDRFD station that was formerly located on the 4-acre triangular parcel owned by the JIV (located immediately north of JIV), has been removed and only the concrete pads remain. The triangular parcel is currently vacant, with building slabs, pavement, and a paved driveway that serves JIV (Caltrans, 2014).

To the south of the proposed access road and southwest of SR-94 is the Rancho Jamul Ecological Reserve, (approximately 4,800 acres), which were transferred to the CDFW for preservation purposes and serves as a Core area for the MSCP. To the northeast of the Ecological Reserve is the Hollenbeck Canyon Wildlife Area. Both the Ecological Reserve and the Wildlife Area are owned by the State of California and managed by CDFW for conservation purposes. Rancho Jamul Estates, a low-density residential development, is located approximately 0.7 miles southeast of Reservation Road. Rural residences are located in the hilly terrain in the vicinity. Residential lots are large, ranging from just under one acre to over ten acres (Caltrans, 2014).

Northeast of JIV across SR-94 is the Peaceful Valley Ranch subdivision, which was approved by the County Board of Supervisors in 2008. SR-94 forms the western boundary of Peaceful Valley Ranch, while Melody Road forms a portion of the northern boundary. A portion of Daley Ranch forms the southern boundary and a mixture of private properties form the eastern boundary. The major subdivision approval of 181+/- acres created 57 estate residential, equestrian, open space, and public fire service lots within the Jamul-Dulzura Sub regional Plan. The County General Plan re-designations and rezone allowed for increased residential densities on the residential portion of the land, while also allowing for a Major Use Special Permit for spectator events at a private equestrian/polo training facility. Primary access to Peaceful Valley Ranch is via SR-94 and Peaceful Valley Ranch Road, which is located across from Melody Road (Caltrans, 2014).

The trend of land use development/growth over the last two decades within the Jamul Community has been characterized by residential development and associated commercial growth. San Diego County estimated in 1995 that the Jamul/Dulzura Subregion planning area had a population of 5,000 people. This estimate was at 9,915 people in 2008 and 10,159 in 2009. The San Diego County estimates the buildout potential of the Jamul/Dulzura Subregion to be at approximately 16,000 (Caltrans, 2014).

Partly as a result of this growth, the County has increased efforts to preserve habitat for endangered species and other natural resources. The Land Use Map for the Jamul/Dulzura planning area issued by the County in 2008 showed a shift in land use designations in the region east of the Gaming Facility project site from General Agriculture and Multiple Rural Use to Open Space and Rural Lands. Population growth

is expected to center primarily in the Jamul Community, west and north of the proposed access road improvements. The County adopted the revised Jamul/Dulzura land use plan in August 2011 (Caltrans, 2014).

4.8.2.4 JIV Reservation Setting

The existing Jamul Reservation is located on approximately 6 acres of JIV trust land in the Jamul/Dulzura Subregion approximately 1-mile south of the unincorporated community of Jamul. Regional access to the Reservation is provided off SR-94. The Reservation is currently being excavated to make room for the Gaming Facility. The western portion of the Reservation contains a community center and tribal office, which will remain following Gaming Facility construction. Willow Creek transects the property in a north-south direction and has light stream flow much of the year. Primary access to the Reservation is from Daisy Drive on the adjacent 4-acre triangular parcel. Reservation Road has been out of operation for several years.

4.8.2.5 Access Road Options Setting

The majority of the roadway improvements for Options 1 (Improve Reservation Road) and 2 (Improve Daisy Drive) are located within pre-existing highway ROW owned by Caltrans. SR-94 is a two-lane undivided highway within this stretch of roadway; the typical cross-section consists of two 12-foot travel lanes, in the north and southbound directions, and two 8-foot shoulders. The roadway is lined with fence posts and utility poles, a number of private driveways, as well as intersecting county roads, including Melody Road. It is expected that a certain portion of work would be on strips of parcels bordering the existing Highway ROW, which is under private ownership.

The Option 1 and 2 improvements would occur primarily on vacant land adjacent to existing SR-94 pavement (inside and outside the existing ROW), as well as vacant privately owned land located on the 4-acre parcel north of Reservation Road. An existing access drive (Daisy Drive) and remnants of the old fire station driveway are located on the adjacent 4-acre parcel north of the Reservation. Under Option 3, an entirely new roadway from Melody Road to the Reservation would be constructed on land consisting primarily of annual grasslands and riparian/oak woodland.

The segment of SR-94 that makes up the footprint for the three options borders parcels in San Diego County identified by the General Plan for agricultural and low density rural residential uses. Much of the surrounding land is currently used for agricultural purposes, open space, rural residential uses, or is vacant.

Land affected by the new roadway proposed west of SR-94 under Option 3 would travel through land regulated under the MSCP. Within the access Option 3 alignment exists a

Hardline Preserve area, a Pre-Approved Mitigation Area, and a Take-Authorized Area, as defined by the MSCP.

4.8.2.6 Guidance Documents

Land use on the Reservation is regulated and guided by the JIV Council, the governing body of the JIV Government. Adjacent land uses are regulated by either Caltrans (SR-94), CDFW (Rancho Jamul Ecological Reserve to the south) or San Diego County. Land use development on adjacent County land is guided by the recently updated and adopted County General Plan and Jamul/Dulzura Subregional Plan, which were both updated and adopted in August 2011. The various land use plans and programs guiding off-reservation land uses are summarized below:

San Diego County General Plan Update

The County Board of Supervisors voted on August 3, 2011 to approve the County General Plan Update, which represents the first large scale update of the General Plan in approximately 30 years. The General Plan Update directs future growth in the unincorporated areas of the County with a projected capacity to accommodate more than 232,300 homes (County of San Diego, 2011a). The recently adopted document reduces housing capacity by 15 percent and shifts 20 percent of future growth from the eastern backcountry areas to the western communities. The elements of the General Plan Update include the following:

- Vision and Guiding Principles,
- Land Use Element,
- Mobility Element,
- Conservation and Open Space Element,
- Housing Element,
- Safety
- Noise Element, and
- Implementation

The Land Use element designates the general location and intensity of housing, business, industry, open space, education, public buildings and grounds, waste disposal facilities and other land uses. This element of the General Plan Update states that

Community Plans, such as the Jamul/Dulzura Subregional Plan (at times referred to as a "Community" Plan), define goals and policies to provide more precise guidance regarding the character, land uses, and densities. Given that goals and policies of the Jamul/Dulzura Subregional Plan provide more precise guidance than the General Plan, the discussion of Land Use goals and objectives will be provided below within the Jamul/Dulzura discussion.

The "Other Land Use Designations" section of the County's Land Use Element states "(s)even additional land use designations are applied in the General Plan to recognize other existing land use types and jurisdictions." One of these categories is "Tribal Lands", which comprise about 125,000 acres, or 5%, of the unincorporated County on 18 federally recognized reservations or Indian Villages.

Jamul/Dulzura Subregional Plan

The Jamul/Dulzurra Subregional Plan was initially adopted in 1979 to guide development in the unincorporated areas of Jamul and other rural communities in the region, including Steel Canyon, Dulzurra, and Barrett Junction. The Subregional Plan was most recently amended in June 2014, and continues to have the goal of encouraging development in a manner as to retain the rural atmosphere of the community. The updated Jamul/Dulzura Subregional Plan contains six main sections and an appendix identifying Resource Conservation Areas. The main sections to the Subregional Plan address land use, mobility, recreation, conservation, scenic highway and plan implementation.

Land use designations in the Reservation vicinity include Semi-Rural Residential, Specific Plan Area, Open Space (Conservation) and Open Space (Recreation). The recently adopted Land Use Map for the Jamul/Dulzura planning area shows a shift in land use designations in the vicinity. Areas south of the Reservation, formerly designated General Agriculture, were converted to Open Space (conservation), consistent with the creation of the Rancho Jamul Ecological Reserve and the Hollenbeck Canyon Wildlife Area. Other area designations shifted slightly with areas of Multiple Rural Use converted to Semi-Rural Residential, and Residential areas were converted to Semi-rural Residential. The 4-acre parcel is designed Semi-Rural Residential (SR-2) and the 87-acre parcel is designed Specific Plan Area.

The Jamul/Dulzura goals include the following:

Land Use:

Goal: Development of the land in such a manner as to retain the rural densities and land uses of the community.

Goal: Agricultural land uses, which are compatible with limited water resources and established residential development.

Mobility:

Goal: Develop a transportation system that provides for safe, efficient travel throughout this rural community and preserves the beauty, quality, and rural character of the Jamul/Dulzura Subregional Planning area.

Goal: Automobile and non motorized modes of travel is accommodated within the planning area.

Goal: A local road system that is safe and efficient.

Recreation:

Goal: Support the establishment of improved recreational facilities in the Jamul/Dulzura Planning Area that will meet the distinctive needs of the community and enrich the lives of the residents.

Conservation:

Goal: Environmental resources in the Jamul/Dulzura area that are carefully managed to maintain them for future needs.

Scenic Highways:

Goal: The designation of a scenic highway system that provides attractive and scenic travel routes within the Jamul/Dulzura Subregional Area.

4.9 PUBLIC SERVICES

The Public Services discussion of the 2003 Final EIS addressed Water Supply (3.9.1), Wastewater Service (3.9.2), Solid Waste Service (3.9.3), Electricity, Natural Gas and Telecommunications (3.9.4), and Public Health and Safety (3.9.5). An update to each of these discussions, where needed, is presented below. Some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.9.1 WATER SUPPLY

Water in San Diego County comes primarily from imported sources; local surface water and groundwater resources are inadequate to supply the population. The water retailer nearest to the Reservation is the Otay Water District, which is a member agency of the San Diego County Water Authority (SDCWA), which is in turn a member agency of the Metropolitan Water District of Southern California (MWD). The MWD receives water from the Colorado River and from the Sacramento River Delta through the State Water Project. SDCWA recently agreed to a water transfer with Imperial Irrigation District for additional Colorado River water.

The Otay Water District service area encompasses 129 square miles, and serves the communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, and the Otay Mesa along the international border with Mexico. The Otay Water District currently obtains its water supply from SDWCA's Otay FCF (Flow Control Facility) No. 11 on Pipeline No. 4 of the Second San Diego Aqueduct. The water supply is conveyed by gravity from FCF No. 11 through 42 inch and 36-inch transmission pipelines to regulatory reservoirs. The water is pumped and stored through a series of pump stations and reservoirs until it reaches Jamul (located in the 1296 pressure zone/service area), where it is stored in 3 reservoirs with a combined capacity of 5.03 million gallons. This system delivers flow capacities of 260 to 860 gallons per minute (gpm).

The Otay Water District's Master Plan documents the District's effort to model and anticipate future water demands of its customers. The Master Plan takes into account current transfer and storage facilities, future demand due to build out, and future infrastructure build out. According to the current (2013) Master Plan, the existing emergency water reserves are sufficient to serve the 1296 pressure zone. The Master Plan requires that 10 days of potable water service be maintainable in the event that water supplies from pipeline No. 4 are shut off. The ultimate project water storage requirement for the 1296 pressure zone is 5.71 million gallons. The current capacity for total reservoir storage volume is 5.03 million gallons. This storage deficit can be met with transfer from the adjacent pressure zone 940, which has excess capacity. Furthermore, an additional 10.0-million gallon reservoir will be provided to the 1296 pressure zone by 2016 (during Phase implementation of the District's Master Plan).

Current pumping stations in the 1296 pressure zone are also adequate to meet the pump and pressure requirements for the ultimate buildout of this service area (the town of Jamul and the Reservation). The Otay Water District sums up its capacity in this quote from the Master Plan: "The projected ultimate maximum day demand for the pressure zones to be served by the 1296-1 PS [pump station] totals 3,017 gpm and it is

planned that this demand will be met by expansion of the existing 1296-1 PS. The firm pumping capacity of the existing 1296-1 PS is 3,300 gpm and is adequate to meet the ultimate needs for this area." (p. 4-74, Otay Water District 2013).

Note that the Master Plan's ultimate storage requirements and pumping requirements were designed for the residential build-out of Village 14 and Village 16 assuming that 960 dwelling units would have been constructed and would be utilizing District services. In reality, Village 14 and 16 are large tracts of land near the Reservation that have been purchased by the California Department of Fish and Game and deed-restricted as wildlife preserves. Therefore, the projected ultimate consumption values are conservative due to the planned usages being decreased by open-space designations.

The Otay Water District distributes high quality water that meets or exceed federal and state requirements for safe drinking water (Otay Water District, 2011a). No additional treatment is recommended for distribution of this water to the various project facilities. Water quality information on Otay's drinking water is available from annual Consumer Confidence Reports published by the Otay Water District (Otay Water District, 2011a).

The Otay Water District currently maintains 2 water mains in the area of the Reservation: 12-inch water main in Melody Road and a 16-inch water main under SR-94. Currently, the Reservation receives water through a 12-inch diameter main from the 16-inch main under SR-94. The Jamul Gaming Facility Project would tap into the existing 12-inch main under Reservation Road with a 6-inch PVC domestic potable water line with a meter and backflow prevention device. The existing 12-inch diameter main would be converted to use for fire suppression.

4.9.2 WASTEWATER SERVICE

The Reservation is not within a wastewater treatment service district, and no treatment facilities currently exist on the Gaming Facility site. The Otay sewage treatment area ends approximately 1/2 mile east of the junction of SR-94 and Jamacha Rd (Route 54) or approximately two miles west of the Reservation on Melody Road (Ripperger, 2001; Coburn-Boyd, 2011). According to the San Diego County Public Works Department, they do not treat wastewater in the Jamul area. Residences in the town of Jamul are all on septic tanks (Ripperger, 2001; Coburn-Boyd, 2011). The 15 residential lots and the JIV office on the Reservation previously utilized septic systems. These abandoned appurtenances (tanks, distribution lines, leach fields, etc.) were removed prior to the start of construction on the Jamul Gaming Facility Project.

The Otay Water District operates the Ralph W. Chapman Water Recycling Facility in Rancho San Diego just south of SR-94 at the Steele Canyon Bridge (Otay Water District, 2011b). The District provides wastewater collection and treatment services to over

5,000 homes in the Jamacha Basin. The treatment facility produces up to 1.3 million gallons per day of tertiary-treated reclaimed water, which is distributed into the eastern Chula Vista area and used to irrigate landscapes in golf courses, schools, public parks, and along roadways (Coburn-Boyd, 2011; Otay Water District, 2011).

4.9.3 SOLID WASTE SERVICE

4.9.3.1 California Integrated Waste Management Act

The management of non-hazardous solid waste in San Diego County is mandated by state law and guided by policies at the state and local levels. In 1989, the State of California enacted AB 939, the California Integrated Waste Management Act, whose purpose is to: reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible; improve regulation of existing solid waste landfills; ensure that new solid waste landfills are environmentally sound; streamline permitting procedures for solid waste management facilities, and specify the responsibilities of local governments to develop and implement integrated waste management programs. AB 939 requires that all local jurisdictions, cities, and counties divert 50 percent of the total waste stream from landfill disposal. Each local jurisdiction must demonstrate compliance by instituting source reduction programs.

Local solid waste management practices and programs are summarized in the County of San Diego Integrated Waste Management Plan (CIWMP). The CIWMP consists of a Summary Plan and the following four elements: 1) a Source Reduction and Recycling Element, 2) a Household Hazardous Waste Element, 3) A Nondisposal Facility Element, and 4) a Countywide Siting Element (CSE). The County was required to prepare a CSE that demonstrates a remaining disposal capacity of at least 15 years to serve all the jurisdictions within the County.

The San Diego region diverted 55% of its solid waste in 2006 (the most recent reporting year). Unincorporated San Diego County, which includes Jamul, diverted 54% of its solid waste in 2006. Both of these diversion rates are above the mandatory 50% diversion rate required by AB 939 (California Integrated Waste Management Board, 2011).

4.9.3.2 Local Solid Waste Collection and Disposal

Waste Management, Inc. provides solid waste collection in the Jamul area. Weekly residential and commercial trash pick-up service is provided, and the collected waste is hauled to the Otay landfill and the Sycamore landfill. The Jones Disposal Company (a subsidiary of Waste Management, Inc.) currently provides solid waste service to the Reservation. The Reservation's solid waste is currently shipped to a transfer station in El Cajon, where recyclable materials are removed, and the remaining waste is sent to the

Otay Landfill or the Sycamore Sanitary Landfill . These Class III landfills are owned and operated by Universal Refuse Removal (a subsidiary of Waste Management, Inc.) (Allverez, 2011).

The transfer station is located in the City of El Cajon, and can handle a throughput of 2,000 tons of solid waste per day. The transfer station currently receives about 1,500 tons of solid waste per day (San Diego County, 2008). The Otay Landfill, located in the City of Chula Vista, began operations in 1963 and was last expanded in 2001 to increase capacity of solid waste received from 3,800 to 5,830 tons per day. The approximate life expectancy of the Otay Landfill would be 2021, when it is expected to reach capacity. The Sycamore Sanitary Landfill, located in the City of San Diego, has a permitted maximum capacity of 3,965 tons per day. The approximate life expectancy of the Sycamore Sanitary Landfill would be 2031, when it is expected to reach capacity (CIWMB, 2002a; CalRecycle, 2011a,b).

4.9.4 ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATION

Electricity is supplied by the San Diego Gas and Electric Company (SDG&E). SDG&E serves the Jamul area through one circuit via 12 kilovolt above ground power lines along SR-94. This circuit at the Reservation is rated to carry approximately 10 megawatts.

There is no natural gas service to the Reservation or the surrounding area. The nearest gas line is approximately six miles northwest of the Reservation (Spiedel, 2011). Residences in the Jamul region have individual propane storage tanks, serviced by private propane distribution companies.

AT&T provides all basic telecommunications services to the Jamul area. AT&T currently has above ground phone lines along SR-94, which provides service to the homes in the area. Cox communications provides cable TV to the Jamul area.

4.9.5 PUBLIC HEALTH AND SAFETY

The San Diego County Sheriff's Department is the chief law enforcement agency in the County. The Sheriff’s Department is comprised of approximately 4,000 employees, both sworn officers and professional support staff. The Sheriff’s Department provides general law enforcement and jail functions in a service area of approximately 4,200 square miles. In addition, the Sheriff’s Department provides specialized regional services to the entire County, whether they are needed in incorporated cities within the County or in the unincorporated areas not serviced by a city law enforcement agency (San Diego County Sheriff's Department 2011).

The Law Enforcement Services Bureau of the Sheriff's Department employs 1,317 personnel (Barletta 2011), of which 782 are deputy sheriffs. The Bureau handles law enforcement services in both the unincorporated area of the County and the nine cities that contract for law enforcement services with the Department. Barletta (2011) estimated that the population directly served by the Sheriff's Department in 2011 was approximately 889,900 people; therefore, the Department provides 1 deputy for every 1,137 people. The deputy sheriffs are assigned to patrol, traffic, detective and other necessary support functions.

The San Diego County Sheriff's Department provides general public safety and law enforcement service for the area of the Reservation. The services would be provided from the Lemon Grove Station, with jurisdiction over the Lemon Grove Command Area. That station provides service to a portion of the unincorporated area (115,000 people) and as well as to the City of Lemon Grove (25,000 people). The Jamul/Dulzura communities contain approximately 168 square miles and have a combined population of 10,159 citizens. The Jamul area currently consists of nine beat areas and is patrolled twenty-four hours a day by a one-person patrol unit from the Lemon Grove Station. The southern portion of the town of Jamul is designated Beat # 631 and the Reservation is designated a separate beat—Beat #635 (Porath, 2011). The average response time to calls within Beat 631 during fiscal year 2010/2011 was 17.4 minutes for priority calls and 66.7 minutes for non-priority calls. The statistics for Beat #635 are almost identical (Porath, 2011).

The California Highway Patrol is the chief law enforcement agency for traffic related issues on public highways and roads leading up to the Reservation area. The station that services the Jamul area is located in the City of El Cajon. The El Cajon Station serves an extensive region of San Diego County from the border of the incorporated areas of the City of San Diego, El Cajon, Santee and Poway east to the northeastern, eastern, and southern borders of the County. Approximately 93 officers serve this area; 11 of these officers are on special duty, and 17 officers are in resident post in remote locations of the County including Julian, Ramona, Borrego Springs, and Jacumba. This leaves approximately 65 officers over three shifts to patrol this area. Actual staffing is more accurately placed at 55-60 officers once officers on sick or injury leave are counted (Hagler 2003; Salacup 2011).

California is a Public Law 280 State that allows for state criminal law enforcement jurisdiction within the Reservation; however, this jurisdiction does not include regulatory civil law authority. Depending on the crime (pursuant to Public Law 280), U.S. Marshals may provide support in specified situations.

The California Department of Forestry and Fire Protection (CDF), under contract to the BIA, provides wildland fire protection and responds to all wildfires. The nearest CDF stations to the Reservation are located in Jamul, Dulzura, and El Cajon. Some of these stations are only staffed during what is known as the "fire season"—the months from May to October (Harris 2011). The staff provided at the CDF stations is set by the State of California.

The San Diego Rural Fire Protection District covers 720 square miles in the southeastern portion of San Diego County. The District consists of 14 stations that protect primarily residential areas, and responds to calls for fire and medical emergencies. The majority of responses are for medical emergencies. The fire stations consist of both paid and volunteer staff. The closest station to the Reservation is the Jamul Station, located on Highway 94 east of the Reservation. The Reservation currently receives fire protection from both the California Department of Forestry and the San Diego Rural Fire Protection District. The San Diego Rural Fire Protection District station typically provides first response to any fire within the Reservation. The new Jamul Fire Station allows for very quick emergency response times ranging from one to five minutes (Bowers, 2002; Harris, 2011).

Several hospitals within San Diego County provide medical services. The hospital nearest to the Reservation that would provide standard medical aid is Grossmont Hospital. The nearest hospitals to the site that would provide trauma care are: 1) Scripps Mercy Hospital, 2) UC San Diego Medical Center, and 3) Sharp Memorial Hospital (Chavez, 2011). People requiring emergency medical attention would have the option to be transported to any of these hospitals within the confines of San Diego County's triage system, in which patients are directed to the most appropriate facility based on illness or injury. The ambulance service provided in the area of the Reservation is a joint venture between the San Diego Rural Fire Protection District and American Medical Response; Mercy Air provides emergency air transportation (Bowers 2002; Harris 2011).

4.10 OTHER VALUES

The Other Values discussion of the 2003 Final EIS addressed Noise (3.10.1), Hazardous Materials (3.10.2), and Visual Resources (3.10.3). An update to each of these discussions, where needed, is presented below. It may be that some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

4.10.1 NOISE

4.10.1.1 Definition of Terms

Noise is generally defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease. The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called “A-weighting” is used to filter noise frequencies that are not audible to the human ear. The A-scale approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. In this report, all noise levels are A-weighted and “dBA” is understood to identify the A-weighted decibel.

Average noise levels over a period of minutes or hours are usually expressed as dBA Leq, or the equivalent noise level for that period. The period of time average may be specified; Leq(8) would be a 8-hour average; when no period is specified, a 1-hour average is assumed.

The Community Noise Equivalent Level (CNEL) is the 24 hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections require an addition of 5 decibels to sound levels in the evening hours between 7 p.m. and 10 p.m. and an addition of 10 decibels to sound levels at nighttime hours between 10 p.m. and 7 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound appears louder.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease; that a change of 5 dBA is readily perceptible; and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2009). **Table 4-20** provides examples of common activities and the sound levels associated with those activities.

TABLE 4-20
TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (dBA)	COMMON INDOOR ACIVITIES
	110	Rock Band
Jet Fly-over at 300 m (1,000 ft)	100	
Gas Lawn Mower at 1 m (3 ft)	90	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	80	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	60	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	50	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

SOURCE: Caltrans, 2009

From the source to the receiver, noise changes both in level and frequency spectrum. The most obvious change is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on the following important factors: ground absorption, atmospheric effects and refraction, shielding by natural and man-made features, noise barriers, diffraction and reflection. For a point noise source, such as construction equipment, the attenuation or drop-off in noise level would be 6 to 7.5 dBA for each doubling of unobstructed distance between the source and the receiver. For a line noise source, such as vehicles traveling on a roadway, the attenuation or drop-off in noise level would be approximately 3 to 4.5 dBA for each doubling of unobstructed distance between the source and the receiver.

A large object in the path between a noise source and a receiver can significantly attenuate noise levels at that receiver. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense vegetation, as well as man-made features, such as buildings and walls, can significantly alter noise levels. Walls or berms are often specifically used to reduce, or attenuate, noise.

4.10.1.2 Gaming Facility Project Area

The Gaming Facility project site is currently under construction. A portion of the Reservation west of the Gaming Facility project site is occupied by a church and cemetery. The vicinity of the Reservation is developed mostly with residential, agricultural, and open space land uses. The Gaming Facility project site is bordered on the south and west by undeveloped land and on the east by SR-94. North of the Gaming Facility project site is partially developed and the remainder of the area is undeveloped.

Land surrounding the Gaming Facility project site is zoned A72 (Agriculture) and S88 (Specific Plan), which both allow for residential uses. The corresponding exterior noise level limits specified by the noise ordinance in **Table 4-21** are 50 dBA L_{eq} from 7 a.m. to 10 p.m., and 45 dBA L_{eq} from 10 p.m. to 7 a.m.

4.10.1.3 Sensitive Noise Receptors

Noise sensitive receptors are generally considered humans engaged in activities, or utilizing land uses, that may be subject to the stress of significant interference from noise. Activities usually associated with sensitive receptors include, but are not limited to, talking, reading, and sleeping. Land uses often associated with sensitive receptors include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, education facilities, and libraries.

TABLE 4-21
SOUND LEVEL LIMITS

COUNTY ZONE	APPLICABLE HOURS	SOUND LEVEL LIMIT Db (1HR)
R-S, R-D, R-R, R-MH, A-70, A-72, S- 80, S-81, S-87, S-90, S-92, and R-V and R-U with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45
R-RO, R-C, R-M, S-86, V5, and R-V and R-U with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50
S-94, V4 and all other commercial zones.	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55
V1, V2	7 a.m. to 10 p.m.	60
V1, V2	7 p.m. to 10 p.m.	55
V1	10 p.m. to 7 a.m.	55
V2	10 p.m. to 7 a.m.	50
V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
M-50, M-52, and M-54	Anytime	70
S-82, M-56 and M-58	Anytime	75
S-88 (see subsection (c) below)		

(a) If the measured ambient level exceeds the applicable limit noted above, the allowable 1-hour average sound level shall be the ambient noise level, plus 3 decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating

(b) The sound level limit at a location on a boundary between two (2) zoning districts is the arithmetic mean of the respective limits for the two zones; provided, however, that the 1-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone where the extractive industry is actually located.

(c) S88 zones are Specific Planning Areas which allow for different uses. The sound level limits in Table 36.404 above that apply in an S88 zone depend on the use being made of the property. The limits in Table 36.404, subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

(d) A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section, measured at or beyond 6 feet from the boundary of the easement upon which the facility is located.

SOURCE: County of San Diego Noise Ordinance, Section 36.404 (County of San Diego 2009); L_{dn} 2011

Existing noise sensitive human receptors in the Reservation vicinity would include the existing fire station and the residential land uses located to the north and east of the Reservation. The fire station is included as it is used similarly to a residence with sleeping and outdoor recreation activities. The nearest potential noise sensitive receptor is the fire station located east of SR-94 approximately 440 feet north of the Reservation. The nearest existing residential land uses are located north and east of the Gaming Facility project site approximately 1,400 feet.

4.10.1.4 Existing Noise Levels

Existing noise level measurements were conducted between the hours of 3:15 p.m. and 4:30 p.m. on September 29, 2010. Noise measurements were taken with a Larson Davis Model 820, Type 1 sound level meter set on “slow” response and “A-weighting.” The meter was positioned 5 feet above the existing ground elevation at all measurement locations. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200.

Noise locations are shown on **Figure 4-12**. Locations 2, 3, 4, and 5 are located in close proximity to the nearest noise sensitive receptors to the Gaming Facility project site. Location 1 is located at a similar location as the nearest point of the Reservation to SR-94 and is representative of the existing on-site noise conditions. The background noise level ranges are based on L_{90} measurements for each location. L_{90} measurements represent the noise level value that is exceeded at least 90 percent of the time during the course of measurement. A summary of the noise measurements taken at the seven locations is provided in **Table 4-22**.

TABLE 4-22
NOISE MEASUREMENTS

SITE ID[1]	LOCATION	DATE TIME	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)	L_{90} (dBA)	NOISE SOURCES
1	North of Gaming Facility project site, 50 feet west of SR-94	3:19 PM	66.2	83.4	39.6	52.1	Traffic on SR-94, activity at fire station, aircraft
2	East of Gaming Facility project site, 75 feet from edge of SR-94	4:23 PM	62.4	75.6	40.7	47	Traffic on SR-94, aircraft
3	North of Melody Rd., 110 feet east of SR-94	3:30 PM	61.7	70.3	37.7	51	Traffic on SR-94, aircraft
4	50 feet North of Melody Rd., west of SR-94	3:05 PM	56.6	71	37.3	45.2	Traffic on SR-94 and Melody Rd., aircraft
5	North of Las Palmas Rd., 220 feet east of SR-94	4:00 PM	59.8	73.2	41.8	48	Traffic on SR-94, aircraft

1/ The Site ID corresponds to locations shown in **Figure 4-12**
SOURCE: Ldn Consulting, 2011

As the table shows, the primary existing noise source near the Gaming Facility project site is vehicular traffic on SR-94. Thus, the highest noise levels occur in close proximity to SR-94. Additional existing background noise is associated with traffic on local roads and aircraft flying over the area. Based on the measurements at location 1 and 2, on-site background noise levels are estimated to range from 47 to 52 dBA L_{90}. Off-site background noise levels in the vicinity were measured between 45 dBA L_{90} and 51 dBA L_{90}.

4.10.2 HAZARDOUS MATERIALS

4.10.2.1 Current Conditions and Land Use

The construction of the Gaming Facility is currently taking place on the Reservation. In addition, the Reservation contains. a pre-fabricated building used for tribal administrative purposes and a recently-constructed community center. Previously, the Reservation had approximately 15 residences (pre-fabricated structures). Propane gas for cooking and heating was stored in above-ground storage tanks that have since been removed. Surrounding uses include: to the south, the Rancho Jamul Ecological Reserve and the Hollenbeck Canyon Wildlife Area, and private rangeland and large residential estates; to the north, the 4-acre parcel (former fire station), the 87-acre parcel (used as cattle pasture), and residential subdivisions and the town of Jamul; to the east, Highway 94, the new fire station, residential subdivisions (Peaceful Valley Ranch Estates), and hayfields; and to the west, cattle pasture and private estates. All fuel storage tanks associated with the old fire station have been removed under permit. The 10-acre parcel north of Melody Road has a defunct orchard and irrigation system, including 2 wells and a pump in a cistern.

4.10.2.2 Previous Environmental Site Assessments

The following environmental site assessments analyzed parcels that included the entirety of, or portions of, the Gaming Facility project area:

Level I Survey – 2002

A Level I Survey was conducted for the Jamul Gaming Facility Project development area in 2000 by ESA Inc. for Jamul Indian Village Environmental Assessment (BIA 2001), and updated by Analytical Environmental Services Inc. in 2002 for the Jamul Indian Village Environmental Impact Statement (BIA 2003). These previous assessment areas consisted of an adjacent 87-acre parcel (owned by Lakes Entertainment), 4-acre parcel (adjacent parcel owned by JIV), 10-acre parcel located at the northwest corner of SR-94 and Melody Road (owned by Lakes Entertainment), and JIV, which were all part of a previous fee-to-trust request made by JIV to the BIA. The surveys included a

contaminant survey checklist, field reconnaissance, and database queries by EDR, in accordance with the ASTM Standard Practice for Environmental Site Assessments E 1527-13 and the Bureau of Indian Affairs guidelines. Existing hazardous materials usage was reported as follows:

> "Minor quantities of household debris (consisting of paper refuse, glass bottles, aluminum cans, etc.) were observed to be scattered along the eastern edge of the project area (along Highway 94), at the northern end of the project area (along Melody Road), and around the southern end of the project area (along the un-named dirt road near the fire station, residential area and cemetery). Such trash is typical of vacant land located near major roadways. Discarded chemical products or drums were not observed on the subject Study Area. Each of the 15 residential structures [within JIV] has a five-hundred-gallon propane tank associated with it. (BIA 2003)"

The report concluded that no recognized environmental conditions existed at the site other than de minimis (i.e., insignificant) conditions such as roadside litter. No further investigation was recommended.

Level I Hazardous Materials Assessment – 2007

In 2007, a Level I hazardous materials assessment was conducted by Natural Investigations Co. (2007) of the current Reservation area and portions of adjacent parcels. The hazards/hazardous materials assessment consisted of a field reconnaissance, database queries, and impact analysis. The field survey detected no significant environmental conditions other than *de minimis* quantities of trash. Database searches produced no reported sites within the Reservation area or immediate vicinity, except licensed use of fuel storage tanks by the Jamul fire station and household propane usage.

Level I Hazardous Materials Assessment – 2009

A follow-up Level I hazardous materials assessment was conducted for the Jamul Gaming Facility Project by Natural Investigations Co. in 2009. This assessment included a database query and field reconnaissance to update previous assessments, and to survey areas that were not previously surveyed. Since the previous survey was completed, the homes and buildings on the Reservation have been removed, and the fire station on the 4-acre parcel was removed and relocated across SR-94, and roadway improvements were made on the Reservation and the 4-acre parcel.

Phase I Environmental Site Assessment for the Jamul Indian Village Gaming Project and Access Project – 2012

The Study Area consisted primarily of 3 parcels—the 87-acre parcel, the 4-acre parcel, and the 10-acre parcel, but also the Caltrans right-of-way corridor of SR-94 and associated driveways. It was Natural Investigations Company's opinion that there are no historic recognized environmental conditions and no current recognized environmental conditions in connection with the Study Area pursuant to the ASTM Practice E 1527-13. Records review, database searches, or interviews failed to identify any environmental conditions in connection with the Study Area other than *de minimis* disposal of solid waste onto the Study Area. No further site investigation was recommended. Two common hazards were noted: portions of the Study Area may be located within a 100-year or 500-year floodplain, and the Study Area contains dense, dry vegetation that may fuel wildfire, and the region is prone to wildfires.

Site reconnaissance of the Gaming Facility was conducted in 2010 and 2011. All accessible portions of the Study Area were observed by a pedestrian survey; adjoining properties were observed primarily by binocular or windshield (automobile) survey. Roads within the Access Option project area are unpaved gravel roads or are paved with asphalt or concrete, and show no suspicious staining. Minor quantities of household debris (consisting of paper refuse, glass bottles, aluminum cans, etc.) were observed to be scattered along the SR-94 right-of-way, in the stream corridor, and other parcels within the Access Option project area. Discarded chemical product containers or drums were not observed within the Access Option project area. No hazardous substances or petroleum product usage or storage were noted within the Access Option project area during the site reconnaissance, other than the former above-ground storage tank concrete pad associated with the former fire station on the 4-acre parcel. The former fire station used two fuel underground storage tanks (USTs) until 1986, then excavated the USTs and installed two aboveground storage tanks (ASTs). These ASTs were relocated when the fire station was relocated circa 2006-2007. No staining of the concrete pads or surrounding pavement was evident during the site reconnaissance. The fire station employed a septic system, and it is not known if the septic tanks were removed or left in place. No poly-chlorinated biphenyl (PCB)-containing equipment (electric or hydraulic) was observed during the site reconnaissance (Final TEE, Appendix 8).

Phase 1 Environmental Site Assessment for the Access Alternatives: State Route 94 Improvement Project – 2014 **(**Appendix 5**)**

The study area consisted of all access road options being considered by Caltrans. The focal properties of this assessment included portions of the 87-acre parcel, the 4-acre

parcel, and the 10-acre parcel—as well as the affected portions of the Caltrans right-of-way corridor of State Route 94 from 1/4-mile north of Melody Road to 1/2 mile south of the Reservation, Melody Road, and the frontage and driveways of other affected parcels. No environmental liens or value reductions were found in association with the study area. No indication of heavy industrial uses was detected from title review. The Property was not listed in any of the environmental databases queried. A review of physical setting sources and historical use information (topographic maps, aerial photography, fire insurance maps, city directories, and building permits) did not detect any indications of possible recognized environmental conditions within the Study Area. Site reconnaissance was performed on May 15, 2013; no indications of possible recognized environmental conditions were noted on the Property. On May 15, 2013, the environmental assessor met with Caltrans staff: no indications of possible recognized environmental conditions were uncovered.

4.10.2.3 Regulatory Setting

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include: Community Environmental Response Facilitation Act (CERFA) of 1992; CWA; CAA; Safe Drinking Water Act; Occupational Safety and Health Act (OSHA); Atomic Energy Act; Toxic Substances Control Act (TSCA); and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

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

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Federal Regulatory Requirements

> Resource Conservation and Recovery Act of 1976 [42 U.S.C. §6901 et seq.]. Regulation of the identification, generation, transportation, storage, treatment, and disposal of hazardous materials and hazardous wastes.

Comprehensive Environmental Response, Compensation and Liability Act of 1980. Regulation of former and newly discovered uncontrolled waste disposal and spill sites. Established the National Priorities List of contaminated sites, and the "Superfund" cleanup program.

Clean Water Act. Regulation of discharges and spills of pollutants, including hazardous materials, to surface waters and groundwater.

Safe Drinking Water Act. Regulation of discharges of pollutants to groundwater and aquifers.

Toxic Substances Control Act. Regulation of manufacturing, inventory, and disposition of industrial chemicals including hazardous materials.

Federal Insecticide, Fungicide & Rodenticide Act. Regulation of the manufacturing, distribution, sale, and use of pesticides.

Hazardous Materials Transportation Act. Regulation of the transport of hazardous materials by motor vehicles, marine vessels, and aircraft.

Emergency Planning & Community Right To Know Act [40 C.F.R. Parts 350 to 372]. Regulation of facilities that use hazardous materials in quantities that require reporting to emergency response officials.

Executive Order 12088, Federal Compliance with Pollution Control. Mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

State Regulatory Requirements

Porter-Cologne Water Quality Act. Regulates water quality through the State Water Resources Control Board and Regional Water Quality Control Boards, including oversight of water monitoring and contamination cleanup and abatement.

Hazardous Materials Release Response Plans and Inventory Law. Requires facilities using hazardous materials to prepare hazardous materials inventories and business plans.

Hazardous Waste Control Act. Similar to Resource Conservation and Recovery Act on the federal level in regulating the identification, generation, transportation, storage and disposal of materials deemed hazardous by the State of California.

Safe Drinking Water & Toxic Enforcement Act [Proposition 65]. Similar to the Safe Drinking Water Act and CWA on the federal level in regulating the discharge of contaminants to groundwater.

California Government Code §65962.5. Requires the Department of Toxic Substances Control to compile and maintain lists of potentially contaminated sites located throughout the State of California (includes the Hazardous Waste and Substances Sites List known as "Cortese").

4.10.3 VISUAL RESOURCES

4.10.3.1 Regional Context

The Reservation is located in southwestern San Diego County approximately 15 miles east of the center of the City of San Diego, and approximately one mile south of the community of Jamul. The Reservation lies on moderately steep slopes in the Jamul Mountains, which surround the site on all sides. SR-94 transects the region on its course between Interstate 5 in the City of San Diego, and Interstate 8 near the community of Manzanita in eastern San Diego County. SR-94 passes through a number of distinct viewsheds, separated from each other by the mountainous topography of the region.

4.10.3.2 Area Viewshed

The Reservation is located in a rural area of San Diego County at the southeastern edge of the unincorporated community of Jamul. Within the vicinity of the Reservation, SR-94 is a two-lane undivided highway lined with fence posts and utility posts. Natural terrain consists of sparsely vegetated rocky hillsides with tree-lined drainages, interrupted by vegetated rural residential lots. Due to rolling terrain and curves within the Reservation area, views along SR-94 range from distant views of hills with a mountainous backdrop to views with lines of sight obscured by hillsides and vegetation.

The visual character of the viewshed is mainly influenced by topography and surrounding land uses that shape local viewing corridors to and from the Reservation. The topography of the area generally ranges from approximately 870 feet to 960 feet above mean sea level. For the purpose of this analysis, the maximum current elevation is used to generalize the Reservation's range of visibility. The area slopes downward from the east and west towards the intermittent drainage that transects the Reservation. Surrounding land uses are largely rural and semi-rural in nature. Undeveloped lands immediately surround the Reservation site. Approximately one mile north of the Reservation is the town of Jamul. Land uses between the town center and the Reservation consist of scattered housing and small businesses. Peaceful Valley Ranch

is a 57 lot residential development located northeast of the Reservation, which was approved by the County in 2008. Rancho Jamul Estates, a low-density residential development, is located 0.7 miles southeast of Reservation Road.

The area viewshed is comprised of three viewing corridors, or *vistas.* Each of these vistas provides a line-of-sight that can be characterized uniquely from among the other vistas. **Vista A** is the line-of-sight corridor between the residences north and east of the Reservation and to the south of the Reservation. As such, it is classified a *residential vista*. **Vista B** is the line-of-sight between the Reservation and the portion of Melody Road north of the site, extending approximately 1,000 feet west and 1,000 feet east of SR-94. Vista B is classified as a *Melody Road commuter vista*. **Vista C** is a commuter vista that includes a portion of SR-94 and a portion of Peaceful Valley Ranch Road, just east of the site.

The portion of SR-94 within the Vista C is a segment approximately 2,000 feet long, beginning on its north end approximately 500 feet north of Melody Road and ending approximately 300 feet south of Peaceful Valley Road. The portion of Peaceful Valley Road within Vista C extends approximately 500 feet east of SR-94. No roads or residences occur within view south of the Reservation; therefore, nothing south of the Reservation is considered for analysis in this viewshed. Topography is the most influential characteristic of the regional viewshed, and its role in delineating the vistas introduced here is explained in detailed discussion of each vista, below.

Vista A – Residential Vista

Vista A is a residential vista, experienced by residents to the north and east of the Reservation. The view from the residences is generally framed by near and distant topography, with sage scrub dominating the view until the vegetation transitions into a band of live oak along the margins of the drainage that bisects the Gaming Facility project site. The topography on and off site offers a sustained, variable partial view of the site to approximately 12 residences within this vista. Viewers are all topographically up-grade of the site, and removed from the site by approximately 1,400 feet to approximately 2,600 feet northwest of the site, by approximately 1,200 to 2,000 feet northeast of the site, and by approximately 1,800 feet east of the site.

Vista B – Melody Road Commuter Vista

Vista B is a commuter vista generally providing access between SR-94 and the residential areas to the east and to the west of SR-94. On westbound Melody Road, the view to the Gaming Facility project site begins at the origin of the Road itself, approximately 1,000 feet east of SR-94. Development along this portion of Melody Road is sparse, and westbound vehicular use is correspondingly limited. The western portion

of the Gaming Facility project site appears downgrade and to the left, approximately 2,100 feet distant and against a backdrop comprised mainly of mountains. The general view is framed by rural and semi-rural land uses and sage scrub chaparral. A more complete view of the Gaming Facility project site occurs as the commuter progresses westward. Approximately 250 feet east of SR-94, the Gaming Facility project site is directly to the left of the commuter until westward transition places the Gaming Facility project site out of forward-oriented view at the commuter's left flank. Turning either left or right onto SR-94 removes the commuter from this vista. The SR-94 commuter vista is described below. Though the duration of the Vista B view is reliant upon traffic conditions, a westbound commuter traveling within this vista at 30 miles per hour (MPH) would experience the view to the Gaming Facility project site for approximately half a minute.

On eastbound Melody Road, the view to the Gaming Facility project site begins approximately 1,000 feet west of SR-94. Residential development is more intensive along this portion of Melody Road than on the westbound portion east of SR-94, which offers a commuter view to local residents outside of the residential vista described above. The eastern portion of the Gaming Facility project site appears downgrade and to the right, approximately 2,500 feet in distance, and against a backdrop that includes mountainous terrain and SR-94 as it undulates in and out of view in its intercourse with the foreground topography. The view to the Gaming Facility project site becomes more complete as the commuter progresses east, until it is directly to the right, approximately 1,200 feet removed when the commuter is approximately 250 feet east of SR-94. Progressing eastward on Melody Road, the Gaming Facility project site is removed from forward-oriented view at the commuter's right flank. Turning either left or right onto SR-94 removes the commuter from this vista, as described above, as the commuter enters the SR-94 commuter vista. Though the duration of this view is reliant upon traffic conditions, an eastbound commuter traveling within this vista would experience the view to the Gaming Facility project site for approximately half a minute.

Vista C – SR-94 Commuter Vista

Vista C is a commuter vista, oriented to the eastern side of the Gaming Facility project site along a portion of SR-94 approximately 2,000 feet long. The vista segment extends from just east of the Gaming Facility project site, to approximately 500 feet north of Melody Road, and includes approximately 500 feet along Peaceful Valley Road from its connection with SR-94. There is significantly more local development along SR-94 north of the Gaming Facility project site than south of the Gaming Facility project site, although a residential community served by Rancho Jamul Drive, adjoining SR-94 approximately 0.7 miles south of the Gaming Facility project site, would also be a source of passing residential traffic. The southbound route of SR-94 also provides access to the U.S.-

Mexico border at Tecate, Mexico. It is therefore anticipated that a moderate flow of commercial traffic passing the Gaming Facility project site would be more prevalent than for residential commuters except at AM and PM peak hours. Residential commuters are anticipated to mostly commute to and from the metropolitan San Diego area.

Southbound SR-94 commuters enter the vista approximately 500 feet north of Melody Road, with the Gaming Facility project site appearing directly forward, downgrade and approximately 1,900 feet distant. After crossing Melody Road, SR-94 curves approximately 40 degrees to the left, thereafter winding slightly to the right in its intercourse with the hilly terrain. The Gaming Facility project site is at the commuter's right quarter for this segment, which continues for approximately 1,000 feet, where SR-94 curves to the left approximately 10 degrees on a downgrade, placing the Gaming Facility project site from 400 feet to 250 feet away, directly to the right, for a distance of approximately 850 feet until the Gaming Facility project site disappears from view behind the local terrain. While the duration of visibility is reliant upon traffic conditions in a commuter vista, a commuter traveling through this vista at 60 MPH would experience this view for approximately 30 seconds.

The northbound view presents the Gaming Facility project site as it emerges from behind the terrain and into view directly on the left hand side at approximately 250 feet of distance, flanked by live oak and sage scrub chaparral against a mountain backdrop. Continuing northbound within the vista, the point of view is elevated due to the localized vertical curvature of SR-94, and the view to the left opens up to emphasize the mountainous backdrop, as the foreground appears to descend from view. SR-94 enters a gradual curve to the left here, and as a result the Gaming Facility project site remains directly to the left for approximately 850 feet, until SR-94 curves to the right approximately 10 degrees, and the Gaming Facility project site is removed from forward-oriented view at the commuter's left flank. While the duration of visibility is reliant upon traffic conditions, a northbound SR-94 commuter traveling at 60 MPH experiences this view for approximately 16 seconds.

Peaceful Valley Road adjoins SR-94 directly north of the Gaming Facility project site, providing SR-94 access to approximately 4 households. Westbound commuters enter the vista approximately 500 feet east of SR-94 after passing occluding terrain features. Upon reaching the intersection with SR-94, the Gaming Facility project site appears directly forward at similar elevation, and approximately 400 feet distant. It is partially occluded by terrain, with mountains in the background and SR-94 directly in the foreground. The Gaming Facility project site disappears from view at the commuter's left flank after turning right onto SR-94 and progressing for approximately 350 feet. For left-turning commuters, the Gaming Facility project site comes directly to a right side view, and remains in view for approximately 500 feet before disappearing behind local terrain

features. While duration of visibility is reliant upon traffic conditions, deceleration and stopping time, the cumulative duration of visibility for right-turning commuters from Peaceful Valley Road is expected to be approximately 30 seconds, while left-turning commuters may experience visibility for approximately 35 seconds.

4.10.3.3 Access Road Options Setting

The project footprint for Option 1 (Improve Reservation Road) and Option 2 (Improve Daisy Drive) lies primarily within the SR-94 corridor described above. Approximately half of the footprint for Option 3 (New Access Road from Melody Road) is located within the highway corridor. The other half of the Option 3 footprint is located within an undeveloped 87-acre parcel of land located between Melody Road and the Reservation. The undeveloped 87-acre parcel contains natural habitat (riparian, non-native grasslands and a creek) and a topographic rise from east-to-west. Past use of this parcel has been for cattle grazing.

4.10.3.4 Regulatory Setting

Land use on the Reservation is regulated and guided by the JIV Council, the governing body of the JIV Government. Land use planning for land adjacent to the Reservation is guided by the County of San Diego General Plan Update and the Jamul-Dulzura Subregional Plan (Subregional Plan), a part of the San Diego County General Plan Update. The General Plan contains a Visual Resources section that addresses landscape/setting, scenic corridors, and astronomical dark skies. The Jamul/Dulzura Subregional Plan contains conservation, scenic highway and resource conservation chapters that address aesthetics and visual quality. Although JIV is not regulated by County policies, updated goals/policies from the County are presented below for informational purposes.

County of San Diego General Plan Update

The Conservation and Open Space Element (COSE) of the County's General Plan Update contains goals and policies related to landscape/setting, scenic corridors, and astronomical dark skies. The General Plan points out that the County has three distinctive geographic regions, listed from west to east: (1) low-lying coastal plain, (2) mountainous peninsular range, and (3) desert salton (Imperial) basin. The General Plan states that the diversity of these regions provides the residents/visitors with an array of natural vistas and scenic environments that provide a unique collection from the ocean to the desert.

The COSE addresses two aspects of scenic highways within the scenic corridor discussion: (1) County designated and (2) State designated. For County designated

segments, the General Plan Update states that “A “scenic highway” can pertain to any freeway, highway, road or other vehicular right-of-way along a corridor with considerable or otherwise scenic landscape”. For State Scenic Highways, highways that are officially designated as scenic or eligible for designation are considered “State Scenic Highways” by the County. SR-94 is not designated as a State Designated Scenic Highway. SR-94 from Interstate 8 to SR 125, inclusive of the segment traveling past the Reservation, is designated as a County Scenic Highway.

The astronomical dark sky discussion lists two sites within the County that meet five criteria for high-quality observatory locations: (1) Palomar and (2) Mount Laguna Observatories. Palomar Observatory is located 5,500 feet at the top of Palomar Mountain approximately 76.2 miles from the Reservation in northern San Diego County near Palomar Mountain State Park. The Mount Laguna Observatory is located at an altitude of 6,100 feet on the eastern edge of the Cleveland National Forest approximately 38.7 miles from the Reservation near the Anza-Borrego State Park, 45 miles east of downtown San Diego.

The County of San Diego General Plan Update goals and policies include the following:

Preservation of Scenic Resources:

Goal COS-1: Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized.

Policy COS 11.1: Require the protection of scenic highways, corridors, regionally significant vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Policy COS 11.2: Promote the connection of regionally significant natural features, designated historic landmarks, and points of regional historic, visual, and cultural interest via designated scenic corridors, such as scenic highways and regional trails.

Policy COS 11.3: Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following: (a) creative site planning, (b) integration of natural features into the project, (c) appropriate scale, materials, and design to complement the surrounding natural landscape, and (d) minimal disturbance of topography.

Dark Skies:

Goal COS-13: Preserved dark skies that contribute to rural character and are necessary for the local observatories.

Policy COS 13.1: Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.

Policy COS 13.2: Minimize, to the maximum extent feasible, the impact of development on the dark skies surrounding Palomar and Mount Laguna observatories to maintain dark skies which are vital to these two world-class observatories by restricting exterior light sources within the impact areas of the observatories.

Policy COS 13.3: Coordinate with adjacent federal and State agencies, local jurisdictions, and tribal governments to retain the quality of night skies by minimizing light pollution.

Jamul/Dulzura Subregional Plan Update

The County updated the Subregional Plan in August 2011 as part of their General Plan Update process, and again amended the Subregional Plan in June 2014. The policies within the conservation and scenic highway chapter selectively amend and/or carry out the policies for the Visual Resources section of the Conservation and Open Space Element of the General Plan for the Jamul/Dulzura Subregion.

The following aesthetic Goals/Policies were adopted as part of this update process:

Mobility

Goal 1: Develop a transportation system that provides for safe, efficient travel throughout this rural community and preserves the beauty, quality, and rural character of the Jamul/Dulzura Subregional Planning area.

Policy 1: Road design within the community shall be compatible with topography and landscape and minimize grading. All road improvements shall be designed to maximize environmental and aesthetic considerations.

Policy 2: …provide for the replacement of all healthy, mature trees lost during highway maintenance…

Policy 5: In order to keep the rural character of the community, it is important to retain the dark skies. Therefore, street lighting should be of the type as to reflect downward only. Such lighting, when required, should be located at street intersections, end of cul-de-sacs, and other locations as necessary for safety only.

Conservation:

Goal 5: Environmental resources in the Jamul/Dulzura area that are carefully managed to maintain them for future needs.

Policy 1: Require the preservation of diverse, viable natural habitats, and aesthetic resources, such as scenic rock outcroppings, ridge tops, and mountain peaks.

Policy 6: Standards should be developed for control over light pollution to preserve the dark sky characteristics of Jamul/Dulzura Subregion.

Scenic Highways:

Goal 6: The designation of a scenic highway system that provides attractive and scenic travel routes within the Jamul/Dulzura Subregional Area.

Policy 1: The scenic highway corridors in the Jamul/Dulzura Subregional Area designated in the County General Plan Conservation and Open Space Element include: SR-94, Lyons Valley Road, Skyline Truck Trail, Proctor Valley Road, Honey Springs, and Otay Lakes. In addition to these scenic highway corridors, Lawson Valley Road is a scenic corridor that is also important to the community.

Policy 2: The route identified above, and those identified in the Conservation and Open Space Element, should be protected by the application of a “S” Scenic designator.

Appendix A of the Jamul/Dulzura Subregional Plan identifies Resource Conservation Areas “requiring special attention to conserve resources in a manner best satisfying public and private objectives”. Appropriate implementation actions identified by the County include the establishment of such measures as scenic or natural resource preservation overlay zones. Resource conservation areas include groundwater problem areas, coastal wetlands, native wildlife habitats, construction quality sand areas, littoral sand areas, astronomical dark sky areas, unique geological formations, and significant archaeological and historical sites.

The important resource conservation areas as defined by the Jamul/Dulzura Subregional plan includes the San Miguel/Jamul Mountains located to the southwest of the Reservation, Indian Springs located north of the Reservation, and Mother Miguel located west of the Reservation. The San Miguel/Jamul Mountains are recognized for the large number of rare and endangered plants, Indian Springs for the Riparian and Oak woodlands representing a part of the "character of Jamul", and Mother Miguel for the outstanding Golden Eagle habitat and significant stands of the rare and endangered coast barrel cactus.

4.11 ENVIROMENTAL JUSTICE

The Environmental Justice discussion of the 2003 Final EIS addressed Policy/Regulatory Considerations, Race and Income. An update to each of these discussions, where needed, is presented below. It may be that some information contained below is the same as presented in the 2003 Final EIS because environmental circumstances remain unchanged.

The U.S. EPA Office of Environmental Justice offers the following definition of environmental justice:

> *"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies."*

The concept of environmental justice is rooted in the Civil Rights Act of 1964, which prohibited discrimination in Federally-assisted programs, and in EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations," issued February 11, 1994. Executive Order 12898 was intended to ensure that Federal actions and policies do not result in disproportionately high adverse effects on minority or low-income populations. It requires each Federal agency to incorporate environmental justice into its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social or economic effects, of its programs, policies, and activities implemented both directly and indirectly (for which it provides permitting or funding) on minority populations and low-income populations of the United States (President's Council on Environmental Quality 1997). Additional guidance from the President's Council on Environmental Quality clarifies that environmental justice concerns may arise from effects on the natural

and physical environment that produce human health or ecological outcomes, or from adverse social or economic changes.

Environmental justice issues are mandated and regulated at the Federal level, and compliance with NEPA requires analysis of environmental justice effects. As such, environmental justice is considered part of the NEPA process. According to the CEQ's Environmental Justice Guidance, under the National Environmental Policy Act, agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse environmental effects. Communities may be considered "minority" under the executive order if one of the following characteristics apply:

- The cumulative percentage of minorities within the affected environment is greater than 50%, or

- The cumulative percentage of minorities within the affected environment is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Communities may be considered "low-income" under the executive order if one of the following characteristics applies:

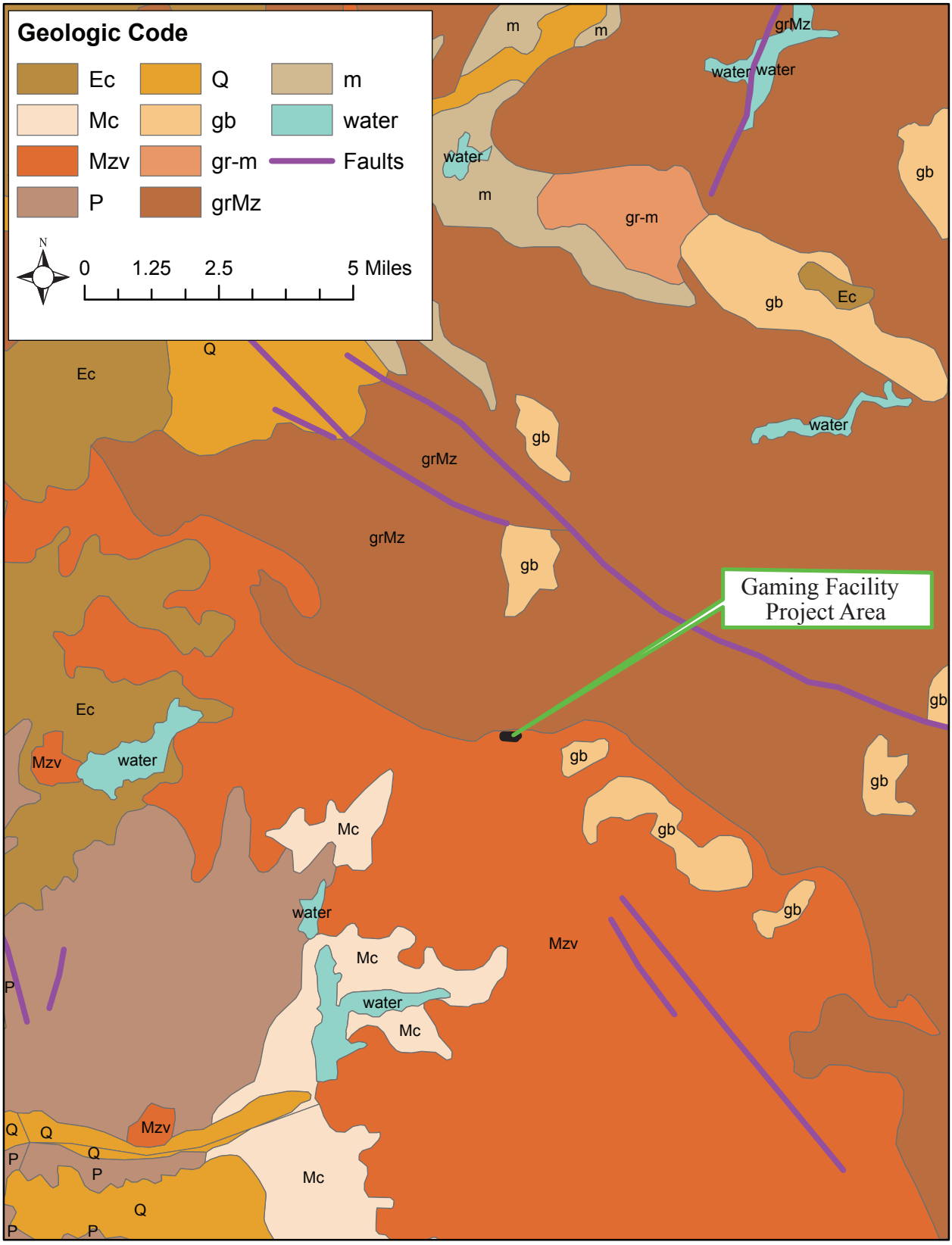
- The median household income for a census tract is below the poverty line (primary method of analysis), or

- Other indications are present that indicate a low-income community is present within the census tract (secondary method of analysis).

The 2014 poverty guidelines for the 48 contiguous states and the District of Columbia, as provided by the U.S. Department of Health and Human Services, define the poverty level as $11,670 for a 1-person family/household, $15,730 for a 2-person household, and $23,850 for a 4-person household (HHS, 2014).

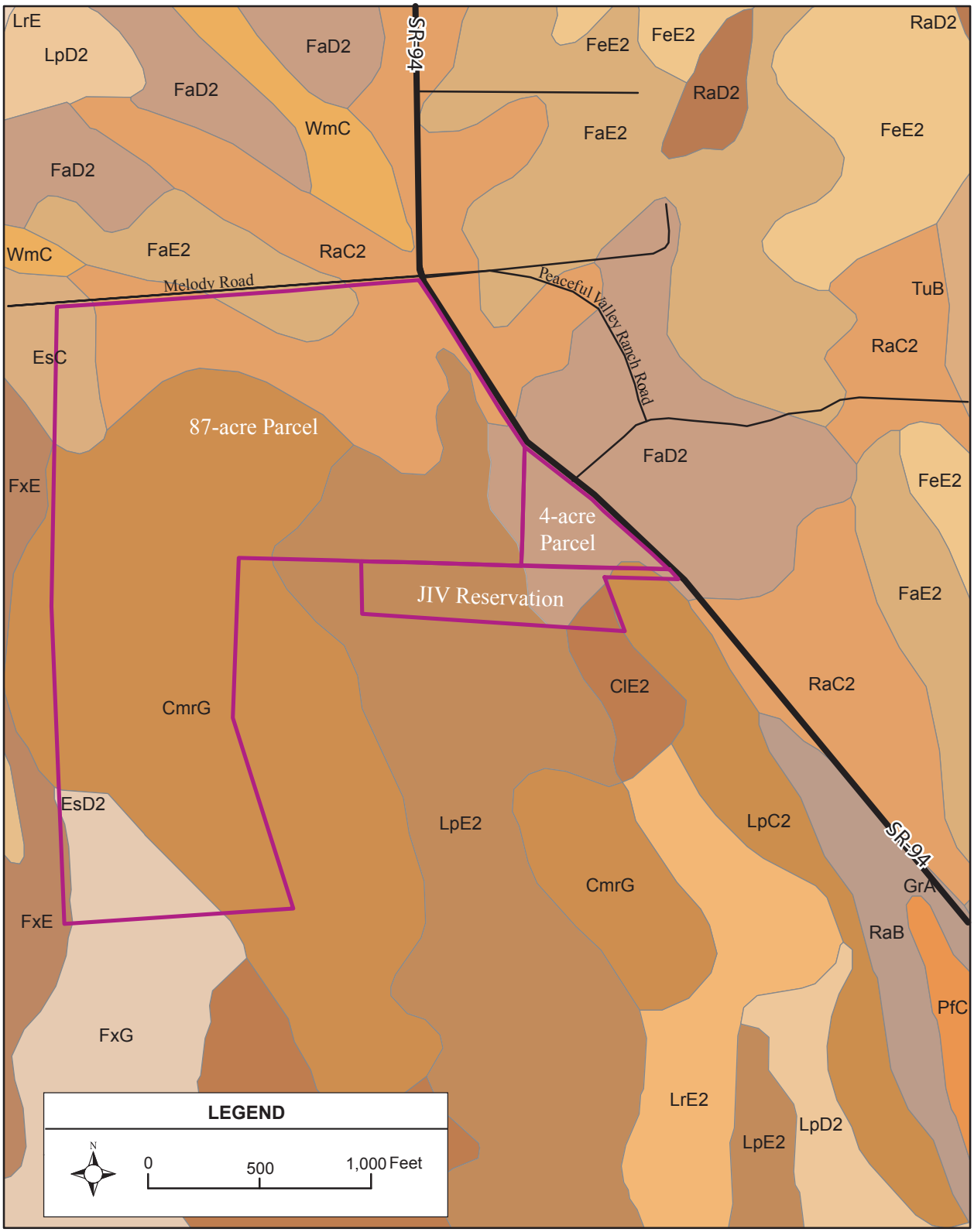
The project site is located within Census Tract 213.04, which includes the adjacent portion of Jamul that is south and/or east of Proctor Valley Road, Jefferson Road, Lyons Valley Road and Skyline Truck Trail. The U.S. Census Bureau estimated the 2014 median household income for Census Tract 213.04 was $111,513, significantly higher than that of the County ($63,996) and the State ($61,489) for the same period (US Census Bureau, 2014). The estimated 2014 racial composition of Census Tract 213.04 was 65 percent white, 27 percent Hispanic or Latino, 3 percent American Indian, 1.6 percent black, and 1.4 percent Asian, with the remaining 2 percent of other races (US

Census Bureau, 2014). For comparison, San Diego County had an estimated 2014 racial composition of 47.5 percent white, 32.7 percent Hispanic or Latino, 0.4 percent American Indian, 4.7 percent black, and 11.1 percent Asian, with the remaining 3.6 percent of other races (US Census Bureau, 2014).



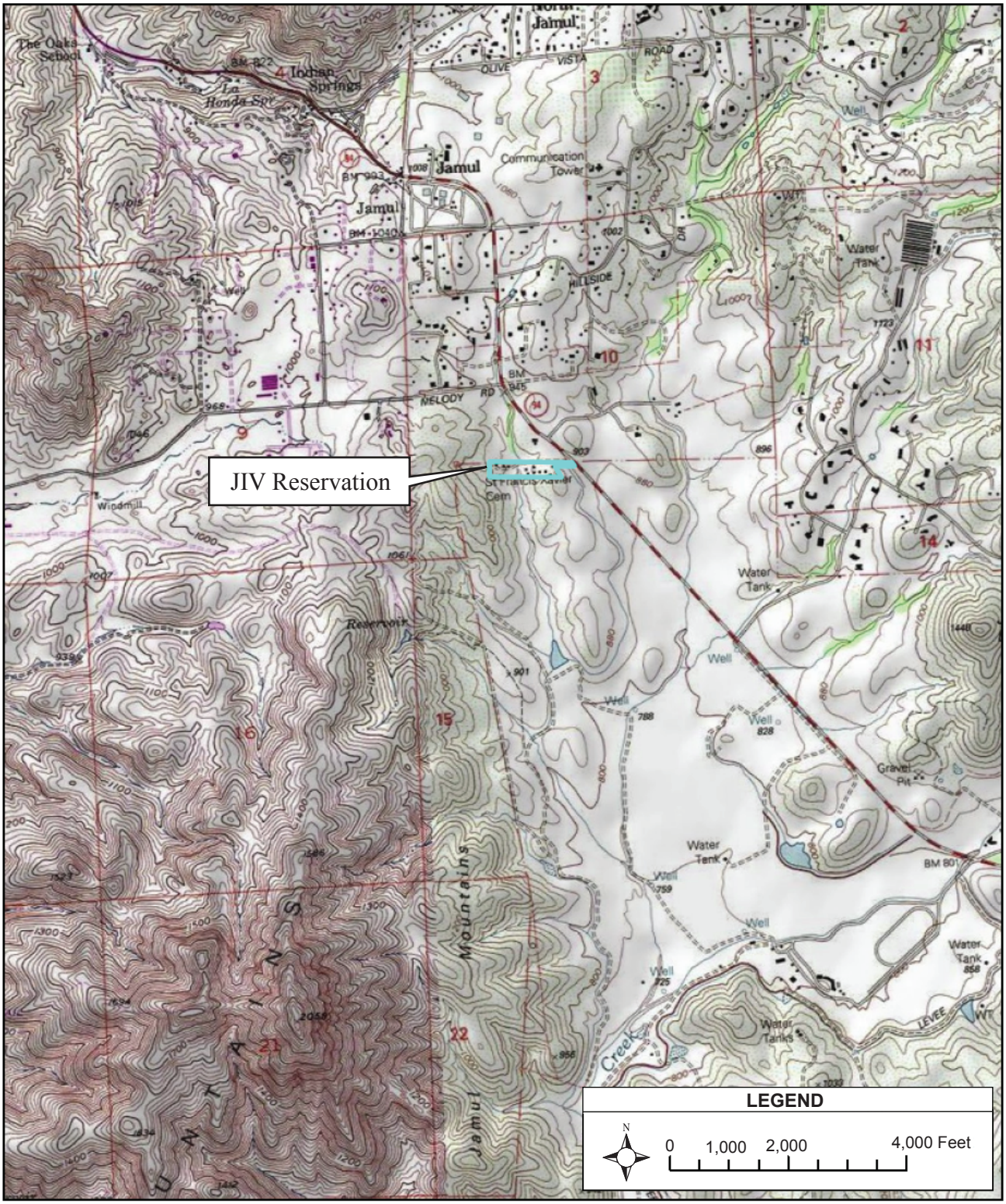
SOURCE: Natural Investigations Co., 2012; EDS, 2016

Figure 4-1
Geology in Vicinity



SOURCE: Natural Investigations Co. 2015; EDS 2016

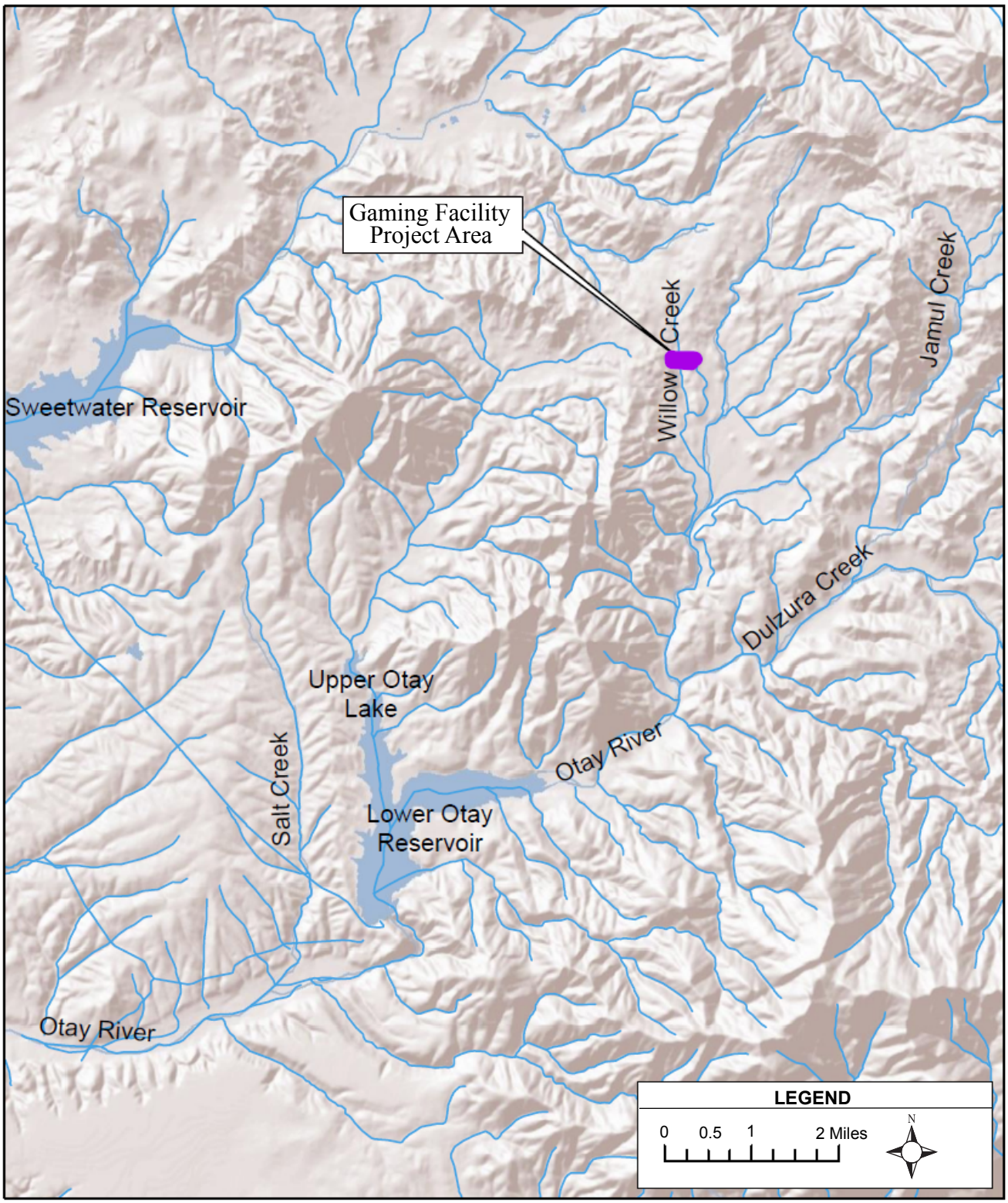
Figure 4-2
Mapped Soil Units



Jamul Indian Village Final SEIS

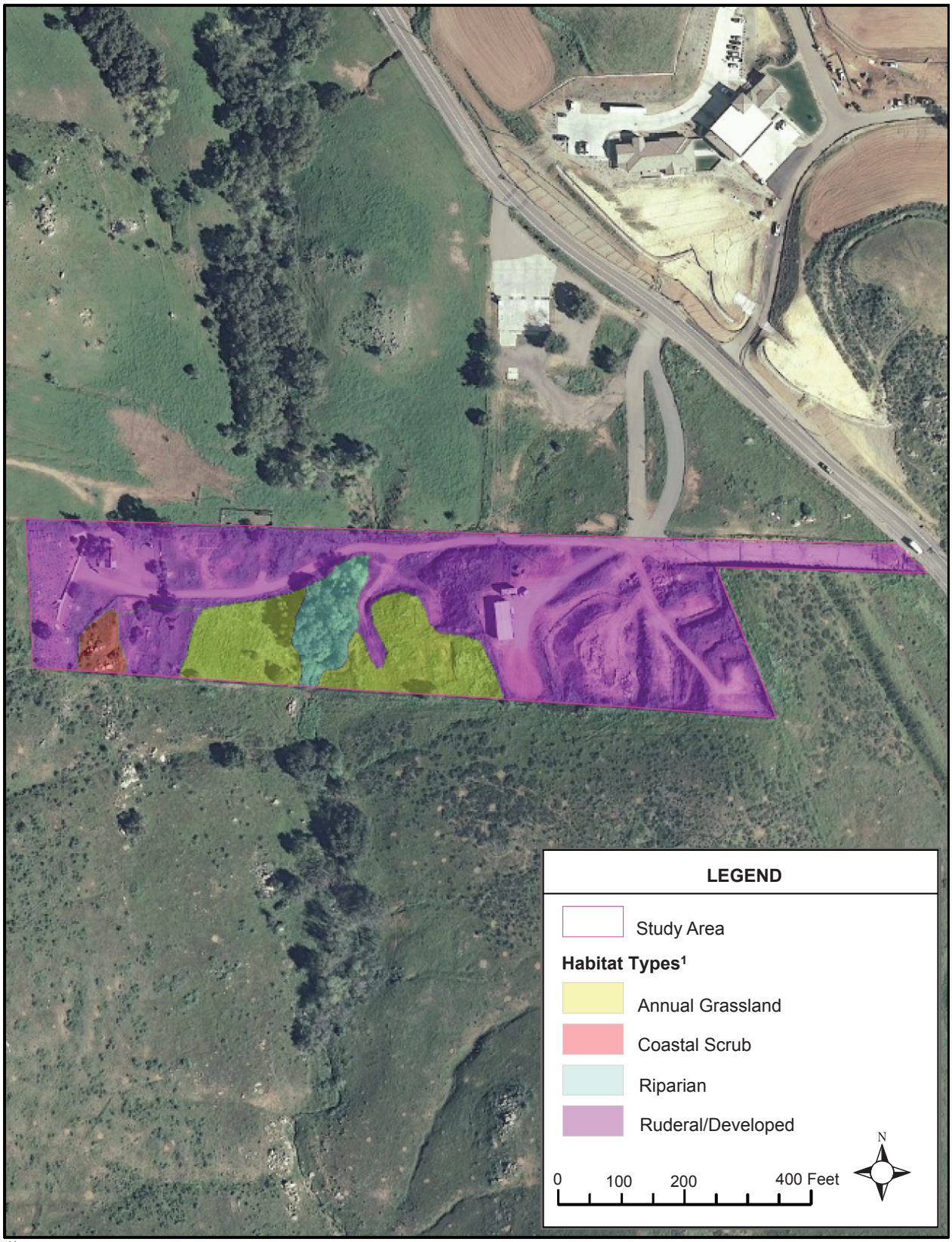
SOURCE: "Jamul MTS, CA" & "Dulzura, CA" USGS 7.5 Minute Topographic Quadrangles; Section 10, T17S, R1E, San Bernardino Baseline & Meridian; EDS, 2016

Figure 4-3
Local Topography



SOURCE: Natural Investigations Co., 2012; EDS, 2016

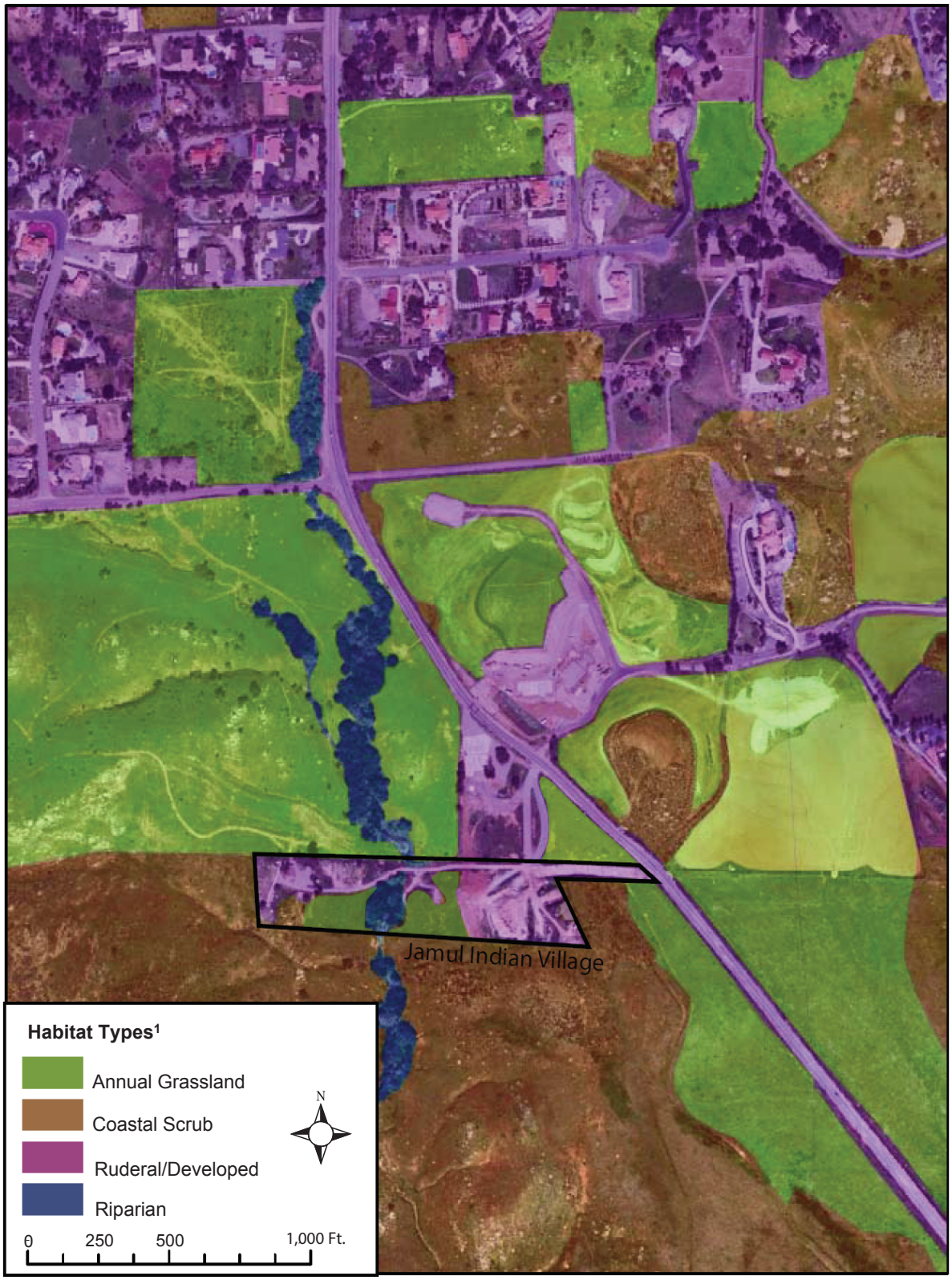
Figure 4-4
Local Water Features



[1/] Habitat Types existed prior to Gaming/Facility construction. Current development on the Reservation has eliminated all habitat types except for the ripirian habitat, which remains.

SOURCE: Digital Globe, 2012; Natural Investigations Co., 2012; EDS, 2016

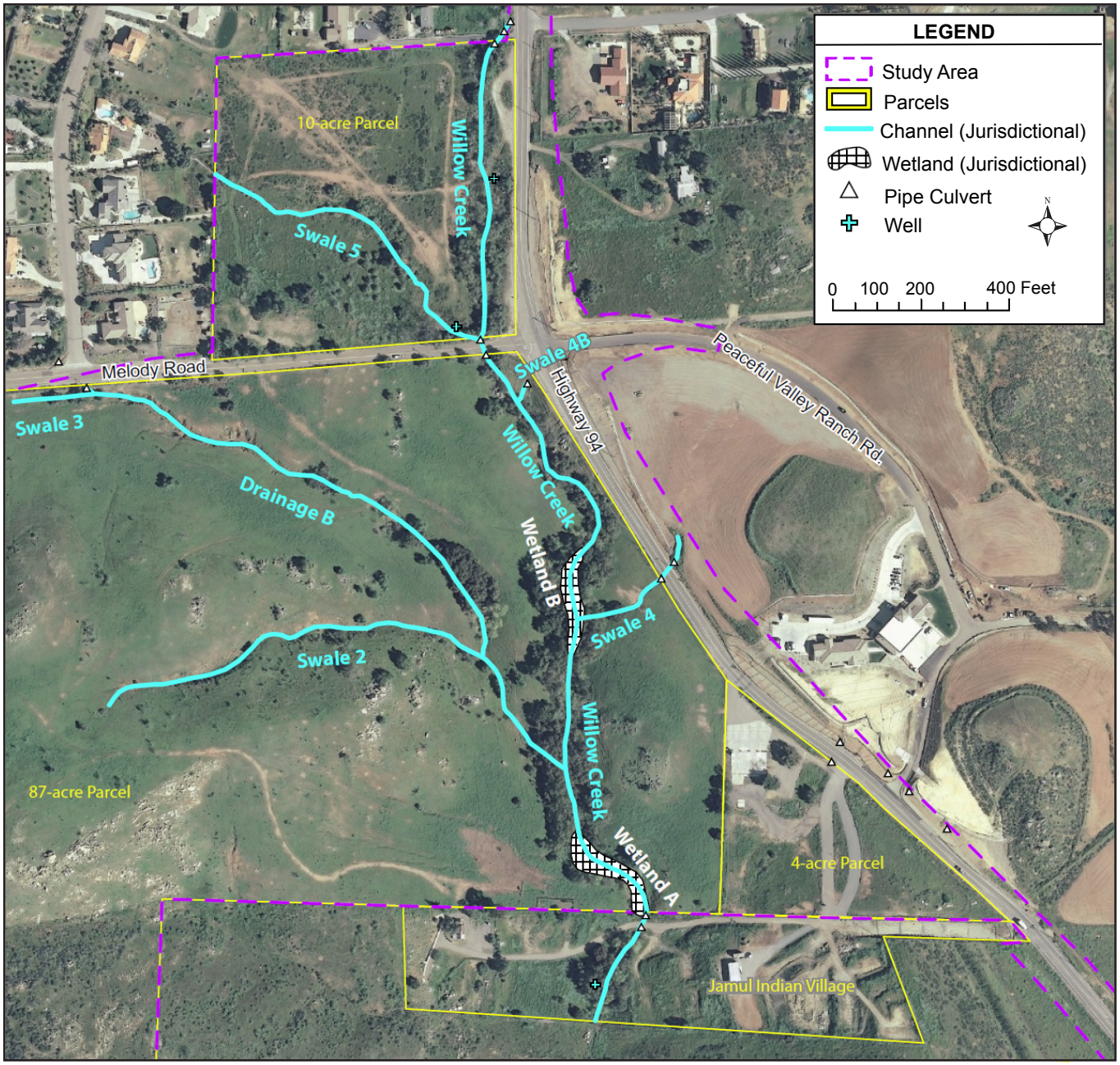
Figure 4-5
Former Vegetation Community/Habitat Types within the Study Area



[1/] Habitat Types existed prior to Gaming/Facility construction. Current development on the Reservation has eliminated all habitat types.

SOURCE: Digital Globe, 2012; Natural Investigations Co., 2012; EDS, 2016

Figure 4-6
Vegetation Community/Habitat Types
in the Vicinity of the Study Area

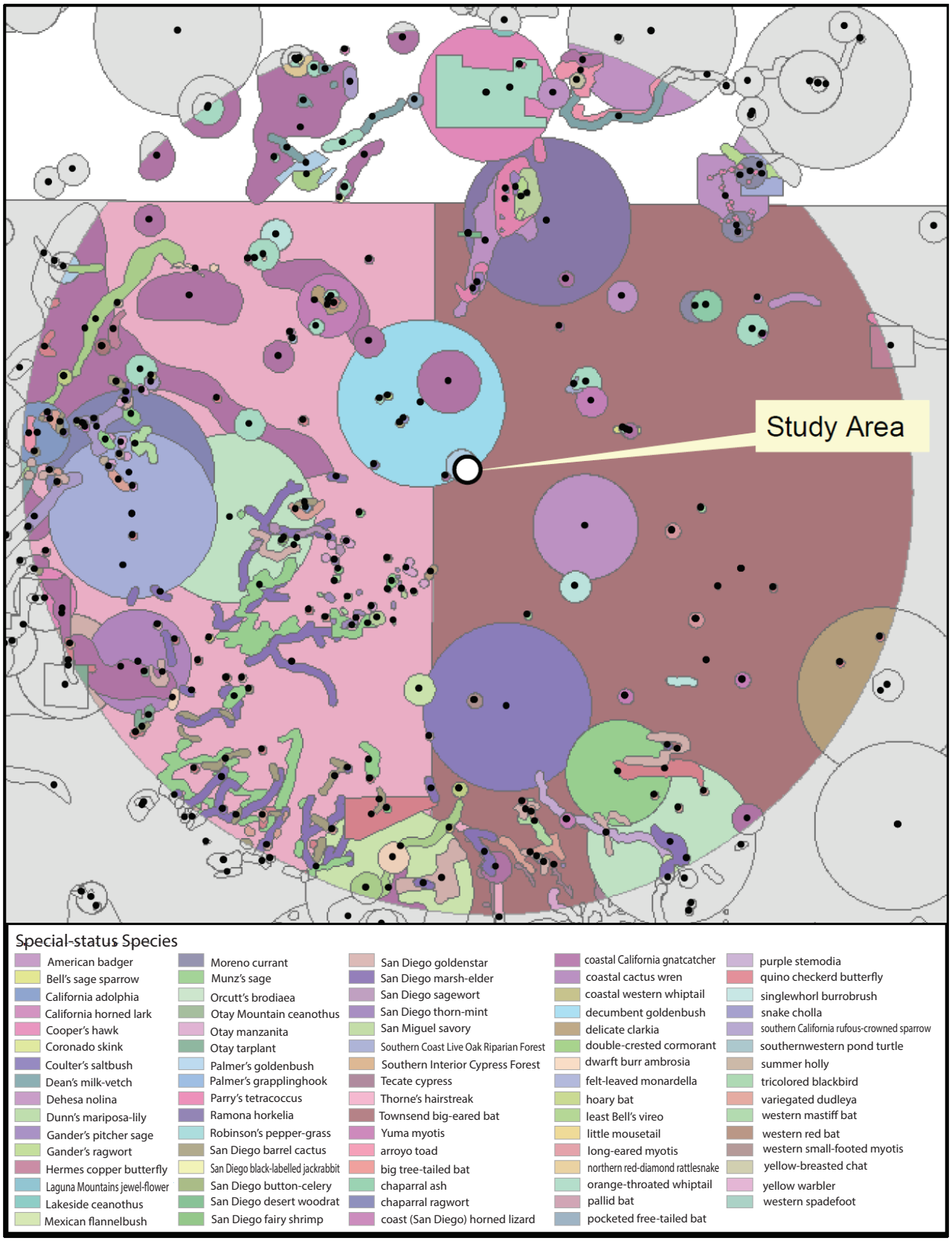


Note: Figure shows pre Gaming/Facility conditions of Reservation. Current construction of Gaming/Facility has altered apperance of Reservation

SOURCE: Digital Globe, 2012, Natural Investigations Co., 2012; EDS, 2016

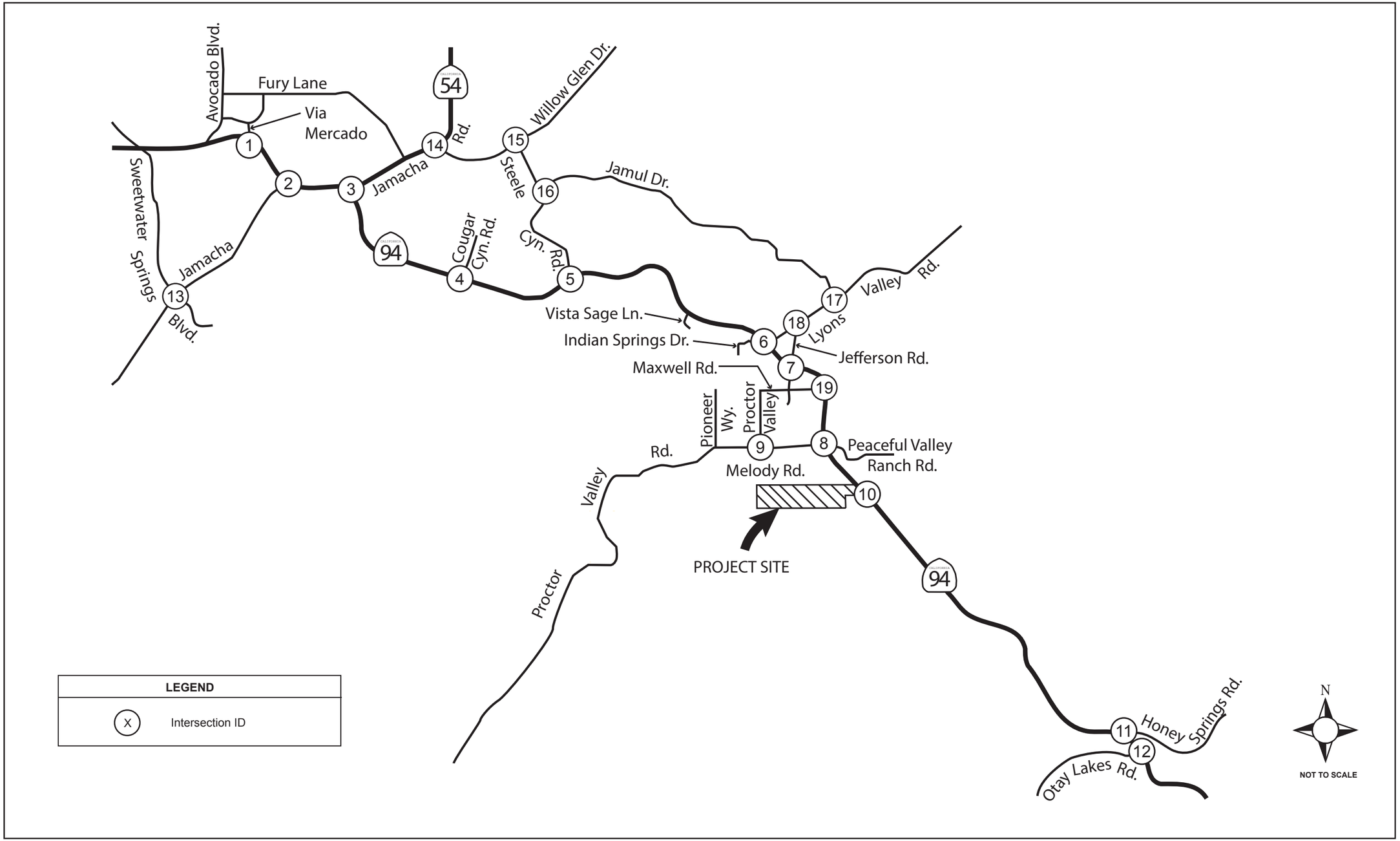
Figure 4-7

Jurisdictional Water Features within the Study Area (JIV) and Adjacent Parcels



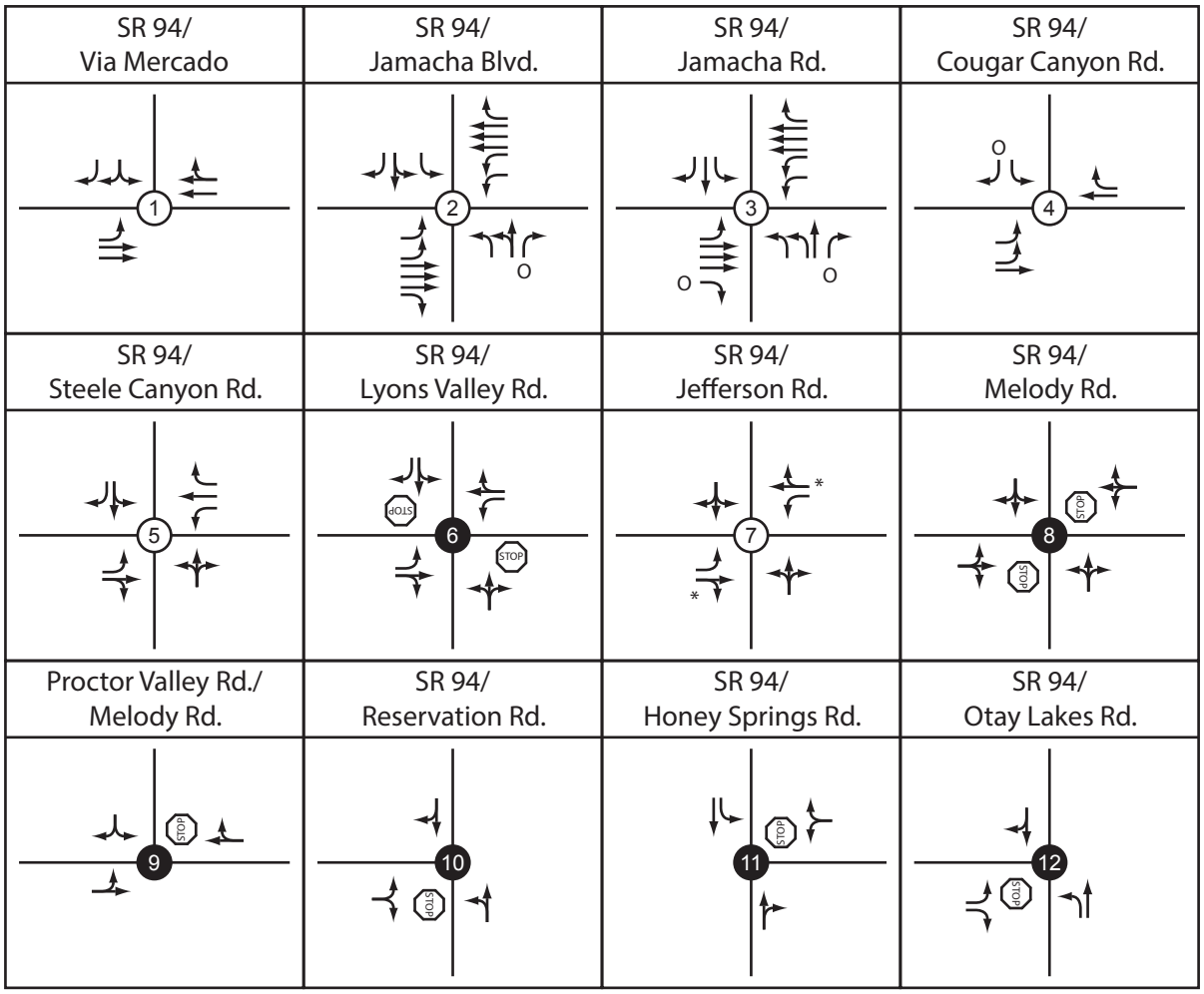
SOURCE: EDR, 2011; Natural Investigations Co., 2012; EDS, 2016

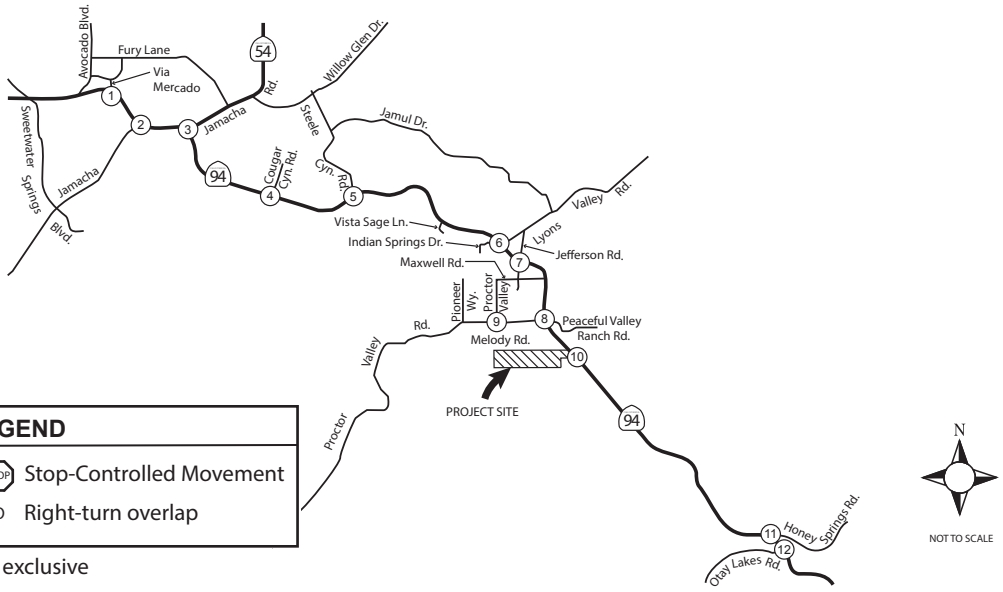
Figure 4-8
Special Status Species Record



SOURCE: Caltrans, 2014; Kimley-Horne and Associates, 2012; EDS, 2016

Figure 4-9
Study Intersections





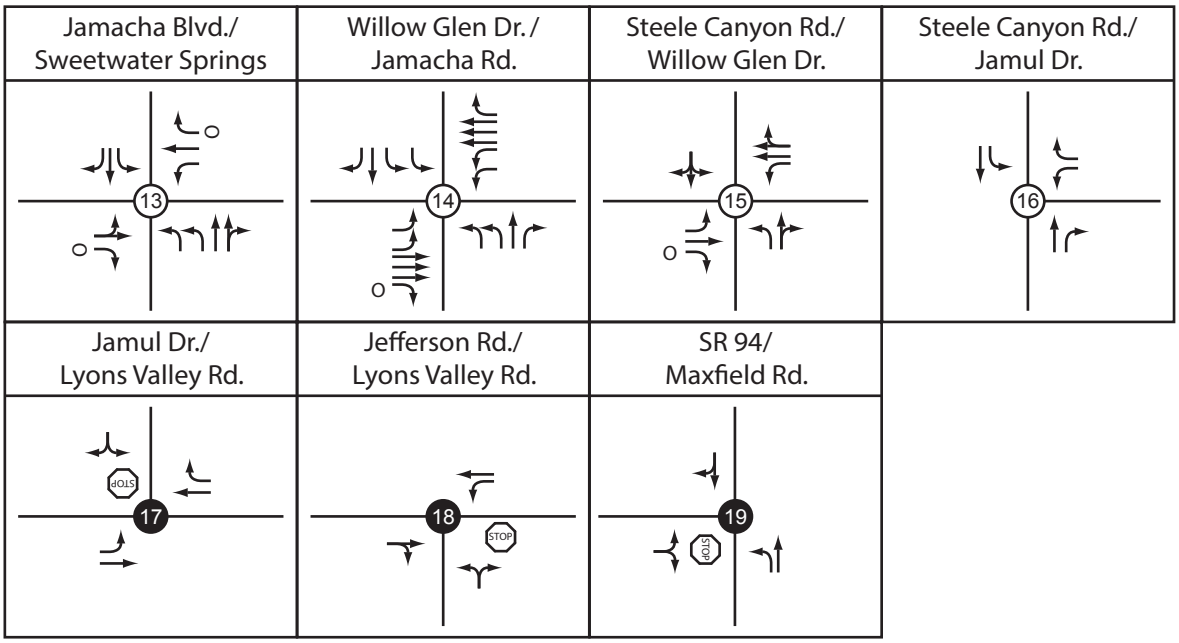
LEGEND

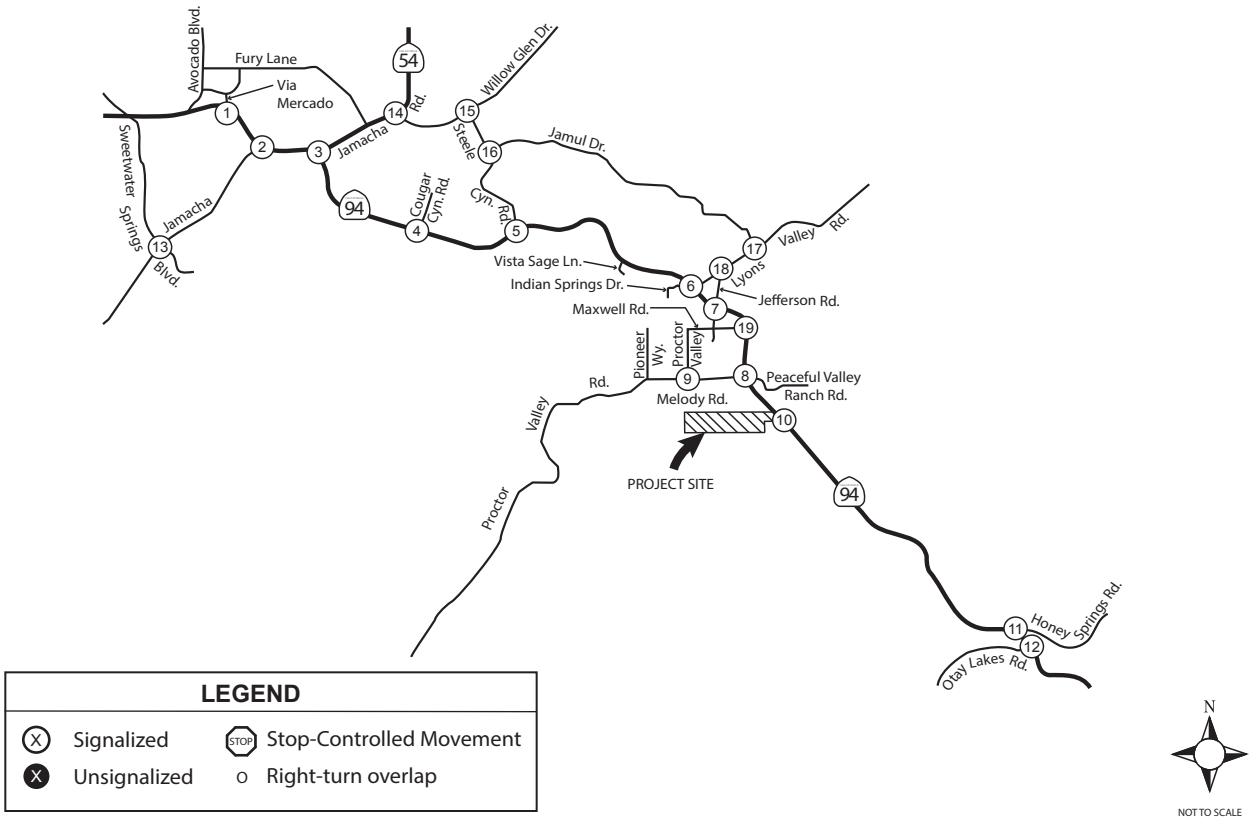
Signalized	Stop-Controlled Movement
Unsignalized	Right-turn overlap

*Right-turn functions as exclusive

SOURCE:Caltrans, 2014; Kimley-Horn and Associates, 2012; EDS, 2016

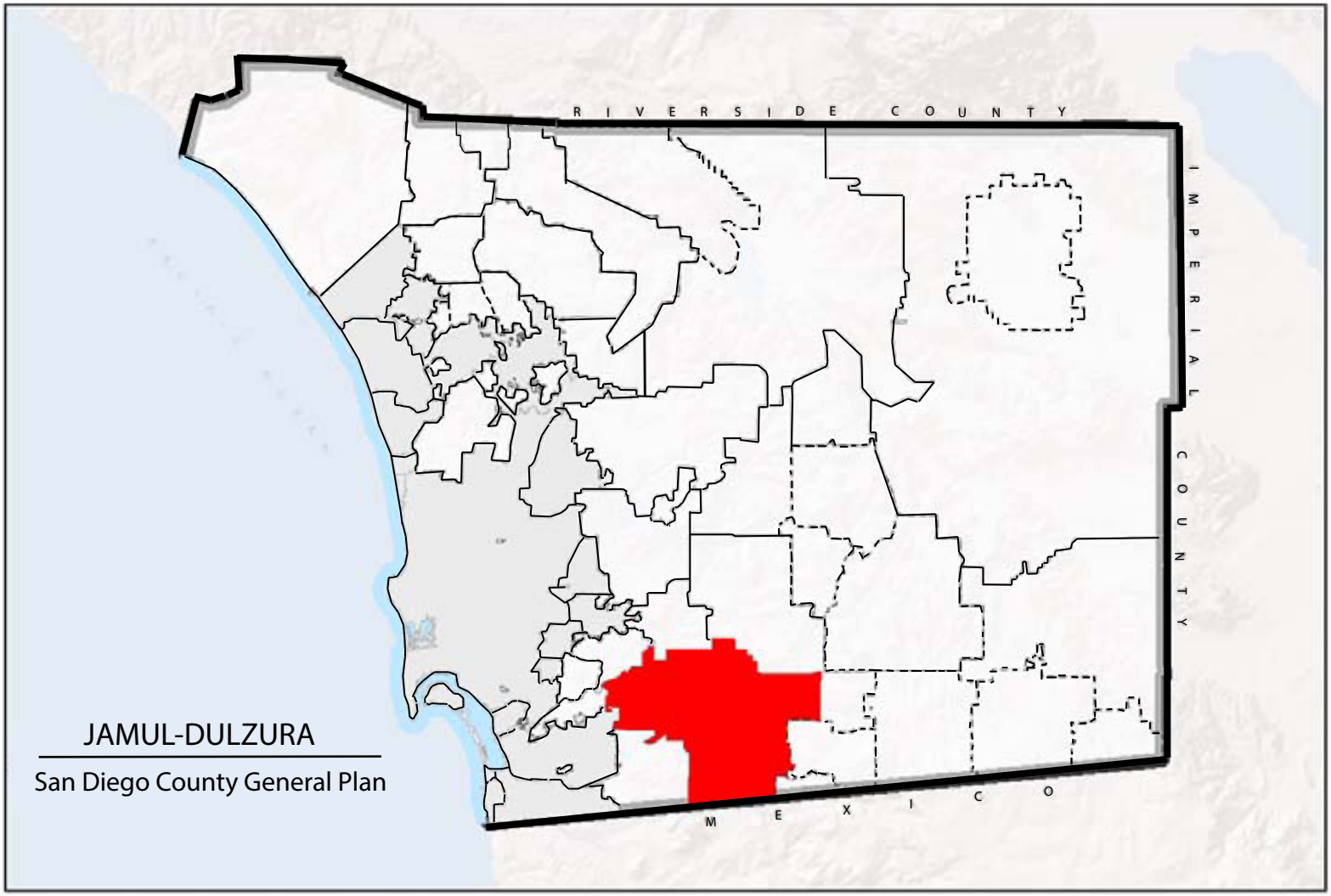
Figure 4-10
Existing Intersection Geometrics





SOURCE:Caltrans, 2014; Kimley-Horn and Associates, 2012; EDS, 2016

Figure 4-10 cont.
Existing Intersection Geometrics



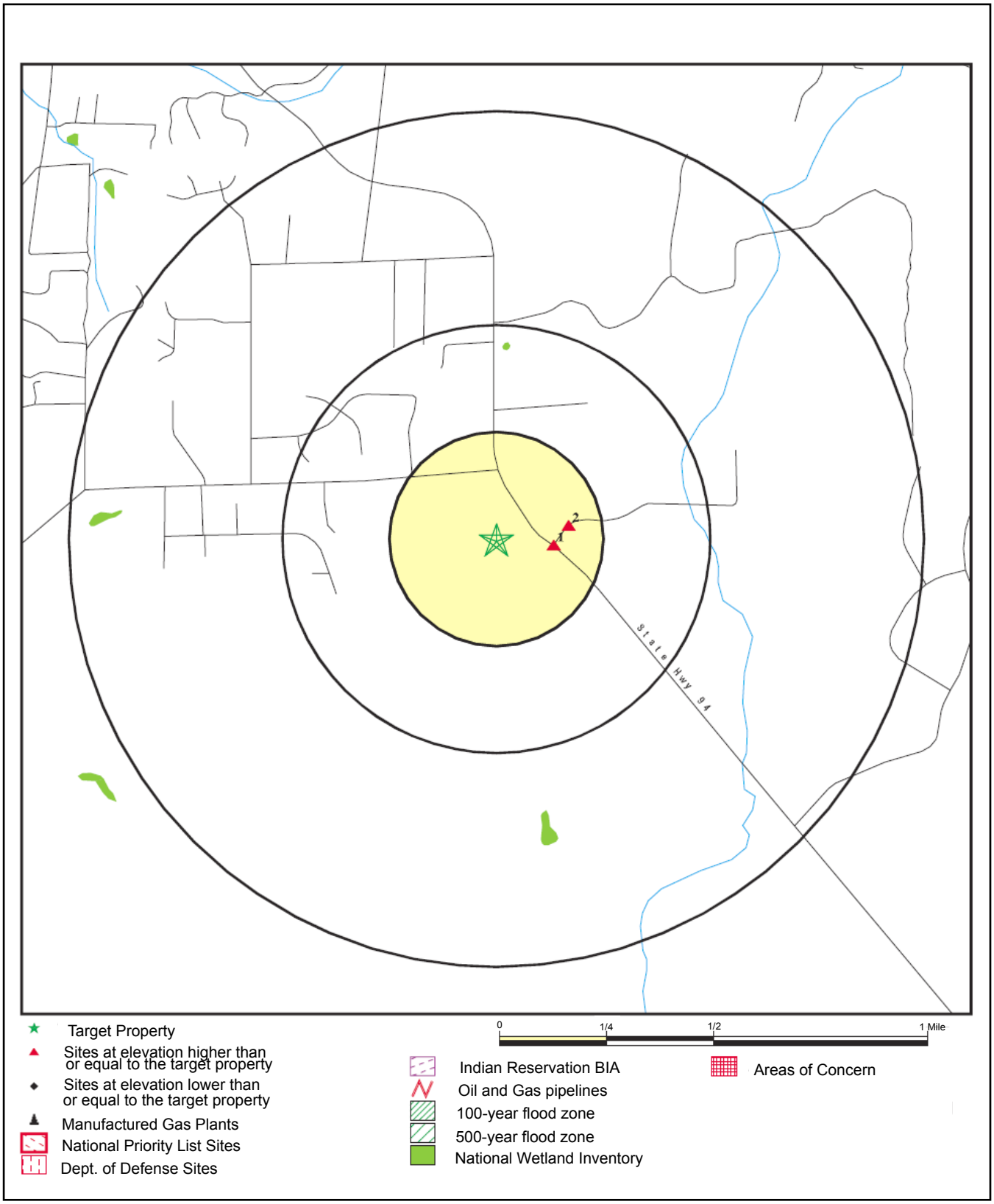
SOURCE: County of San Diego, 2012; EDS, 2016

Figure 4-11

Jamul/Dulzura Subregional Plan Map

SOURCE: Digital Globe, 2012, Ldn Consulting, 2012; EDS, 2016

Figure 4-12
Noise Measurement Locations



SOURCE: EDR, 2012; Natural Investigations Co., 2012; EDS, 2016

Figure 4-13
Environmental Database Queries in Project Area

SECTION 5.0

ENVIRONMENTAL CONSEQUENCES

SECTION 5.0

ENVIRONMENTAL CONSEQUENCES

5.1 INTRODUCTION

This section addresses the consequences of implementing the Proposed Action (GMA approval) or the No Action Alternative.

The Final SEIS uses the No Action Alternative as the baseline for determining impacts of the federal action under NEPA. NEPA requires the evaluation of the potential effects of alternatives in comparison with the likely No Action condition from the time the Proposed Action is implemented and/or becomes operational. The No Action Alternative baseline assumes the completion and operation of the JIV Gaming Facility, including the use of Daisy Drive with the completion of improvements identified by Caltrans as part of the SR-94 Improvements Project. Please refer to **Section 3.4** for additional information on the No Action Alternative.

While both JIV and Caltrans have identified Daisy Drive as the preferred access alternative, evaluation of the No Action Alternative includes consideration of the two other alternative accesses in the unlikely event that one of those options are ultimately selected. The two other alternative access options consist of 1) improving Reservation Road, and 2) constructing a new access road from Melody Road. These are described in **Section 3.4.2**.

Because the No Action Alternative is used as the baseline for determining impacts of the Proposed Action, the No Action Alternative is addressed first in **Section 5.2**, followed by an analysis of the Proposed Action in **Section 5.3**.

Information provided below is intended to supplement information contained in the 2003 Final EIS where needed. The environmental resource areas addressed, and their respective section in the 2003 document, are listed below:

1. Land Resources (Section 4.2),
2. Water Resources (Section 4.3),
3. Air Quality (Section 4.4),
4. Biological Resources (Section 4.5),
5. Cultural and Paleontological Resources (Section 4.6),
6. Socioeconomic (Section 4.7) and Environmental Justice Conditions (Section 4.11),
7. Resources Use Patterns (Section 4.8),

8. Public Services (Section 4.9),
9. Other Values (Section 4.10),
10. Growth-Inducing Effects (Section 4.12), and
11. Cumulative Effects (Section 4.13).

5.2 ENVIRONMENTAL CONSEQUENCES OF THE NO ACTION ALTERNATIVE/BASELINE CONDITIONS

No GMA between the JIV and SDGV would exist under the No Action Alternative, resulting in the operation and management of the Gaming Facility by JIV, which would not require NIGC approval. JIV operation/management of the JIV Gaming Facility would not result in activities that would significantly impact the environment. JIV, instead of SDGV, would determine use of vendors; rates; pricing; charges to guests or patrons; concessioners, the issuance of credit; the granting of complementaries; the terms of admittance to the Gaming Facility for purposes of entertainment; staffing levels; organizational structure; and the type and character of publicity, marketing, advertising, entertainment and promotion.

The difference between the Proposed Action (GMA approval) and the No Action Alternative is expected to be net operating profits realized. There is no way to know if there would be a net increase/decrease in operating profits in the long run; however, it is reasonable to assume that initial net operating profits would be less under the No Action Alternative than under the Proposed Action given that a “learning curve” would be experienced by the JIV at the outset. However, future profits would be dictated by the managerial style employed by the JIV. Regardless of the managerial style to be used by the JIV, this is not expected to significantly affect the operation of the facility. This, in turn, would not impact the environment.

It is assumed for purposes of this baseline analysis that the Gaming Facility would be used as planned and described in the Final TEE and in **Section 3.4** of the Final SEIS. Please see the discussion below for environmental consequences associated with the operation of the JIV Gaming Facility.

The analysis presented below is based upon analysis provided in the following documents:

- Jamul Indian Village Final Environmental Impact Statement (August 2003);
- Final Tribal Environmental Evaluation for the Reservation Gaming Development Project (January 2013);
- Addendum: Tribal Environmental Evaluation (February 2014);
- Addendum: Long Soil Nails (June 2014);

- Addendum: Temporary Construction Staging (October 2014);
- Wastewater Addendum (May 2015); and
- State Route-94 Improvement Project Draft Environmental Impact Report (July 2015).

The methodology and standards used in preparing the Final TEE and addendums are those used in preparing NEPA documents. The Final TEE and addendums can be reviewed at the JIV Website: http://www.jamulindianvillage.com/relevant-documents/.

5.2.1 LAND RESOURCES

5.2.1.1 Topography

The Gaming Facility project area does not contain any rare, high quality, or scientifically significant geologic or topographic resources, and does not encompass any areas designated as National Natural Landmarks. The JIV Gaming Facility is built into the sloping hills on the eastern side of the Reservation, with the lower levels of the parking garage being excavated into the hillside. Willow Creek, which bisects the Reservation, has been avoided. A wastewater treatment plant is being built on the western side of the Reservation. This area has been leveled with retaining walls placed along the south boundary of the Reservation and along the Willow Creek arroyo.

Minor earthwork was needed for the temporary staging on the 4-acre parcel. This parcel would be brought back to existing conditions with implementation of a Habitat Restoration Plan. If the JIV proceeds with construction of the fire station on the adjacent 4-acre parcel, minor grading would be needed to remove the old fire station foundation on the 4-acre parcel.

Upon completion, Daisy Drive would be a divided roadway with an entrance ramp elevated over an exit ramp. The ramps would raise the roadway from the grade of SR-94 to the separate entrance and exit levels of the Gaming Facility. Based on engineering plans, up to 15 feet of fill would be added to accomplish the elevation change, with retaining walls to contain the fill. The retaining walls would have a height of 10 to 17 feet. From the top of the fill ramp, the final portion of the entrance ramp would be an elevated bridge over the exit ramp. Other grading would include the construction of a bioretention basin near the intersection with SR-94 to manage stormwater from the ramps.

The Daisy Drive access ramps would be constructed along a southward-rising hillside located directly to the east of the roadway, thereby reducing the apparent grade alteration from SR-94, and providing visual integration with the surrounding landscape. The most substantial retaining wall would be along the western edge of Daisy Drive and

views of this feature by southbound travelers on SR-94 would be obscured by existing trees and planned landscaping. No significant topographical features would be altered, and the slope of the adjacent hillside would be preserved.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be used. Reservation Road is cut into an existing hillside with retaining walls supporting the cut banks. The new access from Melody Road would require cutting and filling slopes and the use of retaining walls along the entire length of the road. While some cut slopes would be noticeable after construction is complete, the major topographical features of the project site, such as hilltops, drainages, and steep slopes would be preserved.

5.2.1.2 Soils/Geology

The Gaming Facility area does not contain any rare, high quality, or scientifically significant geologic resources, and does not encompass any areas designated as National Natural Landmarks. Excavation and blasting was completed on the Reservation during the 2014 construction period. Following excavation, the use of subsurface bedrock nails ("soil nails") were used to support and strengthen the parking structure walls on the east side of the Reservation. The rebar-like nature of the soil nail process assists in ensuring that the underlying area is stabilized and not subject to ground failure. According to CTE, Cal, Inc. in their October 16, 2013 report[1], upper residual soils are confined to the upper 4-17 feet of the site, while fills, where encountered, ranged in thickness from 2-15.5 feet thick. Weathered granite extended to depths of 17-65 feet below ground surface. Competent granite exists below these depths.[2] The installation of soil nails was completed during the 2014 construction period.

A portion of the west side of the Reservation would be used for limited subsurface wastewater disposal. This area is underlain with documented fill over granitic rock. The documented fill generally consists of silty sand with clay and fine gravel. The granitic rock has varying degrees of weathering, rock strength, and rock hardness according to a rock characterization study completed for the entire reservation (Wastewater Addendum, May 2015). The granite rock ranges from extremely weathered and very weak to slightly weathered strong granitic rock.

[1] / Report of Additional Geotechnical Core Explorations: Jamul Gaming Facility Development Project (October 16, 2013)
[2] / According to CTE, Cal, Inc. in *Report of Additional Geotechnical Core Explorations: Jamul Gaming Facility Development Project* (October 16, 2013), the "Core recovery in the upper cored materials was low as intermittent weathered granite continued to be present."

The granitic rock encountered within the WWTP explorations during grading operations west of Willow Creek was mapped as being extremely to highly weathered granitic rock that is very weak to weak, with low hardness, locally friable, and locally grades upward into residual (saprolite) soil. The granitic rock was observed to depths of approximately 20 feet. A general observation from the rock characterization study was that extensive weathering and clay infilled fractures and only a few fractures with clay were observed in the underlying granite.

Based upon field observations, limited fracture flow is anticipated within the granite due to the extreme weathering and clay infilling of the closely spaced tight to healed fractures. The rock is so weathered and locally friable that rock properties are more like a soil than a hard rock. Observations of the bridge abutment foundations along Willow Creek indicated that groundwater flow is primarily along alluvial/residual soil to granitic rock contact. As the alluvial soils is replaced by documented fill, flow is anticipated to travel along the documented fill-granitic rock contact. This is further indicated by the slightly faster percolation rates within the fill as compared to the weathered granitic rock, which indicates that as water infiltrates through the documented fill and encounters the less permeable weathered granitic rock a preferred pathway is downslope toward Willow Creek along this contact.

Excess treated water would need to be disposed during the months of November through May. The monthly treated water surplus estimates show that a maximum of 37,419 gpd during the month of January is the worst-case month for excess water during the year (Wastewater Addendum, May 2015). No excess water would need to be disposed of during the months June through October. Some of this water would be disposed on-site in subsurface percolation chambers. Percolation tests conducted for the on-site percolation areas were conducted in general accordance with the County of San Diego guidelines and are presented in the Wastewater Addendum. The percolation rates account for both lateral and vertical flow through the tested section. The percolation rates of 0.85 feet per day rate for the percolation chambers would ensure that the soils would be capable of adequately supporting the use of the treated water disposal system assuming 37,000 gpd maximum disposal (Wastewater Addendum, May 2015). However, to ensure 100 percent redundancy, a maximum of approximately 18,000 gpd would be disposed of at any one day during the winter months. Excess water beyond the 18,000 gpd disposed of on-site, which would occur during the months of November to February, would be trucked to San Diego Metro Pump Station No. 1 Receiving Station located on East Harbor Drive in the City of San Diego.

Although detailed studies of rock permeability, fracture flow, and storage capacity have not been performed, the infiltrating waters are not generally anticipated to generate

springs or raise extended groundwater levels above historic high levels (Wastewater Addendum, May 2015).

If the JIV develops a fire station on the adjacent 4-acre parcel, construction would occur in an area previously developed and site stability would be ensured by compliance with applicable building codes. Development of the temporary parking/staging area on the 87-acre parcel was developed using erosion control materials over the existing ground surface. All disturbed areas would be restored and re-vegetated, thereby reducing the potential for erosion.

Construction of Daisy Drive would occur in an area of relatively flat topography with stable granitic bedrock. No geologic hazards exist in the area. Of the two alternative access route locations, Reservation Road cuts across a hillside with the cut banks stabilized with retaining walls. No additional measures would be required to stabilize the area. Development of the new access from Melody Road would require cutting and filling slopes and the use of retaining walls along the entire length of the road to stabilize the roadway and surrounding banks.

All construction associated with the Gaming Facility, including the access roadway improvements and optional fire station, is required to comply with U.S. EPA's General Storm Water Discharge Permit for Construction Activities (NPDES No. CAR10000IF). Coverage under the permit requires creation and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP), erosion control plan, hazardous materials management and spill response plan, and construction best management practices (BMPs), all of which are designed to minimize or eliminate erosion issues and eliminate sediment discharges. With proper implementation, these plans reduce or eliminate the potential for accidental release of sediment or pollutants during construction, as well as reduce the potential for erosion. The erosion control plan was prepared before construction commenced, and identified the location of erosion control features necessary to protect and filter stormwater runoff. The erosion control plan meets Sections 87.101 through 87.717 of the San Diego County Code of Regulatory Ordinances. Features used during construction include but are not limited to silt fences, fiber rolls, and gravel bag check dams. Permanent erosion control features such as drop inlet sediment traps, vegetated drainage swales, and energy dissipaters have also been incorporated into the site design.

5.2.1.3 Seismicity

Although the Gaming Facility and associated facilities, including the access roadway improvements and optional fire station, are not near any active fault zones, these structures could be subject to seismic activity such as severe ground shaking and

acceleration forces from earthquakes in other regions. Design and construction of the facilities has and would adhere to the 2013 California Building Code and 2012 International Building Code, which address structural design requirements for buildings and other structures (including hazardous materials storage facilities) that are consistent with rational analyses and well-established principles of mechanics. These codes cover earthquake design, which has provisions to safe guard against major structural failures and loss of life.

5.2.1.4 Mineral Resources

Development of the JIV Gaming Facility and associated facilities, including the access roadway improvements and optional fire station, would not adversely affect any known or recorded mineral resources, nor would it result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Because there are no known or mapped mineral resources within the Gaming Facility project area, resources would not be affected by development and use of the Gaming Facility project site.

5.2.2 WATER RESOURCES

5.2.2.1 Drainage/Flooding

The increased imperviousness caused by the construction of the JIV Gaming Facility structures would increase site runoff within the Gaming Facility project site. To address the potential off site drainage effect caused by increased runoff from impervious surfaces, the JIV Gaming Facility has engineered a storm water detention facility to detain site generated stormwater and discharge it at a rate that matches pre-project flow conditions based on the County's 6 hour 100 year model storm. Green roofs and permeable pavements have also been added to the Gaming Facility project to reduce impervious surfaces and to allow storm water to infiltrate into the ground or reduce the rate at which it leaves the site. Hydrologic studies performed by engineers have determined that the JIV Gaming Facility would not cause an increase in peak runoff volume or severity off-Reservation (**Appendix 6**).

Runoff from these impervious areas would be conveyed into an underground Stormtech™ detention facility (StormTech™ RC-750, or equivalent) with gravel backfill underneath the paved roads and cantilevered ramps to detain the increased runoff. These subterranean chambers would serve as detention facilities prior to entering the bioretention facility. These chambers would detain the increased runoff thereby mitigating both the increased runoff from the 100-year storm and for hydromodification detention. Detention facilities would release runoff at the appropriate rate to bioretention

treatment facilities. Outlet structures would be constructed to release storm water at a rate such that would not increase 100-year storm runoff into Willow Creek.

The bioretention facility is a planter area with 18-inches or more of engineered soil. Bioretention facilities work by percolating runoff through the soil which removes most pollutants before the runoff is allowed to seep into native soils below or a sub-drain that carries runoff to a detention device or storm water conveyance system. For additional detention, green roofs covering the Gaming Facility, would be installed. Green roofs are vegetated roof covers with growing media and plants taking the place of bare membrane, gravel ballast, shingles, roof tiles, etc. Green roofs are considered by the County of San Diego to be self-retaining and do not require additional storm water detention. In effect, they are treated like landscape areas at ground level and do not increase runoff. Since they are self-contained, runoff from green roofs can easily be kept separate from other ground level improvements and can be discharged without detention.

The parking lot on the west side of the Reservation would consist of Gravelpave2™ pavement, or equivalent, to provide pervious parking surfaces. Gravelpave2™ is a gravel filled pervious plastic sub-surface reinforcement structure, with geotextile fabric underneath. Gravelpave2™ is used in lieu of asphalt or concrete, which are impervious, and allows water to percolate through the road or parking surface, where it is collected and conveyed to the gravel detention facility.

This storm water system was designed to handle the additional runoff generated by the Gaming Facility project development so that downstream runoff during the peak period is not increased when compared with pre-project conditions. The detention facility allows for a controlled release of storm water at or below pre-development peak rates. Therefore, storm water discharge from the Gaming Facility site would not significantly affect downstream drainage conditions.

The Jamul region is subject to flooding. Hydrologic studies determined that the peak flow for Willow Creek during the 100-year storm event is 392 cubic feet per second (Martin and Ziemniak 2006, San Dieguito Engineering 2011). The channel cross-sections for this modeled floodplain vary in width from 26 to 68 feet within, or immediately adjacent to Willow Creek within the Gaming Facility project area. The JIV Gaming Facility includes two bridge span crossings of Willow Creek on the Reservation. The bridge abutments were placed outside of the flood zone; however, bridge pilings are located within the 100-year floodplain. A Preliminary Hydraulic Analysis (**Appendix 6**) concluded that upstream effects from the bridge abutments would be minimal. Additionally, the placement of bridge pillars within the 100-year floodplain would not

result in downstream impacts within the adjacent Rancho Jamul Ecological Reserve (RJER).

Construction of the optional fire station would comply with County codes and include storm water BMPs to control runoff. Development of the temporary parking/staging area was developed using erosion control materials over the existing ground surface. All disturbed areas would be restored and re-vegetated, thereby reducing storm runoff.

Improvements to Daisy Drive incorporate structural devices to control and treat runoff. Storm water from the roadway would be directed through a bioretention basin, vegetated swales, and riprap energy dissipaters, to reduce peak flows, avoid localized flooding and erosion, and improve water quality. The biorentention basin would be located near SR-94 and would drain to the swales along the SR-94 ROW.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be developed. The Reservation Road alternative would also incorporate structural devices by routing most of the storm water from the roadway to the Gaming Facility detention basin and associated facilities described above. The remaining storm water would be directed to the existing swales along SR-94. Development of the alternative new access road from Melody Road would likewise incorporate structural devices, including vegetated swales and riprap energy dissipaters. The new access road from Melody Road would require three new channel crossings. These facilities would be located outside of the ordinary high water mark or otherwise comply with United States Army Corps of Engineers (USACE) conditions.

5.2.2.2 Water Quality

Construction of the JIV Gaming Facility has occurred in compliance with an Erosion Control Plan to ensure that sediment and other contaminants do not enter area waterways (**Appendix** 7).

To control storm water pollution and to protect water quality during the operational phase, the JIV Gaming Facility is utilizing a combination of site planning, structural treatment devices, and BMPs. To accomplish this, design considerations were chosen from the County of San Diego Standard Urban Stormwater Mitigation Plan for storm water treatment and Low Impact Development. Low Impact Development is an engineering design approach to managing storm water runoff to protect water quality.

Runoff from impervious areas would be conveyed through a series of gutters, drop inlets, and subterranean storm drain system, into a gravel detention facility. For additional treatment, green roofs covering the gaming facilities and a bioretention facility at the outlet of the gravel detention facility would be installed. Runoff west of the creek

would flow via curb and gutter, drop inlets, and a storm drain line to the bioretention facility adjacent to the creek, which provides treatment.

A green roof system would cover the gaming facilities. Since the green roof is in itself a detention and treatment facility, the County of San Diego does not require further storm water detention and treatment of runoff from these areas. Since they are self-contained, runoff from green roofs can easily be kept separate from other ground level improvements and can be discharged directly into Willow Creek without treatment or detention.

In addition to the structural controls designed into the JIV Gaming Facility, reduction of stormwater pollutant levels would be ensured through the use of source controls described in the San Diego County Stormwater Standards Manual. These standard would also apply to the development of the fire station, if developed. The Standards Manual requires commercial facilities to implement best management practices in the following areas: employee training; stormwater pollution prevention plans; storm drain tileage and signing; annual review of facilities and activities; pollution prevention; materials and waste management; vehicles and equipment; and outdoor areas.

Development of the temporary parking/staging area was developed using erosion control materials over the existing ground surface. All disturbed areas would be restored and re-vegetated, thereby reducing storm runoff volumes and the potential to carry sediments to Willow Creek.

Improvements to Daisy Drive incorporate structural devices to control and treat runoff. Storm water from the roadway would be directed through a bioretention basin, vegetated swales, and riprap energy dissipaters, to reduce peak flows, avoid localized flooding and erosion, and improve water quality. If developed, the Reservation Road alternative would also incorporate structural devices by routing most of the storm water from the roadway to the Gaming Facility detention basin and associated facilities described above. Likewise, the alternative development of the new access road from Melody Road would incorporate structural devices, including vegetated swales and riprap energy dissipaters.

The combination of structural devices and BMPs reduce pollutants in storm water to the maximum extent practicable. The residual pollutant concentration of the storm water runoff would not significantly affect water quality downstream. To verify control and appropriate reduction of contaminants in surface runoff, the JIV would implement a water quality monitoring program that includes testing for contaminants of concern. The combination of structural devices, best management practices, and monitoring ensure

that water quality is not significantly degraded by the Gaming Facility and associated facilities.

5.2.2.3 Groundwater Quality

Please see discussion under water quality in **Section 5.2.2.2** for containment/treatment features designed to ensure compliance with water quality standards. Wastewater generated by operation of the Gaming Facility would be treated via a membrane bioreactor treatment (MBR) plant and demineralized with electrodialisis reversal (EDR), which would ensure blended effluent has a total dissolved solid concentration of 500 miligrams per liter or less. The MBR facility is designed for biological oxidation, nitrification, denitrification, and solids removal. Subsurface disposal of treated wastewater would conform to the EPA guidelines and RWQCB regulations. The quality of the excess treated water would be high and would improve groundwater quality, which is impaired by salinity, total dissolved solids, chlorides, nitrate, sulfate and aluminum. The level of wastewater treatment provided prior to disposal would ensure that groundwater quality would not be significantly affected by water disposal. Additionally, no groundwater would be extracted for potable use during construction/operation of the JIV Gaming Facility. Groundwater would not be used or impacted by development of the fire station, Daisy Drive, or the alternative access routes.

5.2.3 AIR QUALITY

5.2.3.1 Criteria Pollutants

Operational criteria pollutant emissions for the JIV Gaming Facility (including fire station) were calculated using the URBEMIS2007 Version 9.2.4 computer model (URBEMIS 2007), and data from the URBEMIS2007 Version 9.2.4 *Users Guide* (SCAQMD 2007). Predicted operational emissions were then compared with applicable significance criteria listed in **Table 5-1**.

Mobile sources of criteria pollutants calculated by URBEMIS2007 include passenger vehicles; light-, medium-, and heavy-duty trucks; buses; motorcycles; and motor homes. For on-road mobile source emissions, URBEMIS2007 relies upon EMFAC2007, Version 2.3, developed by the California Air Resources Board (ARB). URBEMIS does not contain EMFAC files for San Diego County; therefore, the California Statewide emission factors were used. The Gaming Facility project is assumed to be in a rural location.

Area sources are sources of criteria pollutants that individually emit small quantities of pollutants, but can collectively contribute to significant quantities of pollutants. Area source emissions calculated for the Gaming Facility project by URBEMIS2007 include natural gas combustion for cooking, heating, and water heaters; fuel combustion from

landscape equipment; consumer products, such as hairspray, deodorants, cleaning products, spray paint, and insecticides[3]; and maintenance architectural coatings.

TABLE 5-1
AIR QUALITY SCREENING LEVEL THRESHOLD

UNITS	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Lbs. per Hour	--	25	100	25	--	--
Lbs. per Day	75	250	550	250	100	55
Tons per Year	13.7	40	100	40	15	10

VOC = volatile organic compounds; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter
SOURCE: Ldn, 2011; EDS, 2015

Point sources of pollutants are stationary, identifiable sources of criteria pollutants and/or hazardous air pollutants (HAPs). Minor point sources of pollutants include, among other uses, char broilers, dry cleaners, gas stations, and auto body paint shops. Stationary sources emitting 25 tons or more per year of any criteria pollutant (or its precursor) are considered "major" point sources; examples include power plants, oil and gas field operations, and manufacturing plants. Point sources of pollutants typically require an operating permit by the local air district.

URBEMIS was used to evaluate the operational GHG emissions for the Gaming Facility project including the fire station. URBEMIS does not currently include emission estimates for GHGs other than CO_2, and, although emissions of GHGs other than CO_2, including N_2O, would result from Gaming Facility project-related activities, the emission levels are small in comparison to emission levels in the form of CO_2.

The JIV Gaming Facility includes a new 203,000 square-foot Gaming Facility structure, restaurants, a fire station, and 70,000 square feet of gaming area. Operation of the JIV Gaming Facility would result in an increase in emissions primarily from vehicle exhaust (mobile source emissions) and natural gas combustion, landscape equipment, consumer products, and maintenance architectural coatings (area source emissions). The number of trips generated by the JIV Gaming Facility is based upon the traffic report (source) prepared for the Gaming Facility. At buildout, the JIV Gaming Facility would generate 9,000 new daily trips (Kimley-Horn, 2012). To represent a conservative assessment, all new trips were assumed to occur at opening of the Gaming Facility.

[3] / Consumer products of concern commonly contain volatile organic compounds (VOCs) that, when emitted into the air, contribute to the formation of ozone. Consumer products may also contain toxic air contaminants and greenhouse gases.

Operational emissions are based on the description of the JIV Gaming Facility (**Section 3.4.1**) and assumptions using UREBMIS2007. Results of the modeling are provided in **Table 5-2,** Unmitigated Buildout Operational Air Emissions. As shown, criteria pollutant emissions from the JIV Gaming Facility would not exceed applicable thresholds. JIV Gaming Facility operation emissions would not conflict with or obstruct implementation of the applicable air quality plan, violate applicable air quality standards or contribute substantially to an existing or projected air quality violation, lead to a cumulatively considerable net increase in a nonattainment pollutant, or expose off-Reservation sensitive receptors to substantial pollutant concentrations.

TABLE 5-2
OPERATIONAL AIR EMISSIONS (POUNDS/DAY)

OPERATIONAL EMISSION SOURCE	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Motor Vehicles	34.4	90.3	397.5	0.6	84.3	16.8
Area Sources	1.4	1.4	2.7	0.0	0.0	0.0
Total Unmitigated Emissions	35.8	91.7	400.2	0.6	84.3	16.8
County Thresholds	75	250	550	250	100	55

VOC = volatile organic compounds; NOX = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; PM10 = suspended particulate matter; PM2.5 = fine particulate matter
Refer to **Appendix 8** for detailed assumptions and modeling output files.
SOURCE: Ldn, 2012; EDS, 2015

5.2.3.2 CO Hotspots

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals. Prior to 1995, the SDAB was nonattainment for the 8-hour CO NAAQS; however, by 1995, CO levels in the air basin met the federal air quality test for attainment. The air basin was subsequently designated as a CO maintenance area in 1998 under NAAQS and has a federally approved CO maintenance plan (ARB 2005). Although the air basin is within a CO maintenance area, there is still potential for localized concentrations of CO and CO hotspots.

An appropriate qualitative screening procedure is provided in the procedures and guidelines contained in *Transportation Project-Level Carbon Monoxide Protocol* (Caltrans CO Protocol) to determine whether a project poses the potential for a CO hotspot (UCD ITS 1997). The Caltrans CO Protocol is an EPA approved methodology

and meets the requirements of the CAA and the CEQA. According to the Caltrans CO Protocol, a project within an area with an approved CO maintenance plan may be deemed "satisfactory" if it can be determined that it does not lead to a substantial increase in CO emissions. For projects involving more than one intersection or roadway segment, CO emissions must not increase in any of them individually.

A project within an area with an approved CO maintenance plan would be considered satisfactory and less than significant for CO hotspots if it:

1. Would not significantly increase the percentage of vehicles in cold start modes by 2% or more; and
2. Would not significantly increase traffic volumes by more than 5% over existing volumes and traffic speeds remain the same; and
3. Improves traffic flow, defined for intersection segments as an increase in average speed and as a decrease in average delay (for the purposes of this impact analysis, only intersection segments operating at LOS E or F with and without the project are evaluated); and
4. Does not move traffic closer to a receptor site.

According to the traffic report completed for the Gaming Facility (Kimley-Horn, 2012), with implementation of proposed mitigation measures, all intersections would operate at LOS D or better under the near term conditions with the JIV Gaming Facility. Therefore, the JIV Gaming Facility would not result in the creation of a new, or contribute to an existing, CO concentration violation.

5.2.3.3 Toxic Air Contaminants

The JIV would obtain any necessary operating permits from the U.S. EPA to ensure proposed new or modified commercial and industrial equipment and operations comply with the federal CAA requirements. U.S. EPA requires that new and/or modified commercial and industrial equipment must be evaluated in accordance with applicable federal New Source Review (NSR) rules[4]. While, the JIV Gaming Facility does not include any significant new sources of potential toxic air contaminants (TACs), such as a central energy plant, the JIV Gaming Facility would include a central cooling and heating system, which is expected to include a boiler that would utilize propane for external combustion, as well as backup diesel-powered generators. The JIV Gaming Facility would also include commercial uses that may generate stationary sources of TACs such

[4] / The NSR permitting program, established in Congress in 1977, ensures that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers and power plants. In areas with unhealthy air, NSR assures that new emissions do not slow progress toward cleaner air.

as restaurants with char broilers and fuel dispensers for Gaming Facility vehicles. If such equipment would emit 10 or more pounds per day of VOC, NOx, SOx, or PM10, it must employ the Best Available Control Technology (BACT) to reduce emissions[5]. For all sources that emit more than 100 tons per year of any regulated air contaminant and certain other specified sources[6] a Title V permit is required.

Operating permits would incorporate measures that would reduce potential TAC emissions and associated health risks from the gaming facilities to within applicable standards. With compliance with applicable rules and regulations, operation-related TAC emissions would not expose sensitive off-Reservation receptors to substantial concentrations of TACs.

5.2.3.4 Odor

The JIV Gaming Facility includes a wastewater treatment plant, which is typically considered a potential odor source. However, the wastewater treatment system and storage system would be a closed (sealed) system and no odor issue is anticipated. The only disposal of wastewater would be subsurface percolation.

5.2.3.4 Greenhouse Gas Emission

GHG emissions would be generated throughout the operational life of the JIV Gaming Facility via both mobile and area source emissions. Mobile emissions would be related to increased vehicle trips resulting from both employee and patron trips. Area source emissions would occur from stationary sources such as uses within the Gaming Facility, water conveyance, wastewater treatment plant/MVC and solid waste generation. Emissions of carbon dioxide (CO_2) are byproducts of fossil fuel combustion. Methane (CH_4), a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide (N_2O) is produced naturally in the soil during the microbial processes and is mainly contributed to agricultural processes, nylon production, fuel-fired power plants, nitric acid production and vehicle emissions. To simplify greenhouse gas calculations, both CH_4 and N_2O are converted to equivalent amounts of CO_2 and are identified as CO_{2e}. In other words, CO_{2e} is an equivalent volume or mass of CO_2 converted from global warming potentials of other gases that may cause equivalent warming.

[5] / Best Available Control Technology is required under the federal Prevention of Significant Deterioration (PSD) program of the CAA: 40 C.F.R. 52.21(b)(50).
[6] / Title V applies to each pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant (U.S. EPA 2008).

Transportation Related GHG Emissions

Emissions from daily trips were quantified utilizing emission levels reported in grams/mile from the EMFAC2007 emission model. Vehicle emissions were then calculated using URBEMIS and converted to CO_{2e} per year. The default setting for vehicle fleet mix was used as the JIV Gaming Facility would generate vehicle miles traveled (VMT) mostly from workers and patrons commuting to and from the Reservation. The fleet mix also incorporates buses and heavy truck trips. The JIV Gaming Facility would generate 9,000 ADT at full build out. Emissions due to new vehicle trips are estimated to be 7,730 MT of CO_{2e} per year. In addition to these trips, there would be truck trips during winter months due to treated wastewater hauling needs. The total emissions due to new vehicle trips is approximately 7,766 MT of CO_{2e} per year (Wastewater Addendum, Appendix 2; May 2015).

Electricity Related GHG Emissions

The generation of CO_2, CH_4, and N_2O from electricity is calculated utilizing methodologies within the California Climate Action Registry General Reporting Protocol Version 3.1- January 2009 (Registry Protocol). The Registry Protocol Electricity Emission Factors in pounds of GHG per kilowatt-hour for CO_2, CH_4, and N_2O are 0.72412, 0.0000302 and 0.0000081, respectively. The JIV Gaming Facility is expected to use up to 6,600,000 KWh per year of electricity for the gaming floor, restaurants, retail shops, and wastewater treatment plant. This would generate approximately 2,177 MT of CO_{2e} per year.

Water Usage Related GHG Emissions

Water demand from the JIV Gaming Facility would indirectly utilize energy associated with the preparation and conveyance of water to the Reservation from the Otay Water District. It is estimated that indirect electricity for water conveyance requires 12,700 kilowatt hours (kWh) per Million Gallons (MG) (Source: http://www.greenbuildingadvisor.com/ book/export/html/18037). Water demand estimated that the JIV Gaming Facility would require 12,662,580 gallons each year, which would require 160,815 kWh of electrical energy to supply the expected yearly. This energy consumption would generate approximately 53 MT of CO_{2e} per year.

Wastewater Treatment Related GHG Emissions

An additional component of GHGs comes from the natural biochemical breakdown of waste within the water. As water is treated initially, suspended solids are allowed to settle to the bottom while cleaner water on top is siphoned off leaving wastewater sludge. The sludge is then collected where it can be further broken down within

anaerobic digesters that are sealed off from ambient air sources. The waste then is further broken down by bacteria creating methane (CH_4) and to a lesser extent Oxides of Nitrogen.

NO_X (CO_{2e}) emissions from wastewater treatment are estimated to be roughly 22 percent of CH_4 (CO_{2e}) (Source: Draft Methane and Nitrous from Non-Agricultural Sources April 2005). Based on the Gaming Facility's anticipated water usage of 12,662,580 gallons or 47,933,082 liters of water per year and utilizing California Air Pollution Control Officers Association (CAPCOA's) baseline CO_{2e} approximation, that for each liter of wastewater the Gaming Facility would produce 2.02 x 10-6 Metric Tons of CO_{2e}. It is estimated that the Gaming Facility project would produce 97 MT CO_{2e} from CH_4. Utilizing the 22% ratio of NO_X to CH_4, NO_X generation could be as high as 21 MT. Therefore, the 200,000 gpd wastewater treatment plant is estimated to produce approximately 118 MT CO_{2e} per year.

Solid Waste Related GHG Emissions

Solid waste generated from the JIV Gaming Facility would ultimately be discarded as trash and then deposited into a landfill. The decomposition of organic matter such as food, paper, yard trimmings and wood are anaerobically digested by bacteria, which primarily produces GHG's as a bi-product. However, organic decomposition occurs at different rates and is a function of the material content. The U.S. EPA) published various emission rates with units of Metric Tons of Carbon Dioxide Equivalent per Ton (Source: Solid Waste management and Greenhouse Gases; A Life-Cycle Assessment of Emissions and Sinks). Solid waste generated from the JIV Gaming Facility is estimated to generate 1,984 tons of trash each year. Utilizing the U.S. EPA emission factors, the CO_{2e} emissions are expected to be approximately 239 MT per year.

GHG Emission Summary

Thus, total overall operational GHG emissions resulting from the JIV Gaming Facility are estimated to be approximately 10,516-MT CO_{2e} per year.

5.2.4 BIOLOGICAL RESOURCES

5.2.4.1 Natural Habitats

Approximately 0.4 acres of natural habitat remains on the Reservation after construction of the JIV Gaming Facility. This habitat consists of coast live oak riparian habitat located along Willow Creek and would be preserved. If the optional fire station is developed on the 4-acre parcel, it would occur in an area previously developed. Development of the temporary parking/staging area on the 87-acre parcel would be restored with native

vegetation. Critical habitat for federally-listed species does not occur on the Reservation, 4-acre parcel or 87-acre parcel.

Construction of Daisy Drive would result in temporary and permanent impacts to habitats. Possible temporary impacts from construction could include: the introduction of litter which could affect wildlife feeding and other behaviors; unauthorized trespass by workers and/or equipment, which could cause trampling of vegetation or stress wildlife; increases in soil erosion and sedimentation, and deposition of particulate matter via fugitive dust as well as equipment exhaust, all of which could degrade vegetation and habitat quality. Habitat disturbance and degradation could, in turn, facilitate the increased spread of invasive plant species. These temporary adverse impacts were estimated by assuming that an additional ten-foot wide corridor might be affected beyond the project footprint; this 10-foot corridor may also be needed for access of construction vehicles and equipment. This 10-foot corridor includes areas on private lands that would require a temporary construction easement and may impact sensitive habitat types, as well as areas within the Caltrans ROW that are already urbanized or paved. **Table 5-3** shows the vegetation community types that would be temporary affected by the construction of Daisy Drive.

Permanent impacts to vegetation communities would occur from grading, cut and fill, the extension of culverts and drainage crossings, and road widening and paving. Permanent impacts were calculated in GIS by overlaying the project footprints (including retaining wall footers, cut and fill lines, and roadbeds) upon the digitized vegetation community boundaries. **Table 5-3** shows the vegetation community types that would be permanently affected.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be used. **Table 5-3** shows the vegetation community types that would be temporary and permanently affected by construction of Reservation Road and new road from Melody Road.

5.2.4.2 Federally Listed Species

Various special-status species occur in the vicinity of the Gaming Facility project site, but none were detected within the site in wildlife and botanical surveys performed over the last decade. Furthermore, none of these regionally-occurring special-status species were ranked in the Biological Assessment with a moderate or high potential of occurrence on the Gaming Facility project site. Protocol surveys conducted from 2011 through 2013 for the federally listed endangered Quino Checkerspot Butterfly (*Euphydryas editha quino*), federally listed endangered Least Bell's Vireo (*Vireo bellii pusillus*), federally listed threatened Coastal California Gnatcatcher (*Polioptila californica*

TABLE 5-3
VEGETATION COMMUNITY TYPES AFFECTED BY ROAD ACCESS CONSTRUCTION

VEGETATION COMMUNITY TYPE	DAISY DRIVE	ALTERNATIVE ACCESS OPTIONS	
		RESERVATION ROAD	NEW ACCESS FROM MELODY RD
	ACRES	ACRES	ACRES
Permanent Impacts			
Non-Native Grassland	0.79	0.95	4.68
Diegan Coastal Sage Scrub	0.00	0.05	0.00
Southern Coast Live Oak Riparian Forest	0.22	0.22	0.57
Totals	1.01	1.22	5.25
Temporary Impacts			
Non-Native Grassland	0.61	0.48	1.68
Diegan Coastal Sage Scrub	0.00	0.03	0.00
Southern Coast Live Oak Riparian Forest	0.06	0.06	0.14
Totals	0.67	0.57	1.82
SOURCE: Natural Investigations, Inc., 2014			

californica), and federal candidate Hermes Copper Butterfly (*Lycaena hermes*) resulted in negative findings (**Appendix 9**).

Operation of the JIV Gaming Facility (including the fire station and temporary parking/staging area) would not result in the take of any listed species. To address the potential impact of noise and light pollution upon wildlife, the Gaming Facility mitigates potential impacts by design. Specifically, noisy machinery would be located in areas that naturally-attenuate noise or sound barriers would be constructed. Best management practices for reducing light pollution from exterior lighting would be implemented, such as shielding and selection of appropriate bulb technologies. The exterior of buildings would include downcast lighting consistent with local codes and ordinances to maintain consistency with the surrounding area. Lighting from the front of Gaming Facility buildings would be directionally pointed away from the adjacent reserves and shielding employed. Lighting in the back of Gaming Facility buildings would consist of low wattage security and safety lighting near doorways consistent with Uniform Building Code requirements. Furthermore, construction of the fire station, if developed would the

Willow Creek channel and riparian corridor, which may function as a wildlife corridor. Thus, animals requiring a wildlife corridor would not be affected.

Construction of Daisy Drive would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. Field surveys over the last decade have not detected any special-status species within the roadway improvement area. Their absence within the project area might be explained by the preponderance of exotic/competing species, and habitat degradation associated with urbanization and cattle grazing. Nevertheless, several special-status species have the potential to occur where suitable habitat is present (primarily on the hills with remnants of coastal sage scrub and rock outcrops on the 87-acre parcel and in the Willow Creek riparian corridor). Special-status bird species in the vicinity include Coastal California gnatcatcher, Least Bell's vireo, and yellow-billed cuckoo, although no nests were observed during field surveys. The improvements would be completed in compliance with state and federal regulations and mitigation measures that would be adopted by Caltrans' as part of the SR-94 Improvement Project. These measures would likely include seasonal limitations on vegetation clearing, pre-construction surveys and the establishment of buffers around any nesting birds.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be used. Improvements to Reservation Road or the development of a new access road from Melody Road would also include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. The potential to disturb special-status bird species is the same as for Daisy Drive. The alignment of the new access road from Melody Road would also impact existing habitat located on the 87-acre parcel for the federally listed Quino checkerspot butterfly (four stands of approximately 16 square feet of dwarf plantain), and habitat for a federal candidate species, the Hermes Copper Butterfly (two stands of approximately 8 square feet of spiny redberry). The improvements would be completed in compliance with state and federal regulations and mitigation measures that would be adopted by Caltrans' as part of the SR-94 Improvement Project. These measures would likely include pre-construction surveys, avoidance measures, and the purchase of compensatory habitat.

5.2.4.3 Migratory Birds

A pre-construction site survey conducted prior to construction of the Gaming Facility, as well as on-going biological monitoring during the entire excavation practice revealed no migratory birds were present or affected by site work. These measures would also be implemented during construction of the fire station (if developed) and restoration of the temporary parking/staging area.

Construction of Daisy Drive or the alternative access road options would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. As described in **Section 5.2.4.2**, construction activities have the potential to disturb nesting birds. Migratory birds and raptors, which are protected by the Migratory Bird Treaty Act could also be affected. Such disturbance would be avoided through the implementation of required mitigation measures, including seasonal limitations on vegetation clearing, pre-construction surveys and the establishment of buffers around any nesting birds.

5.2.4.4 Waters of the U.S.

Water features in the project area subject to USACE jurisdiction under the Clean Water Act (CWA) consist of Willow Creek, its tributaries, and instream riverine marshes (**Figure 4-7**). No wetlands, vernal pools, or other water features are present on the Reservation or areas of the adjacent 4-acre parcel and 87-acre parcel that are within the Gaming Facility project area.

The design of the JIV Gaming Facility and associated facilities (including the optional fire station) avoid the entire channel of Willow Creek.

Construction of Daisy Drive or the alternative access road options would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. These roadway improvements would require the permanent placement of fill or structures or other alterations to protected channels, or the clearing of riparian vegetation. The estimated areas (acreage) of impact are shown in **Table 5-4**. Construction activities could also temporarily impact channels by the placement of fill within the channel, or by increasing erosion or sedimentation in receiving water bodies due to soil disturbance. Any activities within Waters of the U.S. would be conducted under a Section 404 permit, which would require measures to minimize and compensate for any impacts.

Habitat Connectivity and Wildlife Corridors

Willow Creek and its tributaries provide the main wildlife corridors in the project area. The channel of Willow Creek and its associated riparian habitat have been preserved on the Reservation. The fire station, if developed, would be constructed on the 4-acre parcel in a previously developed area and would not affect existing habitat or wildlife corridors.

TABLE 5-4
ROAD ACCESS IMPACTS TO WATERS OF THE U.S.

VEGETATION COMMUNITY TYPE	DAISY DRIVE	ALTERNATIVE ACCESS OPTIONS	
		RESERVATION ROAD	NEW ACCESS FROM MELODY RD.
	ACRES	ACRES	ACRES
Permanent Impacts			
Channels	0.05	0.05	0.10
Wetlands	0.00	0.00	0.00
Totals	0.05	0.05	0.10
Temporary Impacts			
Channels	0.01	0.01	0.02
Wetlands	0.00	0.00	0.00
Totals	0.01	0.01	0.02
SOURCE: Natural Investigations, Inc., 2014			

Construction of Daisy Drive would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. These improvements would involve the erection of fencing, walls, or other wildlife barriers. In many instances, the erection of these retaining walls is seen as a beneficial impact because they discourage animals from entering the SR-94 right-of-way, which is a potential source of mortality. The retaining walls would encourage wildlife to stay in the stream corridor or cross underneath existing culverts and bridges. Existing stormwater collection features (primarily pipe culverts) in the project area and vicinity provide some passage for small animals. As part of the improvements, three culverts would be replaced with enlarged and upgraded culverts. These improved culverts would maintain or increase the heights of current under-road passageways for animals; this would result in a net increase in the size of wildlife corridors within the area.

The two alternative access routes would also result in the improvement of culverts and wildlife corridors. However, the construction of the new access road from Melody Road would occur in a sensitive area designated as hardline preserve, which would cause habitat fragmentation and reduce wildlife corridors and wildlife movement.

5.2.5 CULTURAL AND PALEONTOLOGICAL RESOURCES

Section 106 requires that potential impacts to historic properties are assessed by using the “criteria of adverse effect” (36 CFR 800.5[a][1]): “An adverse effect is found when an

undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

Impacts to cultural resources are being considered in the context of Section 106 of the NHPA and NEPA.

No cultural resources that meet the definition of historic property or historical resource have been documented within the Reservation. During excavation of the Gaming Facility, archaeological monitoring was conducted as stipulated in the Mitigation Monitoring and Reporting Plan adopted by JIV. No cultural resources were encountered during excavation on the Reservation.

Development of the fire station may occur on the 4-acre parcel where cultural resources have been recorded. Based on results of subsurface site investigation, the one recorded site within the 4-acre parcel was determined by SHPO to be ineligible for NRHP listing. As such, no cultural resources that meet the definition of historic property or historical resource are documented to occur within the 4-acre parcel. Prior to use of the 4-acre parcel for staging and use of a portion of the 87-acre parcel for temporary parking, a pedestrian cultural resources survey was undertaken

Completion of Daisy Drive would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. Although the area where these improvements would occur have been disturbed by prior roadway construction or other activities, the area is considered highly sensitive for the discovery of prehistoric, ethnohistoric or historic cultural material or subsurface features. Two known historic properties/historical resources are mapped immediately adjacent to the area of roadway improvements. Construction in these areas would comply with mitigation measures to avoid potential disturbance of these resources; these measures include monitoring by a qualified archeologist of earth-disturbing work, worker education and other inadvertent discovery measures.

Geologic formations that underlie the project area have an extremely low probability of containing paleontological resources. No paleontological resources have been encountered during construction of the Gaming Facility.

5.2.6 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE CONDITIONS

5.2.6.1 Housing

The JIV Gaming Facility's creation of 1,611 new long-term jobs within San Diego County may result in increased housing demand due to the relocation of workers. Increased housing demand is expected to be met by vacant housing units available in the region, primarily in the East and South Suburban residential areas where 11,718 vacant units are estimated to be available (SANDAG, 2015). Looking forward, SANDAG has estimated that the East and South Suburban Areas would experience a cumulative growth of 21,303 housing units by 2020 (SANDAG, 2013). Of the 321,373 total housing units projected to exist in 2020 in the East and South Suburban Areas, approximately 12,218 units are projected to be vacant assuming 4.1 percent and 3.3 percent vacancy rates for the East and South Suburban Areas, respectively (SANDAG, 2013). Employment generated housing demand from the JIV Gaming Facility would be accommodated by existing and future vacant units in the East and South Suburban Areas and, thus, would not result in significant increases in housing demand to the region.

The amount of vacant housing units in addition to the projected increase in the number of housing units, and the amount of undeveloped residential-acres available in the region would provide an ample amount of residential opportunities to meet the demands of the JIV Gaming Facility. A marginally higher employment/housing ratio can be expected in the short term; however, this is not seen as adverse, due to the currently low employment/housing ratio in the Jamul Sub-Regional Area. Therefore, the JIV Gaming Facility would not likely induce "disorderly" residential growth within San Diego County either directly or indirectly.

5.2.6.2 Employment and Fiscal Effects

The JIV Gaming Facility would result in an estimated 1,611 permanent jobs. For purposes of this analysis, 100 percent of the total permanent jobs are assumed to be new jobs – jobs created in the economy rather than lateral shifts from one job to another without labor force replacement. Thus, the total of *new* permanent jobs that would be created is estimated to be 1,611 at full buildout of the gaming complex. Compared to the County's current overall employment level, the number of net new jobs is not significant. However, it becomes more significant when compared to the creation of new jobs in the local Jamul area and in the East and South Suburban Metropolitan Statistical Areas (MSAs).

For purposes of this analysis, it is assumed that a vast majority (90 percent) of the job demand generated by the Gaming Facility project would be met within the East and

South Suburban planning areas, as well as within the Jamul Planning area. The 2012 (most recent data available) estimate for total jobs within the East and South Suburban Statistical Areas is 133,901 and 102,808 respectively (SANDAG, 2013). When compared to the employment level in the combined areas, new job creation from the Gaming Facility would represent around 0.68 percent of total jobs available. Projecting out to the year 2020, total new jobs generated by the casino would represent 0.58 percent of total jobs available. Since the labor force for the Jamul area is small, it is estimated that a small percentage (5 percent) of the workers hired by the Gaming Facility project would come from the Jamul Planning area. Thus, 81 net new jobs for the area were estimated to be created for this area at buildout. The estimate for total jobs within the Jamul Sub-Regional area is 3,085, while that number is projected to increase to 3,336 by 2020 (SANDAG, 2013). The estimated new jobs represent approximately 2.6 percent of the 2012 Jamul Sub-Regional Area employment. Projecting out to the year 2020, total new jobs generated by the Gaming Facility project would also represent 2.4 percent of total jobs available within the Jamul Sub-Regional Area.

The JIV Gaming Facility would not result in a significant employment demand in San Diego County given the relatively low percentage of overall jobs that the casino facility would represent (when compared to the overall number of jobs in the area), coupled with the countywide unemployment rate of 4.8%. This provides an existing pool of labor within the County well beyond the demand created by the JIV Gaming Facility. Employment opportunities are considered a beneficial effect.

The Gaming Facility is expected to drive increases in economic activity, employment, and income for the San Diego economy from the ongoing effects from operation of the Gaming Facility. The Gaming Facility project would include a gaming area in addition to associated food and beverage establishments. The Gaming Facility would generate about $200 million in total revenues annually.

Economic effects are described as the sum of the economic activity within a defined geographic region resulting from an initial change in the economy. This initial change spurs a series of subsequent indirect and induced activities (the re-spending of dollars) as a result of interconnected economic relationships. A direct economic effect is the initial change in the economy attributed to the core development of the Jamul development, i.e., new jobs, output, and earnings generated directly by the development. Indirect and induced economic effects, commonly referred to as the “multiplier effect”, include earnings and employment generated as a result of the purchases of the industries which supply goods and services to the development. Induced economic effects include additional output, earnings and employment generated as a result of the purchases made by Gaming Facility project employees.

The ongoing operations are projected to generate direct impacts of $150 million per year. This includes approximately $69 million in earnings, supporting about 1,611 jobs onsite. Re-spending of this initial impact is projected to generate an additional $106 million in output and an additional 810 jobs throughout the San Diego County economy. Anticipated total one-time expenditures from the operations of the Gaming Facility are $260 million. Of this amount, $136 million is projected to be paid in earnings, supporting 2,420 jobs.

Gaming facility generated expenditures for operation would be dispersed and distributed among a variety of different industries and businesses throughout the County. The indirect and induced output would be considered beneficial fiscal effects.

Public services would be provided to the Reservation during operation of the Gaming Facility. These public service demands would result in costs being expended by the service providers for services such as potable water, solid waste services, emergency medical services, and law enforcement. Impacts to select public services are evaluated in **Section 5.3.8** *Public Services*. As applicable, the JIV would be required to compensate the service providers for services rendered.

5.2.6.3 Environmental Justice

According to the U.S. Census, there are no low-income or minority populations within the project area. The local census tract has higher household incomes and lower racial diversity than the County as a whole. Therefore, the JIV Gaming Facility would not result in environmental justice effects.

5.2.7 RESOURCE USE PATTERNS

5.2.7.1 Transportation/Circulation

Operation of the Gaming Facility would generate traffic, primarily as the result of patron and employee trips. This section is based on a 2014 Traffic Impact Study prepared by Kimley-Horn and Associates as part of Caltrans environmental review of the SR-94 Improvement Project.

Analysis Scenarios

The analysis evaluates different scenarios to identify the projected levels of service on the affected roadways and intersections not only within the context of the existing conditions, but also relative to conditions anticipated in the future when other developments in the area are expected to contribute to traffic in the area. The purpose of evaluating different scenarios is to provide context and perspective of the future no

action conditions and the Proposed Action's contributions to existing and future traffic conditions. The context of each scenario is described in further detail below.

It should be noted that the scenarios address access and intersection improvements that were identified in the Tribal EE prepared for the JIV Gaming Development Project and further reviewed by Caltrans as part of the SR-94 Improvement Project. Further, the traffic impact analysis scenarios include both weekday and weekend scenarios to ensure the analysis takes into account the difference in traffic volumes associated with the Gaming Facility operations on weekdays and weekends.

The conditions of the three traffic scenarios are based on the following:

Existing Conditions

This represents the traffic conditions with the addition of the traffic volumes generated by the Gaming Facility. Traffic conditions assume the completion of intersection and access-road improvements included in Caltrans SR-94 Improvement Project.

Existing peak-hour traffic counts were collected between 2009 and 2012, and nominally represents the year 2013.

Near-Term Conditions

This scenario includes projected traffic growth based on potential projects in the study area, and nominally represents the year 2015. In addition to the JIV Gaming Facility, there are fourteen potential cumulative projects that could add traffic to the study area. These projects are unrelated to the Gaming Facility. They have been previously proposed, and in many cases they have not been built or have not been built-out to their entitled density. These cumulative projects are included in the Near-Term analysis because they represent development projects that are likely to be constructed before other roadway improvements assumed to be in place in the 2035 Horizon Year analysis are completed. These projects include the following:

1. ***TPM 20550 (Morgan Minor Subdivision)*** proposes to construct 2 single-family estate homes. The project site is proposed north of the Procter Valley Road/Poplar Meadow Lane intersection. The project's anticipated daily traffic was manually calculated using SANDAG's *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) ("SANDAG's Trip Rates") for estate homes. The project trips were calculated to generate 24 ADT with 1 inbound/1 outbound trip during the AM peak-hour and 1 inbound/1 outbound trip during the PM peak-hour.

2. ***TM 5154 RPL1 (Hendrix Subdivision)*** is located east of SR-94 (Campo Road) on Las Palmas Road. The project proposes to develop 5 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 60 ADT with 2 inbound/3 outbound trips during the AM peak-hour and 4 inbound/2 outbound trips during the PM peak-hour.

3. ***TM 5213 RPL2 (Mintz Subdivision)*** is located north of Skyline Truck Trail and east of Hidden Trail drive. The project proposes to develop approximately 25-acres of land into 10 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 120 ADT with 3 inbound/7 outbound trips during the AM peak-hour and 8 inbound/4 outbound trips during the PM peak-hour.

4. ***TM 5289 RPL2 (Jamul Highlands Subdivision)*** proposes to construct 25 single-family estate homes. The project site is proposed south of the Valley Road/Jamul Highlands Road intersection. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 300 ADT with 7 inbound/l9 outbound trips during the AM peak-hour and 21 inbound/9 outbound trips during the PM peak-hour.

5. ***TPM 20626*** proposes to construct 3 single-family estate homes. The project site is proposed on the west side of Procter Valley Road, just north of the Proctor Valley Road/Melody Road intersection. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 36 ADT with 1 inbound/2 outbound trips during the AM peak-hour and 3 inbound/1 outbound trips during the PM peak-hour.

6. ***TPM 20628 RPLI (Yacoo Minor Subdivision)*** proposes to construct 4 single-family estate homes. The project site is proposed on Schlee Canyon Road north of Procter Valley Road. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 48 ADT with 1 inbound/3 outbound trips during the AM peak-hour and 4 inbound/1 outbound trips during the PM peak-hour.

7. ***A Residential Development*** is proposed on land situated just east of the Proposed Project and south of Olive Vista Drive. The project proposes to develop 20 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 240 ADT with 6 inbound/13 outbound trips during the AM peak-hour and 17 inbound/7 outbound trips during the PM peak-hour.

8. ***TPM 20599 RPLI (Blanco Parcel Map)*** proposes to construct 4 single-family estate homes. The project site is proposed on the east side of SR-94, north of the Melody Road. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 48 ADT with l inbound/3 outbound trips during the AM peak-hour and 4 inbound/1 outbound trips during the PM peak-hour.

9. ***TPM 20868 (Stein Barth Minor Subdivision)*** is located just north of the Proposed Project and south of Olive Vista Drive. The project proposes to develop 2 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 24 ADT with 1 inbound/1 outbound trip during the AM peak-hour and 1 inbound/1 outbound trip during the PM peak-hour.

10. ***TPM 20594 (Pioneer Minor Subdivision)*** is located just west of the Proposed Project and north of Melody Lane. The project proposes to develop 3 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 36 ADT with 1 inbound/2 outbound trips during the AM peak-hour and 3 inbound/1 outbound trips during the PM peak-hour.

11. ***Otay Ranch -Village 19*** is located south west of the Proposed Project and south of Melody Lane. The project proposes to develop 20 single-family estate homes. The project trips were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 240 ADT with 6 inbound/13 outbound trips during the AM peak-hour and 17 inbound/7 outbound trips during the PM peak-hour.

12. ***Jamul Estates II*** is located just north east of the Proposed Project. The maximum allowable developable lots are 68 single-family estate homes based on the current zoning and for purposes of this EIR it is conservatively assumed that all 68 would be approved/built. Therefore, the project trips associated with such 68 homes were manually calculated using SANDAG's Trip Rates for estate homes. The project is calculated to generate 816 ADT with 20 inbound/46 outbound trips during the AM peak-hour and 57 inbound/24 outbound trips during the PM peak-hour.

13. ***Simpson Farms*** is generally located on the northeast corner of the SR-94 (Campo Road)/Jefferson Road intersection in the Jamul Community of San Diego County. The project proposes to develop 98 single-family estate homes and 115,000 square feet (sf) of commercial uses. Therefore, the project trips

associated with this project were manually calculated using SANDAG's Trip Rates. The project trips were calculated to generate approximately 6,500 ADT with approximately 124 inbound/130 outbound trips during the AM peak-hour and 323 inbound/275 outbound trips during the PM peak-hour.

14. ***Peaceful Valley Ranch*** project entails the subdivision of 181.31-acres for an estate residential development including, 46 new estate residential lots, a 6.7-acre equestrian facility and a new joint-use fire and administration offices for the Rural Fire Protection District and the US Fish and Wildlife Services. The project is located east of SR-94 and would use the intersection of SR-94 and Melody Road as a single access point. The project trips associated with this project were manually calculated using SANDAG's Trip Rates. The total project is calculated to generate approximately 750 ADT with 43 inbound/46 outbound trips during the AM peak hour and 56 inbound/46 outbound trips during the PM peak hour.

Near-Term traffic conditions also assume the completion of intersection improvements included in Caltrans SR-94 Improvement Project. No other roadway network changes are assumed.

Horizon Year Conditions

This scenario represents the traffic conditions of the road network to be in place under Horizon Year (2035) Conditions, consistent with the San Diego Association of Governments (SANDAG) Series 11 and 12 Regional Transportation Forecast Models, and is used to establish long-term conditions for evaluating cumulative impacts. This scenario includes a projected traffic growth based on the addition of the JIV Gaming Facility and other potential projects in the study area. Traffic conditions assume the completion of intersection and access-road improvements included in Caltrans SR-94 Improvement Project.

JIV Gaming Facility Trip Generation

Trip generation rates for the JIV Gaming Facility were developed in consultation with Caltrans based on comparable gaming facilities in California. The JIV Gaming Facility development would generate a total of 9,000 average daily trips. Of these daily trips, approximately 599 (420 in, 179 out) trips would occur during the weekday morning peak-hour period. During the weekday afternoon peak-hour period, the Gaming Facility project would generate 1,005 (533 in, 472 out) trips. During each of the Friday and Saturday peak-hour periods, the Gaming Facility project would generate 1,401 (645 in, 756 out) trips.

Access Road Options

This analysis assumes the use of Daisy Drive as described in Caltrans' SR-94 Improvement Project. If the access option of Daisy Drive is not selected as the access road option, either Reservation Road or the new access from Melody would be used to provide access (see **Section 3.4.1** for details). This analysis evaluates all three access road options.

Caltrans Target Level of Service

Because SR-94 is a state route maintained by Caltrans, SR-94 and all intersections along SR-94 are within Caltrans' jurisdiction. Caltrans endeavors to maintain a target level of service (LOS) at the transition between LOS "C" and LOS "D" for all of its facilities.

San Diego County Target Level of Service

According to San Diego County's guidelines for determining significance, LOS D and above is acceptable for intersections and roadway segments.

Existing Conditions

This represents the traffic conditions with the addition of the traffic volumes generated by the Gaming Facility. Traffic conditions assume the completion of intersection and access-road improvements included in Caltrans SR-94 Improvement Project. No other roadway network changes are assumed to be in place under this scenario.

Intersection Analysis

Tables 5-6 and **5-7** presents the peak-hour LOS analysis results for the study intersections under weekday and typical Friday/Saturday conditions, respectively. As shown in the tables, all intersections would operate acceptably at LOS C or better during all peak-hour periods analyzed, with the exception of the intersection of SR-94 and Jamacha Road, which would operate at LOS D at the Friday PM peak-hour. **Figures 4-9** and **4-10** show the locations and geometrics of the study intersections.

In addition to the intersections along SR-94, the following County of San Diego intersections were also analyzed. The locations of these intersections are shown in **Figure 4-9**. All of these intersections would operate acceptably at LOS D or better under weekday and Friday/Saturday peak hour conditions (Kimley-Horn and Associates, 2012).

TABLE 5-6
INTERSECTION LOS
EXISTING WEEKDAY PEAK-HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	AM	22.5	C	22.5	C	22.5	C
		PM	27.9	C	27.9	C	27.9	C
2	SR-94 & Jamacha Blvd.	AM	18.0	B	18.0	B	18.0	B
		PM	28.9	C	28.9	C	28.9	C
3	SR-94 & Jamacha Rd.	AM	24.7	C	24.7	C	24.7	C
		PM	28.5	C	28.5	C	28.5	C
4	SR-94 & Cougar Canyon Rd.	AM	19.5	B	19.5	B	19.5	B
		PM	15.0	B	15.0	B	15.0	B
5	SR-94 & Steele Canyon Rd.	AM	19.0	B	19.0	B	19.0	B
		PM	22.4	C	22.4	C	22.4	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	AM	12.0	B	12.0	B	12.0	B
		PM	8.3	A	8.3	A	8.3	A
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	AM	13.3	B	13.3	B	13.3	B
		PM	13.6	B	13.6	B	13.6	B
8	SR-94 & Maxfield Rd.	AM	13.2	B	13.2	B	13.2	B
		PM	20.5	C	20.5	C	20.5	C
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	AM	4.8	A	4.8	A	18.3	B
		PM	6.2	A	6.2	A	19.4	B
10	SR-94 & Reservation Rd.	AM	4.8	A	4.8	A	No intersection under this scenario.	
		PM	7.0	A	7.0	A		
11	SR-94 & Honey Springs Rd.	AM	13.1	B	13.1	B	13.1	B
		PM	12.3	B	12.3	B	12.3	B
12	SR-94 & Otay Lakes Rd.	AM	14.5	B	14.5	B	14.5	B
		PM	16.0	C	16.0	C	16.0	C

Notes:
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

13. Jamacha Boulevard and Sweetwater Springs Road
14. Willow Glen Drive and Jamacha Road
15. Steele Canyon Road and Willow Glen Drive
16. Steele Canyon Road and Jamul Drive
17. Lyons Valley Road and Jamul Drive
18. Jefferson Road and Lyons Valley Road
19. Melody Road and Proctor Valley Road

TABLE 5-7
INTERSECTION LOS
EXISTING FRIDAY/SATURDAY PEAK HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	FRI PM	34.7	C	34.7	C	34.7	C
		SAT PM	18.0	B	18.0	B	18.0	B
2	SR-94 & Jamacha Blvd.	FRI PM	28.9	C	28.9	C	28.9	C
		SAT PM	19.8	B	19.8	B	19.8	B
3	SR-94 & Jamacha Rd.	FRI PM	46.1	**D**	46.1	**D**	46.1	**D**
		SAT PM	31.2	C	31.2	C	31.2	C
4	SR-94 & Cougar Canyon Rd.	FRI PM	16.3	B	16.3	B	16.3	B
		SAT PM	20.4	C	20.4	C	20.4	C
5	SR-94 & Steele Canyon Rd.	FRI PM	24.4	C	24.4	C	24.4	C
		SAT PM	22.9	C	22.9	C	22.9	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	FRI PM	10.1	B	10.1	B	10.1	B
		SAT PM	8.2	A	8.2	A	8.2	A
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	FRI PM	17.2	B	17.2	B	17.2	B
		SAT PM	21.9	C	21.9	C	21.9	C
8	SR-94 & Maxfield Rd.	FRI PM	23.0	C	23.0	C	23.0	C
		SAT PM	17.9	C	17.9	C	17.9	C
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	FRI PM	6.8	A	6.8	A	26.3	C
		SAT PM	6.8	A	6.8	A	18.4	B
10	SR-94 & Daisy Dr. or Reservation Rd.	FRI PM	9.0	A	9.0	A	No intersection under this scenario.	
		SAT PM	7.7	A	7.7	A		
11	SR-94 & Honey Springs Rd.	FRI PM	14.2	B	14.2	B	14.2	B
		SAT PM	12.2	B	12.2	B	12.2	B
12	SR-94 & Otay Lakes Rd.	FRI PM	17.7	C	17.7	C	17.7	C
		SAT PM	14.2	B	14.2	B	14.2	B

Notes:
(c) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(d) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

Roadway Segment Analysis

Table 5-8 display the roadway segments analysis for a typical weekday. All roadway segments within the study area would function at LOS D or better with the exception of Steele Canyon Road between Jamul Drive and Willow Glen Drive, which would operate at LOS E.

TABLE 5-8
EXISTING CONDITIONS ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
Sweetwater Springs Blvd.					
between Jamacha Blvd. and Austin Dr.	4 Lane Major Road	37,000	15,573	0.421	B
Jamacha Blvd.					
between SR 94 and Sweetwater Springs Blvd.	4 Lane Major Road	37,000	17,133	0.463	B
Jamacha Rd. (SR 54)					
between SR 94 and Fury Ln.	6 Lane Prime Arterial	57,000	42,055	0.738	C
between Willow Glen Dr. and Brabham St.	6 Lane Prime Arterial	57,000	24,331	0.427	B
Steele Canyon Rd.					
between SR 94 and Jamul Dr.	2 Lane Light Collector	16,200	7,009	0.433	C
between Jamul Dr. and Willow Glen Dr.	2 Lane Light Collector with Continuous Turn Lane	19,000	14,928	0.786	**E**
Jamul Dr.					
between Steele Canyon Rd. and Lyons Valley Rd.	2 Lane Light Collector	16,200	2,703	0.167	B
Willow Glen Dr.					
between Jamacha Rd. and Steele Canyon Rd.	4 Lane Major Road	37,000	20,616	0.557	B
between Steele Canyon Rd. and Hillsdale Rd.	2 Lane Light Collector with Continuous Turn Lane	19,000	12,507	0.658	D
Lyons Valley Rd.					
between SR 94 and Jefferson Rd.	2 Lane Light Collector	16,200	5,612	0.346	C
between Jefferson Rd. and Jamul Dr.	2 Lane Light Collector	16,200	7,638	0.471	D
between Jamul Dr. and Myrtle St.	2 Lane Light Collector	16,200	8,853	0.546	D
Jefferson Rd.					
between SR 94 and Lyons Valley Rd.	2 Lane Light Collector	16,200	3,225	0.199	B
Melody Rd. (b)					
between SR 94 and Proctor Valley Rd.	2 Lane Light Collector	16,200	1,554	0.096	A
Proctor Valley Rd.					
between Melody Rd. and Pioneer Wy.	2 Lane Light Collector	16,200	1,810	0.112	A
Honey Springs Rd.					
between SR 94 and Mother Grundy Truck Trail	2 Lane Light Collector	16,200	1,669	0.103	A
Otay Lakes Rd.					
between SR 94 and Otay Mountain Truck Trail	2 Lane Light Collector	16,200	4,022	0.248	B

Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(b) Under the alternative Access from Melody Road, this roadway segment from the new access road to Proctor Valley Road would have a similar LOS.
Source: Kimley-Horn and Associates, 2012.

Peak-Hour Arterial Analysis

This analysis assumes the completion of traffic signals identified in Caltrans' SR-94 Improvement Project: SR-94 and Lyons Valley Road, SR-94 and Melody Road, and SR-94 at Daisy Drive (or alternatively Reservation Road). The installation of traffic signals at these locations would change the characteristics of the roadway operations between Proctor Valley Road and Otay Lakes Road making the HCM peak-hour two-lane highway analysis no longer applicable. With the installation of the traffic signals, this segment would operate as an arterial since traffic signals would be located within a two-mile distance from each other. **Table 5-9** presents the peak-hour arterial analysis along SR-94 between Via Mercado and Reservation Road. The roadway segment would function at LOS B or better under all peak hour conditions.

TABLE 5-9
EXISTING PEAK-HOUR SR-94 ARTERIAL SEGMENT ANALYSIS VIA MERCADO TO RESERVATION ROAD

PEAK-HOUR CONDITION	DIRECTION	SPEED (a)	LOS (b)
Weekday - AM	EB	46.2	A
	WB	40.3	B
Weekday - PM	EB	42.5	A
	WB	40.9	B
Friday PM	EB	41.6	B
	WB	39.1	B
Saturday PM	EB	43.6	A
	WB	39.5	B

Notes:
(a) Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).
(b) The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.
Source: Kimley-Horn and Associates, 2014

Near-Term Conditions

This represents the traffic conditions with the addition of the traffic volumes generated by the Gaming Facility and other cumulative projects. Near-Term traffic conditions also assume the completion of intersection improvements included in Caltrans SR-94 Improvement Project. No other roadway network changes are assumed.

Intersection Analysis

Tables 5-10 and **5-11** presents the peak-hour LOS analysis results for the study intersections under weekday and typical Friday/Saturday conditions, respectively. Seven intersections would operate below Caltrans' LOS target.

TABLE 5-10
INTERSECTION LOS
NEAR-TERM WEEKDAY PEAK HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	AM	44.2	**D**	44.2	**D**	44.2	**D**
		PM	91.7	**F**	91.7	**F**	91.7	**F**
2	SR-94 & Jamacha Blvd.	AM	22.1	C	22.1	C	22.1	C
		PM	50.9	**D**	50.9	**D**	50.9	**D**
3	SR-94 & Jamacha Rd.	AM	35.1	**D**	35.1	**D**	35.1	**D**
		PM	66.4	**E**	66.4	**E**	66.4	**E**
4	SR-94 & Cougar Canyon Rd.	AM	34.7	C	34.7	C	34.7	C
		PM	45.6	**D**	45.6	**D**	45.6	**D**
5	SR-94 & Steele Canyon Rd.	AM	23.1	C	23.1	C	23.1	C
		PM	28.6	C	28.6	C	28.6	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	AM	27.2	C	27.2	C	27.2	C
		PM	20.4	C	20.4	C	20.4	C
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	AM	53.2	**D**	53.2	**D**	53.2	**D**
		PM	61.1	**E**	61.1	**E**	61.1	**E**
8	SR-94 & Maxfield Rd.	AM	14.7	B	14.7	B	14.7	B
		PM	27.0	**D**	27.0	**D**	27.0	**D**
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	AM	8.9	A	8.9	A	18.1	B
		PM	10.8	B	10.8	B	20.6	C
10	SR-94 & Daisy Dr. or Reservation Rd.	AM	4.8	A	4.8	A	No intersection under this scenario.	
		PM	7.1	A	7.1	A		
11	SR-94 & Honey Springs Rd.	AM	16.8	C	16.8	C	16.8	C
		PM	17.2	C	17.2	C	17.2	C
12	SR-94 & Otay Lakes Rd.	AM	20.0	C	20.0	C	20.0	C
		PM	23.8	C	23.8	C	23.8	C

Notes:
Bold values indicate intersections operating at LOS D, E or F.
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

TABLE 5-11
INTERSECTION LOS
NEAR-TERM FRIDAY/SATURDAY PEAK HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	FRI PM	65.2	**E**	65.2	**E**	65.2	**E**
		SAT PM	32.6	C	32.6	C	32.6	C
2	SR-94 & Jamacha Blvd.	FRI PM	40.3	**D**	40.3	**D**	40.3	**D**
		SAT PM	24.0	C	24.0	C	24.0	C
3	SR-94 & Jamacha Rd.	FRI PM	60.4	**E**	60.4	**E**	60.4	**E**
		SAT PM	40.1	**D**	40.1	**D**	40.1	**D**
4	SR-94 & Cougar Canyon Rd.	FRI PM	19.9	B	19.9	B	19.9	B
		SAT PM	9.5	A	9.5	A	9.5	A
5	SR-94 & Steele Canyon Rd.	FRI PM	26.9	C	26.9	C	26.9	C
		SAT PM	18.1	B	18.1	B	18.1	B
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	FRI PM	11.5	B	11.5	B	11.5	B
		SAT PM	8.8	A	8.8	A	8.8	A
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	FRI PM	41.9	**D**	41.9	**D**	41.9	**D**
		SAT PM	23.7	C	23.7	C	23.7	C
8	SR-94 & Maxfield Rd.	FRI PM	26.2	**D**	26.2	**D**	26.2	**D**
		SAT PM	19.2	C	19.2	C	19.2	C
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	FRI PM	8.6	A	8.6	A	19.4	B
		SAT PM	8.3	A	8.3	A	16.2	B
10	SR-94 & Reservation Rd.	FRI PM	9.4	A	9.4	A	No intersection under this scenario.	
		SAT PM	7.8	A	7.8	A		
11	SR-94 & Honey Springs Rd.	FRI PM	22.8	C	22.8	C	22.8	C
		SAT PM	16.4	C	16.4	C	16.4	C
12	SR-94 & Otay Lakes Rd.	FRI PM	32.5	**D**	32.5	**D**	32.5	**D**
		SAT PM	18.2	C	18.2	C	18.2	C

Notes:
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

In addition to the intersections along SR-94, the following County of San Diego intersections were also analyzed. All of these intersections would operate acceptably at LOS D or better under weekday and Friday/Saturday peak hour conditions with the exception of the intersection of Jamacha Boulevard and Sweetwater Springs Road, which would at LOS E under weekday PM peak-hour and at LOS F under Friday PM peak-hour conditions (Kimley-Horn and Associates, 2012).

13. Jamacha Boulevard and Sweetwater Springs Road
14. Willow Glen Drive and Jamacha Road
15. Steele Canyon Road and Willow Glen Drive
16. Steele Canyon Road and Jamul Drive
17. Lyons Valley Road and Jamul Drive
18. Jefferson Road and Lyons Valley Road
19. Melody Road and Proctor Valley Road

Roadway Segment Analysis

Table 5-12 presents the roadway segments analysis under Near-Term Conditions for a typical weekday. All roadway segments within the study area would continue to function at LOS D or better, with the exception of the following roadway segments:

- Steele Canyon Road between Jamul Drive and Willow Glen Drive (LOS E); and
- Willow Glen Drive between Steele Canyon Road and Hillsdale Road (LOS E).

TABLE 5-12
NEAR-TERM CONDITIONS ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
Sweetwater Springs Blvd.					
between Jamacha Blvd. and Austin Dr.	4 Lane Major Road	37,000	17,939	0.485	B
Jamacha Blvd.					
between SR 94 and Sweetwater Springs Blvd.	4 Lane Major Road	37,000	19,347	0.523	B
Jamacha Rd. (SR 54)					
between SR 94 and Fury Ln.	6 Lane Prime Arterial	57,000	49,684	0.872	D
between Willow Glen Dr. and Brabham St.	6 Lane Prime Arterial	57,000	26,721	0.469	B
Steele Canyon Rd.					
between SR 94 and Jamul Dr.	2 Lane Light Collector	16,200	7,744	0.478	D

TABLE 5-12 cont.
NEAR-TERM CONDITIONS ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
between Jamul Dr. and Willow Glen Dr.	2 Lane Light Collector with Continuous Turn Lane	19,000	17,399	0.916	**E**
Jamul Dr.					
between Steele Canyon Rd. and Lyons Valley Rd.	2 Lane Light Collector	16,200	4,683	0.289	C
Willow Glen Dr.					
between Jamacha Rd. and Steele Canyon Rd.	4 Lane Major Road	37,000	22,029	0.595	B
between Steele Canyon Rd. and Hillsdale Rd.	2 Lane Light Collector with Continuous Turn Lane	19,000	14,006	0.737	**E**
Lyons Valley Rd.					
between SR 94 and Jefferson Rd.	2 Lane Light Collector	16,200	6,028	0.372	C
between Jefferson Rd. and Jamul Dr.	2 Lane Light Collector	16,200	7,756	0.479	D
between Jamul Dr. and Myrtle St.	2 Lane Light Collector	16,200	10,003	0.617	D
Jefferson Rd.					
between SR 94 and Lyons Valley Rd.	2 Lane Light Collector	16,200	5,100	0.315	C
Melody Rd. (b)					
between SR 94 and Proctor Valley Rd.	2 Lane Light Collector	16,200	2,064	0.127	B
Proctor Valley Rd.					
between Melody Rd. and Pioneer Wy.	2 Lane Light Collector	16,200	4,068	0.251	B
Honey Springs Rd.					
between SR 94 and Mother Grundy Truck Trail	2 Lane Light Collector	16,200	2,216	0.137	B
Otay Lakes Rd.					
between SR 94 and Otay Mountain Truck Trail	2 Lane Light Collector	16,200	6,378	0.394	C

Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(b) Under the alternative Access from Melody Road, this roadway segment from the new access road to Proctor Valley Road would have a similar LOS.
Source: Kimley-Horn and Associates, 2012.

Peak-Hour Arterial Analysis

Table 5-13 presents the peak-hour arterial analysis along SR-94 between Via Mercado and Reservation Road. The roadway segment would function at LOS C or better with the JIV Gaming Facility under all peak hour conditions.

Horizon Year Conditions

Per the County of San Diego's Mobility Element included in the approved General Plan, two roadway segment improvements were assumed to be completed under the Horizon Year conditions. The analysis evaluates whether the Gaming Facility project's contribution to any significant impacts would be cumulatively considerable:

- Completion of Proctor Valley Road as a 2-lane light collector from Chula Vista city limits to SR-94; and
- Realignment of Otay Lakes Road with the intersection of Honey Springs Road to form a four-way intersection at SR-94.

This scenario includes a projected traffic growth based on the addition of the JIV Gaming Facility and other potential projects in the study area. Traffic conditions assume the completion of intersection and access-road improvements included in Caltrans SR-94 Improvement Project.

Intersection Analysis

Tables 5-14 and **5-15** presents the peak-hour LOS analysis results for the study intersections under weekday and typical Friday/Saturday conditions, respectively. Eight intersections would operate below Caltrans' LOS target.

TABLE 5-13
NEAR-TERM PEAK-HOUR SR-94 ARTERIAL SEGMENT ANALYSIS
VIA MERCADO TO RESERVATION ROAD

PEAK-HOUR CONDITION	DIRECTION	SPEED (a)	LOS (b)
Weekday - AM	EB	44.4	A
	WB	34.1	B
Weekday - PM	EB	34.1	B
	WB	33.1	C
Friday PM	EB	37.3	B
	WB	34.1	B
Saturday PM	EB	44.5	A
	WB	38.8	B

Notes:
(a) Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).
(b) The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.
Source: Kimley-Horn and Associates, 2014

TABLE 5-14
INTERSECTION LOS
HORIZON WEEKDAY PEAK-HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	AM	178.7	**F**	178.7	**F**	178.7	**F**
		PM	312.4	**F**	312.4	**F**	312.4	**F**
2	SR-94 & Jamacha Blvd.	AM	56.7	**E**	56.7	**E**	56.7	**E**
		PM	87.6	**F**	87.6	**F**	87.6	**F**
3	SR-94 & Jamacha Rd.	AM	60.5	**E**	60.5	**E**	60.5	**E**
		PM	155.0	**F**	155.0	**F**	155.0	**F**
4	SR-94 & Cougar Canyon Rd.	AM	41.5	**D**	41.5	**D**	41.5	**D**
		PM	43.4	**D**	43.4	**D**	43.4	**D**
5	SR-94 & Steele Canyon Rd.	AM	25.6	C	25.6	C	25.6	C
		PM	31.4	C	31.4	C	31.4	C
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	AM	37.2	**D**	37.2	**D**	37.2	**D**
		PM	22.3	C	22.3	C	22.3	C
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	AM	388.9	**F**	388.9	**F**	388.9	**F**
		PM	321.6	**F**	321.6	**F**	321.6	**F**
8	SR-94 & Maxfield Rd.	AM	15.0	C	15.0	C	15.0	C
		PM	31.9	**D**	31.9	**D**	31.9	**D**
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	AM	12.8	B	12.8	B	16.1	B
		PM	16.0	B	16.0	B	20.9	C
10	SR-94 & Reservation Rd.	AM	4.8	A	4.8	A	No intersection under this scenario.	
		PM	7.8	A	7.8	A		
11	SR-94 & Honey Springs Rd.	As part of the San Diego County General Plan, the intersection of Honey Springs Road would be realigned to form a four-way intersection with Otay Lakes Road						
12	SR-94 & Otay Lakes Rd.	AM	20.1	C	20.1	C	20.1	C
		PM	30.4	C	30.4	C	30.4	C

Notes:
Bold values indicate intersections operating at LOS D, E or F.
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

TABLE 5-15
INTERSECTION LOS
HORIZON FRIDAY/SATURDAY PEAK HOUR CONDITIONS

INTERSECTIONS		PEAK HOUR	DAISY DRIVE		ALTERNATIVE ACCESS OPTIONS			
					RESERVATION ROAD		NEW ACCESS FROM MELODY ROAD	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	SR-94 & Via Mercado	FRI PM	276.9	**F**	276.9	**F**	276.9	**F**
		SAT PM	146.5	**F**	146.5	**F**	146.5	**F**
2	SR-94 & Jamacha Blvd.	FRI PM	85.7	**F**	85.7	**F**	85.7	**F**
		SAT PM	43.8	**D**	43.8	**D**	43.8	**D**
3	SR-94 & Jamacha Rd.	FRI PM	143.4	**F**	143.4	**F**	143.4	**F**
		SAT PM	95.2	**F**	95.2	**F**	95.2	**F**
4	SR-94 & Cougar Canyon Rd.	FRI PM	23.9	C	23.9	C	23.9	C
		SAT PM	9.5	A	9.5	A	9.5	A
5	SR-94 & Steele Canyon Rd.	FRI PM	31.2	C	31.2	C	31.2	C
		SAT PM	19.8	B	19.8	B	19.8	B
6	SR-94 & Indian Springs Dr./Lyons Valley Rd.	FRI PM	18.3	B	18.3	B	18.3	B
		SAT PM	8.7	A	8.7	A	8.7	A
7	SR-94 & Proctor Valley Rd./Jefferson Rd.	FRI PM	307.0	**F**	307.0	**F**	307.0	**F**
		SAT PM	140.5	**F**	140.5	**F**	140.5	**F**
8	SR-94 & Maxfield Rd.	FRI PM	33.8	**D**	33.8	**D**	33.8	**D**
		SAT PM	20.7	C	20.7	C	20.7	C
9	SR-94 & Melody Rd./Peaceful Valley Ranch Rd.	FRI PM	18.2	B	18.2	B	22.2	C
		SAT PM	12.1	B	12.1	B	30.8	C
10	SR-94 & Daisy Dr. or Reservation Rd.	FRI PM	11.2	B	11.2	B	No intersection under this scenario.	
		SAT PM	8.3	A	8.3	A		
11	SR-94 & Honey Springs Rd.	As part of the San Diego County General Plan, the intersection of Honey Springs Road would be realigned to form a four-way intersection with Otay Lakes Road						
12	SR-94 & Otay Lakes Rd.	FRI PM	39.3	**D**	39.3	**D**	39.3	**D**
		SAT PM	17.5	B	17.5	B	17.5	B

Notes:
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8.0
Source: Kimley-Horn and Associates, 2014

In addition to the intersections along SR-94, the following County of San Diego intersections were also analyzed under weekday and Friday/Saturday peak hour conditions (Kimley-Horn and Associates, 2012). The LOS of each intersection is summarized below.

13. Jamacha Boulevard and Sweetwater Springs Road (all LOS F)
14. Willow Glen Drive and Jamacha Road (Weekday LOS D/D, Fri/Sat LOS E/D)
15. Steele Canyon Road and Willow Glen Drive (Weekday LOS D/F, Fri/Sat LOS D/C)
16. Steele Canyon Road and Jamul Drive (Weekday LOS F/F, Fri/Sat LOS E/C)
17. Lyons Valley Road and Jamul Drive (Weekday LOS D/F, Fri/Sat LOS F/C)
18. Jefferson Road and Lyons Valley Road (Weekday LOS F/F, Fri/Sat LOS C/B)
19. Melody Road and Proctor Valley Road (Weekday LOS F/F, Fri/Sat LOS E/F)

Roadway Segment Analysis

Table 5-16 presents the roadway segments analysis under Horizon Conditions for a typical weekday. All roadway segments within the study area would continue to function at LOS D or better, with the exception of the following roadway segments:

- Jamacha Road between SR-94 and Fury Lane (LOS F);
- Steele Canyon Road between Jamul Drive and Willow Glen Drive (LOS F);
- Jamul Drive between Steele Canyon Road and Lyons Valley Road (LOS E);
- Willow Glen Drive between Steele Canyon Road and Hillsdale Road (LOS E);
- Lyons Valley Road between Jefferson Road and Jamul Drive (LOS E);
- Lyons Valley Road between Jamul Drive and Myrtle Street (LOS E);
- Jefferson Road between SR-94 and Lyons Valley Road (LOS E); and
- Proctor Valley Road between Melody Road and Pioneer Way (LOS E).

TABLE 5-16
HORIZON CONDITIONS ROADWAY SEGMENT LOS

ROADWAY SEGMENT	ROADWAY CLASSIFICATION	LOS E CAPACITY	EXISTING CONDITIONS		
			ADT	V/C RATIO	LOS
Sweetwater Springs Blvd.					
between Jamacha Blvd. and Austin Dr.	4 Lane Major Road	37,000	27,000	0.730	C
Jamacha Blvd.					
between SR 94 and Sweetwater Springs Blvd.	4 Lane Major Road	37,000	26,000	0.703	C
Jamacha Rd. (SR 54)					
between SR 94 and Fury Ln.	6 Lane Prime Arterial	57,000	78,000	1.368	**F**
between Willow Glen Dr. and Brabham St.	6 Lane Prime Arterial	57,000	34,000	0.596	B
Steele Canyon Rd.					
between SR 94 and Jamul Dr.	2 Lane Light Collector	16,200	9,000	0.556	D
between Jamul Dr. and Willow Glen Dr.	2 Lane Light Collector with Continuous Turn Lane	19,000	24,000	1.263	**F**
Jamul Dr.					
between Steele Canyon Rd. and Lyons Valley Rd.	2 Lane Light Collector	16,200	11,000	0.679	**E**
Willow Glen Dr.					
between Jamacha Rd. and Steele Canyon Rd.	4 Lane Major Road	37,000	26,000	0.703	C
between Steele Canyon Rd. and Hillsdale Rd.	2 Lane Light Collector with Continuous Turn Lane	19,000	18,400	0.968	**E**
Lyons Valley Rd.					
between SR 94 and Jefferson Rd.	2 Lane Light Collector	16,200	8,300	0.512	D
between Jefferson Rd. and Jamul Dr.	2 Lane Light Collector	16,200	12,000	0.741	**E**
between Jamul Dr. and Myrtle St.	2 Lane Light Collector	16,200	13,000	0.802	**E**
Jefferson Rd.					
between SR 94 and Lyons Valley Rd.	2 Lane Light Collector	16,200	11,000	0.679	**E**
Melody Rd. (b)					
between SR 94 and Proctor Valley Rd.	2 Lane Light Collector	16,200	5,000	0.309	C
Proctor Valley Rd.					
between Melody Rd. and Pioneer Wy.	2 Lane Light Collector	16,200	14,000	0.864	**E**
Honey Springs Rd.					
between SR 94 and Mother Grundy Truck Trail	2 Lane Light Collector	16,200	4,000	0.247	B
Otay Lakes Rd.					
between SR 94 and Otay Mountain Truck Trail	2 Lane Light Collector	16,200	9,000	0.556	D

Notes:
Bold values indicate roadway segments operating at LOS E or F.
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(b) Under the alternative Access from Melody Road, this roadway segment from the new access road to Proctor Valley Road would have a similar LOS.
Source: Kimley-Horn and Associates, 2012.

Peak-Hour Arterial Analysis

Table 5-17 presents the peak-hour arterial analysis along SR-94 between Via Mercado and Reservation Road. The roadway segment would function at LOS C or better with the JIV Gaming Facility under all peak hour conditions.

TABLE 5-17
HORIZON PEAK-HOUR SR-94 ARTERIAL SEGMENT ANALYSIS
VIA MERCADO TO RESERVATION ROAD

PEAK-HOUR CONDITION	DIRECTION	SPEED (a)	LOS (b)
Weekday - AM	EB	35.0	B
	WB	20.1	**E**
Weekday - PM	EB	23.6	**D**
	WB	17.2	**E**
Friday PM	EB	24.6	**D**
	WB	17.3	**E**
Saturday PM	EB	34.7	B
	WB	22.0	**D**

Notes:
(a) Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).
(b) The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.
Source: Kimley-Horn and Associates, 2014

5.2.7.2 Land Use

Consistency with Adopted Plans

County regulations do not apply to land development on the Jamul Reservation given that the land is held in trust by the United States for the JIV. Development of the gaming complex on the Reservation is not subject to the Jamul/Dulzura Subregional Plan, Resource Protection Ordinance, Habitat Loss Permit/Coastal Sage Scrub Ordinance, Grading and Clearing Ordinance, Biological Mitigation Ordinance, or Multiple Species Conservation Program.

The County's Subregional Plan contains mobility goals that seek to ensure a safe and efficient roadway system. The JIV is currently working with Caltrans to identify those improvements to SR-94 that would ensure safe and efficient access to and from the Jamul Reservation. The various access improvements have been designed to Caltrans standards and would, thus, provide for safe and efficient movement of people.

The Subregional Plan states that SR-94 is a scenic highway corridor as designated by the County General Plan Conservation and Open Space Element. The County's General Plan Update states that two County routes have been designated State Scenic Highways, a segment of SR 78 and SR 125. The segment of SR-94 that travels past the Reservation is a designated County Scenic Highway, but has not achieved State Designated Scenic Highway status. The County has adopted Policy COS-11.3, which states:

Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning,
- Integration of natural features into the project,
- Appropriate scale, materials, and design to complement the surrounding natural landscape,
- Minimal disturbance to topography,
- Clustering of development so as to preserve a balance of open space vistas, natural features, and community character, and
- Creation of contiguous open space networks.

If the fire station is developed on the 4-acre parcel San Diego County would allow the use by right and consider it an Essential Service under County Zoning for the Agricultural (A72) zone. Section 6905 of the County Zoning Ordinance does require staff level site plan review of a fire station located in the A72 zone. No development of the fire station would be allowed until County review is completed. Any County site plan review conditions would need to be fully implemented by the JIV as part of the County approval process.

Assuming compliance with County land use requirements, the proposed uses for the 4-acre parcel would be considered consistent with the County General Plan and Zoning Ordinance. Please see the discussion in Section 5.2.4.5 for issues related to the San Diego County MSCP Subarea Plan.

Completion of Daisy Drive would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. These improvements would enhance a preexisting rural roadway and transportation corridor. The conversion of existing land uses would be limited to the existing highway ROW and strips of land adjacent to the highway ROW along 0.8 to 0.9 miles of SR-94. The improvements would necessitate the acquisition of 4.74+/- acres of additional ROW along SR-94.

Lands that would be converted adjacent to the existing Caltrans ROW are part of the Metro-Lakes-Jamul segment of the San Diego County MSCP. North of the intersection of Melody Road on the east and west sides of SR-94 are lands zoned RR1 (Rural Residential). Construction of the roadway improvements would not conflict with existing land uses, disrupt or divide a community or conflict with land use designations in the vicinity of the Gaming Facility project site. The improvements involve acquiring approximately 20 to 40 feet on the east side of SR-94 and in some instances up to 50 feet on the west side of SR-94.

Additional ROW needed for the roadway improvements would follow the existing alignment of SR-94. Right-of way-needs are concentrated in the following locations; 1) near the existing Melody Road intersection, primarily on the west side of SR-94, both north and south of the intersection, 2) on the west side of SR-94 north of the Reservation (the “4-Acre Parcel”), and 3) south of the Reservation Road.

The San Diego County General Plan contains minimum parcel sizes for all property types surrounding the project site. The roadway improvements would not reduce parcel sizes on land designated “SR-1”, Residential Low Density, “ER”, Estate Residential, or “GA”, General Agricultural below the threshold minimums.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be used. Development of either Reservation Road or the new access road from Melody Road would be similar to that described for Daisy Drive above. Development of these alternatives would also include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. The Reservation Road alternative would require the acquisition of 4.46+/- acres of additional ROW, and the new access road from Melody Road would require 8.63+/- acres of additional ROW.

In addition, the new access road from Melody Road alternative would require additional ROW on land within Otay Mesa Specific Plan over the undeveloped 87-acre parcel between Melody Road and the Reservation. This property is zoned “SPA”, Specific Plan, the size and uses having been adopted under separate action and governed by its own SPA regulations. With any change to the specific plan regulations to allow for the development of the roadway, amendment to the Otay Mesa Specific Plan would need to be submitted for approval by the San Diego County Planning Commission and County Board of Supervisors.

The new access road from Melody Road alternative would result in a new connection to Melody Road, which is classified as a collector street. The Jamul/Dulzura Subregional Plan contains Mobility Goal #1, Policy #15, which states:

> Encourage the elimination of safety hazards caused by direct access onto major arterial or collector streets. In particular, new commercial development shall have limited access to such roads…. (Jamul/Dulzura Subregional Plan, page 13)

The new access road from Melody Road alternative would connect a commercial establishment (Gaming Facility) to a collector street (Melody Road), which appears to be in contravention to the stated County policy.

San Diego County Regional Transportation Plan

The Regional Transportation Plan (RTP) utilizes a set of broad goals and policy objectives that are applied to the reasonable expected revenue scenario (the expected result) to maintain the goals of the plan. Proposed improvements factored into the plan consider widespread coordination with transit agencies, including Caltrans, to anticipate future improvements. According to San Diego COG staff[7], since the Daisy Drive improvements (including those on SR-94) would be undertaken in conjunction with Caltrans and follow established protocols for Livability, Mobility, Efficiency, Accessibility, Reliability, Sustainability, and Equity, the improvements are consistent with the RTP. This conclusion would apply to the alternative access road improvements of either Reservation Road or the new access road from Melody Road, if selected.

SR-94 Operational Improvement Project

Northerly improvements of the Daisy Drive improvements are located within an 18-mile segment between Melody Lane and SR-188. Improvements slated for implementation at mile 20.5 to Mile 24.4 of SR-94 include installing passing lanes, lane widening, and to some extent, the realignment of curves, where necessary. The access road improvements are similar in scope and scale to the SR-94 Operational Improvement Project, and are therefore consistent and compatible for this stretch of SR-94. This conclusion would apply to the alternative access road improvements of either Reservation Road or the new access road from Melody Road, if selected.

On-Reservation Land Use Effects

Development of the JIV Gaming Facility has maintained roadway access to the western portion of the Reservation where a Tribal community center resides along with the adjacent church and cemetery. Development of the Daisy Drive improvements would improve this access, as would the alternative access road improvements of either Reservation Road or the new access road from Melody Road. There is no adopted Tribal land use plans/zoning ordinance for the Reservation.

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[7] / As provided in a telephone conversation on June 10, 2010

5.2.8 PUBLIC SERVICES

5.2.8.1 Water Supply

The Otay Water District provides water supply to the Reservation and JIV Gaming Facility. The District provides water service according to a Subarea Master Plan that was developed to plan potable and fire water service to the Gaming Facility; the plan was approved by the District in 2006. The adopted Subarea Master Plan for Potable Water Service to the Jamul Reservation (**Appendix 11**) assumed a buildout average day demand of 143 gpm and peak hour demand of 428 gpm.

Because the JIV Gaming Facility incorporates a wastewater treatment plant (WWTP) that would provide high quality reclaimed water, the use of reclaimed water would reduce the amount of potable water used. Reclaimed (or recycled) water in this document means wastewater that has been treated sufficiently to meet the California Department of Health Services' (DHS) comprehensive recycled water regulations that define treatment processes, water quality criteria, and treatment reliability requirements for public use of recycled water. These regulations are contained in Title 22, Division 4, Chapter 3, of the California Code of Regulations, commonly referred to as Title 22. Title 22 prescribes recycled water criteria and divides them into several categories based upon the extent of public access or risk of exposure. In general, Title 22 regulations are more stringent for uses with high potential for public contact and less stringent for uses with low potential for public contact.

Depending on the use, Title 22 establishes four levels of treatment required for recycled water: undisinfected secondary, undisinfected secondary-23, undisinfected secondary-2.2, and disinfected tertiary. The wastewater treatment plant would treat to the disinfected tertiary level, the highest level of treatment categorized by Title 22. This category of recycled water includes secondary effluent that has undergone tertiary treatment and has been disinfected to a level such that the median coliform bacteria in the water does not exceed a coliform bacterial density of 2.2 Most Probable Number per 100 mL. Title 22 defines the tertiary treatment process as wastewater that has been oxidized, coagulated, clarified, and filtered. The recycled water turbidity should not exceed a turbidity level of 2 nephelometric turbidity units (NTU) on average, should not exceed 5 NTU more than 5% of the time during any 24-hour period, and should never exceed 10 NTU. Approved uses of tertiary recycled water include: irrigation of food crops, parks and playgrounds, residential landscaping, pasture, and vineyards; supply for non-restricted recreational impoundments and fish hatcheries; toilet flushing; and fire suppression.

Demineralization would be required to prevent the effluent from continually degrading through each use cycle. To be re-used in the toilets/urinals and cooling towers, a portion of the effluent would be demineralized so that the blended effluent has a total dissolved solids concentration of 500 mg/L or less. The JIV Gaming Facility's recycled water intended for re-use in toilets and cooling towers would be demineralized as needed by reverse osmosis or electrodialysis reversal. A brine waste stream of 10 to 20% salinity would be disposed by trucking the reject water to the San Diego Metro Pump Station No. 1 in the City of San Diego.

Recycled water would be used for irrigation of landscape and green roofs, cooling tower, and toilet and urinal flushing within the gaming and hotel. All facilities would be double plumbed. An estimated 60% of the water used by gaming patrons would be used for toilet flushing as shown in **Table 5-18**. Water uses with potable applications would remain on potable water service. The revised, reduced water demand volumes and flow rates, assuming the use of recycled water, are presented in **Table 5-18**. By using recycled water, the total water demand volume is decreased from 86,730 gallons per day to 34,692 gallons per day and the peak hour day demand flow rate for design capacity is decreased from 181 gpm to 72 gpm. These figures fall well within the Otay District water demand assumed in the Subarea Master Plan (Otay Water District, 2010) for the Jamul Reservation, which were designed without consideration for reclaimed water.

TABLE 5-18
ESTIMATED POTABLE WATER DEMANDS WITH RECLAMATION

COMPONENT	TOILET FLUSHING % OF TOTAL WATER DEMAND	WATER DAY DEMAND (GPD)	WATER DAY DEMAND (GPM)	MAXIMUM DAY DEMAND (GPM)	PEAK HOUR DEMAND (GPM)
Gaming Facility	60%	34,692	24	48	72
SOURCE: Dexter Wilson Engineering, Inc. 2011; EDS, Inc. 2011					

The maximum day demand for the JIV Gaming Facility with reclamation is 48 gpm (0.07 million gallons per day). The current capacity for total reservoir storage volume for the 1296 Pressure Zone is 5.03 million gallons, according to the Otay Water District Master Plan (Otay Water District, 2010). The water demand created by the development of the JIV Gaming Facility would result in a negligible increase in demand on Pressure Zone 1296. Furthermore, the District Master Plan would increase total capacity to 10 million gallons by 2016. As well, the District Master Plan planned for the water demand of the future residential build out of two large land tracts—Village 14 and Village 16. These large land tracts would not likely be developed because they are now owned by the

California Department of Fish and Game and managed as wildlife preserves. Thus, any increases in the future water demand created by the JIV Gaming Facility are more than offset by the future increased capacity of the Pressure Zone and the removal of the planned water demands of Village 14 and Village 16. Likewise, the available maximum pumping capacity of the 1296 Pressure Zone is 3,300 gpm, and the JIV Gaming Facility would require a daily design flow of only 24 gpm (and a peak flow of 72 gpm) with reclamation. The projected ultimate maximum day demand for pressure zone 1296 is 3,017 gpm, and another pumping station is planned for Phase III of the District's Master Plan, which would increase capacity to 10,000 gpm. Thus, the 1296 Pressure Zone has more than adequate capacity to handle the water demands of the JIV Gaming Facility.

Water provided by the Otay Water District meets federal and state water quality drinking water requirements; therefore, no additional treatment is required. Preliminary analysis of the on-site water system indicates adequate water pressure is available in the existing Otay Water District water main along SR-94 to service the Gaming Facility project. Consequently, a booster station would not be necessary to increase water pressure to the JIV Gaming Facility or other customers.

According to the JIV Gaming Facility's fire protection plan, the design water demands for fire suppression are 1,500 gpm for 4 hours for the JIV Gaming Facility (National Code Consultants, 2011). This equates to 360,000 gallons for the duration of this designed fire event. The existing water supply system can handle this design volume since the 1296 Pressure Zone has about 1 million gallons of surplus reserve.

If the optional fire station is developed on the 4-acre parcel, water supply to this site would be via the same Otay Water District connection that serves the Reservation. The water demand associated with the fire station is incorporated into the overall demand presented for the Gaming Facility above.

5.3.8.2 Wastewater Service

As part of the Gaming Facility project, a wastewater treatment plant is being constructed to service the facilities. This WWTP would handle only wastewater produced by the facilities developed on the Reservation and the fire station; it is not intended to service any other properties.

Wastewater generated from the facilities would flow by gravity through a series of pipes to the WWTP located on the west side of the Reservation. The wastewater would be treated to a level that meets California Title 22 recycled water quality standards. One hundred percent of wastewater flows would be treated to a level that would make it suitable for all recycled water uses and effluent disposal strategies identified for the Gaming Facility project. Wastewater would be treated using an immersed membrane

bioreactor (MBR) wastewater treatment plant. The MBR system is a state-of-the-art, advanced wastewater treatment process that utilized membrane technology, comparable to that used for production of potable water. This process was selected to achieve high quality tertiary effluent for the purposes of on-site reuse and disposal. The MBR system has been used widely throughout the country to handle flows up to five million gallons per day. The MBR process has the ability to handle high Biological Oxygen Demand and Total Suspended Solids levels typically observed in gaming wastewater. The MBR also handles variations in flow better than typical activated sludge systems. The MBR system is also approved by DHS for Title 22 applications. The MBR system is being designed for nitrification/denitrification in order to reduce the level of nitrates in the effluent. Additionally, the effluent would be disinfected by ultraviolet (UV) light. By selecting UV disinfection, the concern over disinfection byproducts entering the groundwater is eliminated. Typical MBR effluent quality has the following concentrations: Biochemical Oxygen Demand < 1 mg/L, Total Suspended Solids = 0 mg/L, Ammonia < 0.2 mg/L, Nitrate = 8 mg/L, Total Coliform < 2.2 MPN/100mL, and Turbidity < 0.1 NTU.

MBR systems are known for high rates of organics removal and can be further designed to target nutrients, including nitrogen and phosphorus. Compared with other wastewater treatment plant designs, the MBR system is more reliable and consistent in producing high quality effluent. The only treatment design that is more advanced is a reverse osmosis system. Reverse osmosis systems are designed for potable water systems and are generally cost-prohibitive.

Biosolids produced by the wastewater treatment plant would be dewatered and stored within the wastewater treatment plant site. After dewatering, the dewatered biosolids would be trucked off-site regularly for disposal at the Otay or Sycamore Sanitary Landfills. The frequency of this operation would depend on the solids wasting frequency in the WWTP. All biosolids dewatering and storage facilities would be contained and the foul air scrubbed to minimize odors.

Table 5-19 lists the projected average, daily and peak wastewater flows for the JIV Gaming Facility. The use of recycled water would not affect the design flow for the treatment and collection system. However, wastewater disposal requirements would be reduced since a portion would be diverted to the reclamation system. Breaking the water balance numbers down on a per monthly basis, **Table 5-20** shows that the maximum disposal requirement would be 37,419 gpd in January. There would be no need for disposal June-October.

The recycled water system would include a recycled water storage tank, and the recycled water transmission and distribution pipelines. The facilities are being built with

a dual plumbing system—one for potable water and one for recycled water. Recycled water would be produced by the wastewater treatment plant at the rate that wastewater is received at the plant. The recycled water storage tank would contain, at a minimum, sufficient recycled water at all times to meet the gaming complex's toilet flushing requirements. This storage tank would be located adjacent to, or underneath the WWTP, and the minimum storage capacity would be 200,000 gallons. Recycled water would be used for irrigation of landscape and green roofs, and for evaporation water supply in cooling towers.

As mentioned above under **Section 5.2.1.2** Soils/Geology, and as shown in **Table 5-20**, excess treated water would need to be disposed during the months of November through May. The monthly treated water surplus estimates show that a maximum of 37,419 gpd during the month of January is the worst-case month for excess water during the year (Wastewater Addendum, May 2015). The disposal site is capable of accommodating up to 18,700 gpd while providing 100 percent redundancy. Excess water beyond the 18,000 gpd disposed of on-site, which would occur during the months of November to February, would be trucked to San Diego Metro Pump Station No. 1 Receiving Station located on East Harbor Drive in the City of San Diego.

TABLE 5-19
WASTEWATER FLOW ESTIMATES

ITEM	ESTIMATES
Gaming Facility Avg Daily Flow (gpd)	58,100
Gaming Facility Max Daily Flow (gpd)	88,350
Gaming Facility Peak Daily Flow (gpd)	118,600
SOURCE: Wastewater Addendum, May 2015; EDS, 2015	

TABLE 5-20
MONTHLY TREATED WATER SURPLUS

MONTH	DAILY SURPLUS (gpd)
January	37,419
February	27,143
March	16,452
April	10,333
May	323

TABLE 5-20 cont.
MONTHLY TREATED WATER SURPLUS

MONTH	DAILY SURPLUS (gpd)
June	0
July	0
August	0
September	0
October	0
November	23,000
December	33,548
SOURCE: Wastewater Addendum, May 2015; EDS, 2015	

If the optional fire station is developed on the 4-acre parcel, wastewater would be treated by the WWTP on the Reservation. The wastewater treatment associated with the fire station is incorporated into the overall volume estimates presented for the Gaming Facility above.

5.3.8.3 Solid Waste Service

Waste generation resulting from operation of the Gaming Facility is estimated to be 5.43 tons per day (**Table 5-21**). The gaming complex would employ a 30 cubic yard compactor to reduce the volume of trash being produced. To reduce the volume of trash even further, a streamline compactor would be used to reduce the water content of the trash.

Waste sludge and solids residuals (biosolids) generated from operation of the WWTP would be dewatered on-site by means of a belt filter press and ultimately hauled off site for disposal. Both the Otay and Sycamore Sanitary Landfills accept biosolids. The frequency of this operation would depend on the solids wasting frequency in the wastewater plant. Solids wasting at the treatment plant would likely vary between 5,000-10,000 gallons per month at 1.5% solids, resulting in a minimal increase to the regional disposal of solid waste approximately once a month.

TABLE 5-21
SOLID WASTE DISPOSAL ESTIMATE

EMPLOYMENT CATEGORY	JOBS	CIWMB Business Type	RATE (Tons/employee/year)	Tons/year	Tons/day
Gaming	964	38[a]	0.9	868	2.38
Food and Beverage	130	29[b]	3.1	402	1.10
Entertainment	61	33[c]	1.7	103	0.28
Gift Shop	46	33	1.7	78	0.21
Admin.	69	33	1.7	117	0.32
Marketing	61	33	1.7	103	0.28
Maintenance	76	33	1.7	129	0.35
Security	205	38	0.9	184	0.51
	1,611		Total Waste Disposal:	1,984	5.43

Notes:
[a] Includes SIC code 79 Amusement and Recreation Services
[b] Includes SIC code 58 Eating and Drinking Places
[c] Includes SIC code 73 Business Services
SOURCE: CIWMB, 2011; EDS, 2015

The Jones Disposal Company (a subsidiary of Waste Management, Inc.) currently provides solid waste service to the Reservation. The JIV would enter into a contract with the company to extend service to the gaming complex. The waste would be shipped to a transfer station in El Cajon, where recyclable materials are removed, thus reducing the amount of waste sent to either the Otay Landfill or the Sycamore Sanitary Landfill. The Otay Landfill, located in the City of Chula Vista, has a permitted maximum disposal of 5,830 tons per day and had a remaining capacity of 24,514,904 cubic yards in 2012 (CalRecycle, 2015). The Sycamore Sanitary Landfill, located in the City of San Diego, has a permitted maximum disposal of 3,800 tons per day and had a remaining capacity of 42,246,551 cubic yards in 2011 (CalRecycle, 2015).

The JIV Gaming Facility is expected to generate 5.43 tons per day which represents 0.09% of the Otay Landfill permitted daily intake. This estimated daily tonnage represents 0.14% of the Sycamore Landfill permitted daily intake. The estimated solid waste generation by the Gaming Facility would utilize approximately 0.06% of the combined permitted maximum disposal of 9,630 tons per day between the two landfills. The Gaming Facility's projected solid waste generation is considered an insignificant contribution to the waste stream and is not expected to significantly decrease the life expectancy of either landfill. San Diego County, in consultation with the California Integrated Waste Management Board, regulates landfills through the issuance of permits to ensure that environmental effects to groundwater, soil, and air are minimized. Thus, construction and operation of the JIV Gaming Facility would have a less-than-significant impact upon regional solid waste disposal services.

Litter generated at the Gaming Facility project would be handled appropriately through disposal at the aforementioned facilities. Landscaping and maintenance staff would pick up any litter that is dropped on site. Decorative trash and recycling receptacles would be placed strategically throughout the gaming complex to encourage patrons not to litter. The constant presence of roving security guards would also help prevent littering at the gaming complex. The Caltrans Adopt a Highway Program found that all adoptable stretches of SR-94 around Jamul (from the junction of 94 and 54 south past Daley Ranch) have been adopted and are being maintained free of garbage.

5.3.8.4 Electricity, Natural Gas and Telecommunications

Construction of Daisy Drive or the alternative access roads has the potential to disrupt or damage existing utilities within the construction area. To avoid potential construction-related conflicts with underground utilities, Underground Service Alert (USA) provides a free "Dig Alert" service to all excavators (contractors, homeowners and others), in Southern California. The excavator's call to USA would automatically notify all USA Members (utility service providers) who may have underground facilities at their work site. In response, the USA Members would mark or stake the horizontal path of their underground facilities, provide information about, or give clearance to dig. This simple safety service protects the excavator from personal injury and underground facilities from being damaged.

The utility companies would be responsible for the timely removal or protection of any existing utility facilities located within construction areas. The Joint Utilities Coordination Committee has developed procedures to assist cities, counties and utilities in coordinating public improvement projects to alleviate scheduling and construction conflicts.

Past versions of larger gaming facilities proposed by the JIV were estimated to potentially have a peak demand load of 6.6 megawatts. This is a worst case number when applied to the current Gaming Facility, but is used as a conservative estimate for purposes of this analysis. This number was an estimate based on National Electricity Code (NEC) calculations, which generally overestimate project demands to assure adequate power is supplied. The facilities are being built in compliance with the NEC and all State and County amendments, including the California State Building Code Title 24 regulations for energy-saving design.

The Gaming Facility project site is currently served by one SDG&E circuit via a 12-kilovolt aerial cable along SR-94. This circuit, which serves the Jamul area, is rated to carry approximately 10 megawatts. To provide service for operation of the Gaming Facility, SDG&E is currently installing a new underground 12-kilovolt feeder circuit from

the Jamacha Substation to the Reservation. The new circuit would be installed within the Caltrans right-of-way of SR-94. From the Caltrans ROW, the new circuit would be installed underground within the Reservation Road corridor to the Gaming Facility.

Two emergency generators would be provided to assure full capacity service to the JIV Gaming Facility in the event of a loss of service from the SDG&E grid. The generators would be rated at two megawatts each and would be located west of the Gaming Facility. Use of the generators would be restricted to emergency purposes only. There would be a one-day supply of diesel fuel on-site. However, with refueling, longer periods of grid power failure would not disrupt the operation of the JIV Gaming Facility. Diesel fuel for the generators would be stored in two 3,850-gallon tanks. There would also be a liquid propane tank located along with the diesel fuel tanks to provide propane to the kitchen facility. The tanks would be located above ground and would be double-walled to provide for leak-detection and containment. Additionally, the tanks would have a pre-cast concrete encasement to further protect against the possibility of a leak.

When analyzed on a regional level, the JIV Gaming Facility does not constitute a significant increase in power demand. According to the California Energy Commission, California's electricity generation system generates more than 296,000 gigawatt hours each year (California Energy Commission, 2011). San Diego County's current generating capacity is 5,438 megawatts from 68 generation facilities, ranging from nuclear to wind turbine. The JIV Gaming Facility's peak demand load of 6.6 megawatts represents only 0.12% of the County's current generating capacity.

The Tribal Government would provide telecommunication facilities to service the facilities. The Jamul Tribal Government would coordinate with the chosen service providers for additional utilities and/or upgrades of existing utilities. As described above, propane would be used instead of natural gas for the kitchen facilities. The JIV Gaming Facility would not affect area natural gas facilities or supply.

5.3.8.5 Law Enforcement

Operation of the JIV Gaming Facility would result in additional calls for law enforcement services to local law enforcement agencies. The increased demand for public safety services is typical of commercial development. Consistent with Section 8.0 of the Tribal-State Compact, the JIV is committed to providing on-site security for gaming operations to reduce and prevent criminal and civil incidents. Impacts would be lessened due to the 24-hour per day presence of Tribal security and monitoring of the casino by video surveillance, which would aid in the deterrence of criminal activity at the Gaming Facility. Under Public Law 280, the State of California and other local law enforcement agencies have enforcement authority over criminal activities on Tribal land. The JIV may enter

into a service agreement with the San Diego County Sheriff's Department to address criminal issues. The Sheriff's Department does not have authority over civil matters on Tribal lands.

Based on information provided by the California Highway patrol (CHP), the increase in traffic along SR-94 may increase service demands on the El Cajon Office. The CHP is obligated to provide traffic control assistance, handle disabled vehicles, and to enforce traffic regulations along SR-94, which is a special duty line beat. The SR-94 in the area of the Gaming Facility project site is considered to be a low priority area, based on service requirements in other more populated areas of the County. Potential effects to patrol demands are based upon the ability of roadways to safely handle traffic. The JIV would complete roadway upgrades identified in the SR-94 Improvement Project, and the JIV would make fair-share contributions to other traffic improvements in order to improve traffic flow and safety on SR-94.

5.3.8.6 Fire Protection and Emergency Medical Services

Operation of the facilities would occur in an area that is surrounded by grasslands and is highly susceptible to grassfires. The use of electrical or mechanical equipment could result in a structure or grass fire. The facilities were designed and constructed to comply with the following codes:

Building Codes:

- 2013 California Building Code
- 2012 International Building Code

Fire Codes:

- 2013 California Fire Code (CFC)
- County of San Diego 2011 Consolidated Fire Code

Mechanical Codes:

- 2013 California Mechanical Code (CMC)
- 2012 Uniform Mechanical Code (UMC)

Plumbing Codes:

- 2013 California Plumbing Code (CPC)
- 2012 Uniform Plumbing Code (UPC)

Electrical Codes:

- 2013 California Electrical Code (CEC)
- 2011 National Electrical Code (NEC)

Energy Codes:

2010 California Building Energy Efficiency Standards

2013 California Green Building Standards Code

National Fire Protection Association Codes and Standards (NFPA):

NFPA 13, Automatic Fire Sprinkler Systems

NFPA 10. Potable Fire Extinguishers

NFPA 14, Standpipe Systems

NFPA 20, Centrifugal Fire Pumps

NFPA 72, National Fire Alarm Standard

NFPA 110, Emergency and Standby Power Systems

The JIV has agreed via a compact with the State to meet the California codes, including the NFPA codes adopted by the State. All enclosed structures would be fitted with features identified in **Appendix 13** of this document.

The automatic fire sprinkler systems, using quick response sprinkler heads where appropriate, would limit fire size and control or extinguish fires with little need for fire fighter intercession. Smoke detectors would be installed in mechanical and electrical rooms, and normally unoccupied spaces. They would not be installed in public areas. Activation of sprinklers provides adequate alarm for these spaces. This fire sprinkler and smoke detector approach meets or exceeds current code requirements.

The facilities have been constructed to meet adequate fire flow requirements. A fire flow of at least 1,500 gallons per minute (after applying sprinkler credits) would be provided by the Otay Water District. In addition, adequate water would be available for firefighting by providing an on-site water storage tank, pump system, and emergency backup system near the wastewater treatment facility, thereby meeting the requirements of the CFC, UFC, and the California Building Code. Standpipe outlets would be provided in the parking garage.

In addition to the features identified above, the JIV would form an on-site Reservation Fire Department, or enter into a service agreement with San Diego Rural Fire Protection District (SDRFPD) as detailed in **Section 3.4.1** of the Final SEIS.

If developed, the Jamul Tribal Fire Department would enter into a Mutual Aid Agreement with various local agencies including San Miguel Consolidated Fire Protection District, SDRFD, the US Department of Forestry, Cal-Fire, and shared resources for Emergency Dispatch Center the Heartland Communication Facility Authority (HCFA), El Cajon, CA and Emergency Medical Responses. The JIV would contract directly with American

Medical Services (AMR) for Advanced Life Support (ALS) ambulance services. Subject to the Director of Public Safety Authorities Having Jurisdiction (AHJ) review, the ALS would be staffed with an on-site paramedic and Emergency Medical Technician. Detailed fire protection and life safety features of the on-site facilities are identified in Appendix 13 of the Tribal EE. Participation in any mutual or automatic aid agreements is subject to negotiation between the JIV and those agencies. The mutual aid would provide for an adequate first response to all Reservation alarms with a system of redundancy for augmentation of initial responses when necessary.

The implementation of the program identified above by the JIV would result in a net beneficial impact to the surrounding community. The compliance with applicable codes and standards such as the fire codes and NFPA standards (implemented with the program above) would assure that adequate, qualified fire protection services are provided for the Reservation. The adoption of mutual aid agreements with other neighboring fire districts would provide additional fire protection to the surrounding community, while at the same time assuring that qualified backup is available if an incident were to occur at the Reservation.

Public concern has been expressed regarding future traffic congestion and the potential effect of this congestion on the ability of the SDRFPD to maintain adequate response times. Emergency calls to the SDRFPD are dispatched via Code 3 Response, which involves the use of lights and sirens, which alerts motorist to divert to the right side of the roadway to allow emergency vehicles to utilize the center of the roadway. To provide for the necessary emergency vehicles access clearances, vehicles need a minimum of eight (8) feet to pull over and away from the main line of traffic flow. One common example utilizing a forty (40)-foot of highway ROW (pavement plus shoulder), would ensure the safe passage of emergency vehicles with the capability for motorists to safely pull over on each side of the roadway, in this example 24 feet of emergency vehicle access width would be available. Since SR-94 is never less than 40 feet through its entire corridor, ample width for the safe passage for emergency vehicles is readily available. Additionally, the new traffic signals installed at Melody/SR-94 and the entrance of Daisy Drive or alternative reservation access road would provide additional control features via the emergency vehicle's opti-com devices, which utilize a strobe light to control and override the traffic signals, which would improve response times for the SDRFD.

5.2.9 OTHER VALUES

5.2.9.1 Noise

Noise criteria used in this study include the Federal Highway Administration (FHWA) Noise Abatement Criteria for the assessment of noise consequences related to surface

traffic. In addition, environmental consequences are also evaluated relative to the change in ambient noise conditions at existing noise-sensitive uses in the project vicinity which would result from the project.

Federal Noise Abatement Criteria

FHWA establishes Noise Abatement Criteria (NAC) for various land uses which have been categorized based upon activity. Land uses are categorized on the basis of their sensitivity to noise, as indicated in **Table 5-22**.

TABLE 5-22
FHWA NOISE ABATEMENT CRITERIA

Activity Category	Leq(h)	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B*	67	Exterior	Residential
C*	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E*	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	-	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	-	-	Undeveloped lands that are not permitted

* Includes undeveloped lands permitted for this activity category
Source: FHWA, 2011.

Local Standards

The San Diego County Noise Ordinance (San Diego County Code of Regulatory Ordinances. Title 3. Division 6. Chapter 4. Section 36.401) provides General Sound Level Limits according to land use. These standards apply to non-construction noise sources. Land surrounding the project site is zoned A72 (Agriculture) and S88 (Specific Plan), which both allow for residential uses. The exterior noise level limits specified by the noise ordinance for low-density residential land uses are 50 dBA Leq from 7 a.m. to 10 p.m., and 45 dBA Leq from 10 p.m. to 7 a.m. This standard applies at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

Construction noise, with the exception of emergency work, is limited by the County Noise Ordinance to not exceed an average sound level of 75 decibels for an eight-hour period, between 7 a.m. and 7 p.m. This standard applies to the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

According to San Diego County Code, except for emergency work or work on a public road project, a significant impact results if a person produces or causes to be produced an impulsive noise that exceeds the maximum sound level shown in **Table 5-23**, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period. The maximum sound level depends on the use being made of the occupied property.

TABLE 5-23
MAXIMUM SOUND LEVEL (IMPULSIVE) PERMITTED AS MEASURED AT OCCUPIED PROPERTY

OCCUPIED PROPERTY USE	DECIBELS (dBA)
Residential, Village Zoning, or Civic Use	82
Agriculture, Commercial, or Industrial Use	85
SOURCE: San Diego County, 2009; Ldn Consulting, 2011;EDS, 2015	

Based on the County General Plan, exterior noise and land use-compatibility levels are established at 60 dBA CNEL for single family, 65 dBA CNEL for multifamily and an interior noise level of 45 dBA CNEL for all residential, with exceptions as identified in the County General Plan Noise Element (County 2011). Noise sensitive land uses include, but are not limited to, residences, schools, hospitals, and libraries. Additionally, a 10

dBA CNEL increase is considered a substantial increase over existing conditions (County 2011).

In contrast to noise, vibration is not a common environmental problem. Some common sources of vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and heavy earth-moving equipment.

Like noise, vibration from a single source may consist of a range of frequencies. The magnitude of vibration is commonly expressed as the peak particle velocity (PPV) in the unit of inches per second (in/sec). The PPV is the maximum velocity experienced by any point in a structure during a vibration event and indicates the magnitude of energy transmitted through vibration. PPV is an indicator often used in determining potential damage to buildings from vibration associated with blasting and other construction activities. **Table 5-24** summarizes the typical effects of vibration on people and buildings based on a review of published vibration levels and effects (Caltrans, 2013).

TABLE 5-24
VIBRATION EFFECTS ON BUILDINGS AND HUMANS

Effects	Peak Particle Velocity (in/sec)	
	Transient Sources [1]	Continuous/Frequent Intermittent Sources [2]
Potentially Damaged Structure Type		
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
Human Responses		
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:
1 Transient sources create a single isolated vibration event, such as blasting and drop balls.
2 Continuous/frequent intermittent sources include impact pile drivers, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans, 2013

Construction Noise

Construction of the Gaming Facility is nearing completion. No noise or vibration complaints have been received to date, including during initial excavation and blasting. Development of Daisy Drive and if developed, the fire station would result in typical construction-related noise. **Table 5-25** lists noise levels produced by typical construction machinery.

Construction noise levels are rarely steady in nature, but instead fluctuate depending on the number and type of equipment in use at any given time. There would be times when no large equipment is operating and noise would be at or near ambient levels. Ambient noise levels in the project vicinity are primarily determined by traffic on SR-94. As described in **Section 4.10**, hourly average ambient noise levels near the project site were recorded in the range of 56 to 65 dBA. In addition, construction-related sound levels experienced by a noise sensitive receptor in the vicinity of the project site would be a function of distance.

Construction activities would include the various pieces of construction equipment identified in **Table 5-25**. The nearest occupied structure to the project site is the San Diego Rural Fire Protection District station on the east side of SR-94 at 14024 Peaceful Valley Ranch Road. The fire station is located approximately 230 feet north of the proposed construction, and has a direct line of sight from the construction site. The intervening terrain is sparsely vegetated and provides a mix of acoustically hard and soft site conditions. To be conservative this assessment uses hard site conditions, which attenuate noise at about 6 dB(A) per doubling of distance. In addition, the fire station is currently influenced by continuous noise generated from SR-94. At this distance, based on simultaneous use of a three pieces of equipment, e.g. 2 dozers and a loader, the maximum hourly construction noise level would be approximately 85 dBA L_{eq} at 50 feet. Based on a distance of 230 feet from the center of construction, construction noise would attenuate to 72 dBA L_{eq}(8) or less at the property line of the fire station. Noise levels of this magnitude would not exceed the County's noise level limit for construction activities.

TABLE 5-25
NOISE LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT

EQUIPMENT	NOISE LEVEL AT 50 FEET	TYPICAL DUTY CYCLE
Auger Drill Rig	85	20%
Backhoe	80	40%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%

TABLE 5-25 cont.
NOISE LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT

EQUIPMENT	NOISE LEVEL AT 50 FEET	TYPICAL DUTY CYCLE
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 KVA or less)	70	50%
Generator (more than 25 KVA)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Insitu Soil Sampling Rig	84	20%
Jackhammer	85	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Rock Crusher	95	50%
Scraper	85	40%
Tractor	84	40%

KVA = kilovolt amps
Source: FHWA, 2008

Construction Vibration

Blasting was required for excavation of the Gaming Facility foundation. All blasting was completed in accordance with a blasting plan identified in the Tribal EE. No adverse effects of blasting were reported. Development of Daisy Drive and if developed, the fire station, would result in typical construction-related vibration. **Table 5-26** shows vibration levels from typical construction equipment.

TABLE 5-26
VIBRATION LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT

Activity	Peak Vibration Levels (In/Sec PPV) at 25 ft.
Vibratory roller	0.210
Large bulldozer	0.089
Loaded truck	0.076

Source: Caltrans, 2013.

The nearest off-site receptor is the fire station located approximately 230 feet north of the Daisy Drive project site. At a distance of 200 feet, the vibration from a vibratory roller would be attenuated to a PPV of approximately 0.026 in/sec[8], with most other equipment generating less vibration. These vibration levels may be perceptible at the fire station, but would not have the potential to damage buildings.

Operational Traffic Noise

The dominant noise generated by the operation of the JIV Gaming Facility would be from traffic; the Gaming Facility would contribute to an increase in local traffic volumes, resulting in higher noise levels along local roadways. Noise levels along SR-94 were predicted using the FHWA Traffic Noise Model (TNM). The results of the noise modeling for the existing and horizon year (2035) condition are presented in **Table 5-27**. As shown, changes in noise levels associated with projected increases in traffic levels on SR-94 by the year 2035 are expected to be 5 dBA Leq or less. Changes in noise levels of this order would be barely perceptible to the average human ear.

TABLE 5-27
MODELED TRAFFIC NOISE CONDITIONS

RECEIVER LOCATION	NEAREST MAJOR INTERSECTION	LAND USE	EXISTING dBA Leq	2035 dBA Leq	CHANGE dBA Leq
11330 Campo Rd, La Mesa	SR-94 and Jamacha Blvd.	Skyline Wesleyan Church	62	64	2
2987 Jamacha Rd, El Cajon	SR-94 and Jamacha Road	Rancho San Diego Town Center – Retail/Restaurant	53	58	5
12856 Campo Rd, Spring Valley	SR-94 and Steele Canyon Road	Residential	55	58	3
12918 Campo Rd, Jamul	SR-94 and Steele Canyon Road	7-Eleven Retail	66	69	3
13801 Campo Rd, – Jamul	SR-94 and Indian Springs Drive	Taproot Montessori Preschool	56	60	4
13925 Campo Rd, Jamul	SR-94 and Maxfield Road	Residential	47	52	5
14013 Las Palmas Rd, Jamul	SR-94 and Melody Road	Residential	56	57	1
14024 Peaceful Valley Ranch Rd, Jamul	SR-94 and Melody Road	Fire Station	58	61	3
Source: Caltrans, 2015					

[8] PPV = 0.210 (25/200)[1] Based on a attenuation rate of 1 due to the potential presence of competent bedrock in the vicinity.

On Site Mechanical Equipment

Mechanical equipment may be a primary noise source associated with the JIV Gaming Facility. The equipment would be mounted on the rooftop of the gaming complex within a mechanical room, as well as in the basement of the parking garage in the case of the wastewater treatment plant. Potential noise sources include fans, pumps, compressors, chillers, and cooling towers. Noise levels from this equipment vary substantially depending on unit efficiency, size, and location, but generally range from 45 to 70 dBA Leq at a distance of 50 feet (EPA 1971). Accounting for typical attenuation rates of 6 dB per doubling of distance, noise levels attributed to unshielded mechanical systems could reach 55 Leq at the nearest property line which may exceed the nighttime noise level limit as identified in the Section 36.404 of the County Code. However, the Gaming Facility would incorporate acoustical louvers capable of achieving a 10 dBA reduction, to ensure noise levels do not exceed the nighttime noise level limit.

Emergency Electrical Generators

Emergency generators may be used to supply necessary power requirements to vital systems within facilities. Emergency generators are typically operated under two conditions: loss of main electrical supply or preventive maintenance/testing. The operation of mechanical equipment associated with emergency operations is exempt from the noise standards outlined in the San Diego County Code; thus, this analysis focuses on routine preventive maintenance and testing operations, which are conducted on a periodic basis.

Reference noise-levels of generators are approximately 75 to 82 dBA at 7 meters (23 feet) (Kohler Power Generation 2008) Based on these reference noise levels, unshielded emergency electrical generators operating for 60 minutes under full load, could exceed the County's noise ordinance for daytime stationary-source noise if located within 800 feet of noise sensitive land uses. In addition, unshielded generators located within 1,650 feet of noise-sensitive land uses could exceed the significance criteria for nighttime stationary-source noise. Maintenance for generators typically only requires 15 minutes or less of operating time per month. Therefore, the average hourly noise level for generator maintenance would be approximately 68 dBA L_{eq} at 50 feet. Additionally, the emergency generator would be west of the parking garage in an equipment room, which would attenuate noise levels by approximately 20-30 dBA.

Emergency Facilities

The JIV Gaming Facility may include emergency facilities, i.e., a fire station that could generate high noise levels from alarms and vehicle movements when station crews

respond to emergency situations. The noise levels associated with the operation of emergency activities are infrequent and exempt from the County Noise Ordinance.

Parking Lot Activities

Activities making up a single parking event include vehicle arrival, limited idling, occupants exiting the vehicle, door closures, conversations among passengers, occupants entering the vehicle, startup, and departure of the vehicle. A representative parking lot with 200 stalls and 400 parking events per hour would produce a noise level that exceeds the significance criteria for the daytime at distances up to 200 feet and exceeds the nighttime noise standard at distances up to 350 feet. No noise sensitive residential land uses would be within 570 feet of parking areas.

Loading Dock and Delivery Activity

Noise sources associated with loading dock and delivery activities can include trucks idling, onsite truck circulation, trailer-mounted refrigeration units, pallets dropping, and the operation of forklifts. Noise monitoring at loading docks previously undertaken indicates that typical hourly average noise levels range from 55 to 60 dBA Leq and from 80 to 84 dBA Lmax at a distance of 50 feet. Based on these previously measured noise levels, the significance criteria would be exceeded at approximately 160 feet from the acoustic center of the loading dock and the nighttime stationary noise criterion would be exceeded approximately 280 feet from the acoustic center of the loading dock. No noise sensitive land uses would be within 280 feet of loading docks.

5.2.9.2 Hazardous Materials

Accidental Release of Hazardous Materials - Construction

During the period of construction of the fire station (if developed) and Daisy Drive or the alternative access roads, various petroleum products and hazardous materials would be stored and used in the project area. **Table 5-28** provides a list of construction materials that may be used and activities that may be performed that have the potential to contribute pollutants, other than sediment, directly to the ground or to storm water runoff.

Under CWA Section 402, any construction project that disturbs at least one acre of land requires enrollment in the construction general permitting program under the NPDES. For construction on Indian Reservations and federal lands, the landowner and contractor must enroll for coverage under the U.S. EPA's General Storm Water Discharge Permit for Construction Activities (NPDES No. CAR10000IF). For construction on non-federal lands in California, the landowner and contractor must enroll for coverage under the State Water Resources Control Board's General Storm Water Discharge Permit for

Construction Activities (Order No. 2009-0009, NPDES No. CAS000002) prior to the initiation of construction. Coverage under either permit requires creation and implementation of an effective storm water pollution prevention plan, erosion control plan, hazardous materials management and spill response plan, and construction best management practices, all of which are designed to minimize or eliminate accidental discharges of pollutants. These plans would reduce or eliminate the potential for accidental release of pollutants during construction, as well as properly control stormwater on the construction site. Stormwater Pollution Prevention Plans have been completed and filed for work on the Reservation and the 4-acre parcel.

TABLE 5-28
SUMMARY OF POTENTIAL POLLUTANTS OTHER THAN SEDIMENT

CONSTRUCTION ACTIVITY/MATERIAL TYPE	POTENTIAL POLLUTANT
Vehicle lubricants and fuels, including oil, grease, diesel and gasoline, and coolants	Petroleum hydrocarbons, volatile organic compounds (VOCs)
Asphaltic emulsions associated with asphalt-concrete paving operations	Petroleum hydrocarbons, VOCs
Portland cement, masonry, and concrete products, muriatic acid, etc.	Materials with a low or high pH, materials with high alkalinity, metals
Base and subbase material	Materials with high alkalinity / pH, metals
Adhesives, paints, solvents, etc.	VOCs, SVOCs, metals
Landscaping materials and wastes	Pesticides, biological oxygen demand, metals
Treated lumber (materials and waste)	Arsenic, copper, other metals, creosote
Building material packaging and construction personnel	General litter (municipal solid waste, universal waste)
Portable toilets	Septic waste (fecal coliform, biological oxygen demand)
SOURCE: Natural Investigations, 2013	

Buried Hazards or Hazardous Materials - Construction

No evidence of buried storage tanks or soil or groundwater contamination or other recognized environmental conditions were found during environmental site assessments performed in the last decade. To date, no buried tanks for contaminated soils or groundwater have been found during construction. All tanks located at the former gas pump at the fire station have been properly removed. Therefore, no buried hazards are expected to exist within the construction area.

Accidental Release of Hazardous Materials - Operation

Operation of the JIV Gaming Facility would involve the use, storage, and disposal of some hazardous materials and petroleum products, which include the following:

- Emergency generators would provide back-up electrical service to the JIV Gaming Facility in the event of a loss of service from the SDG&E grid. Diesel fuel for the generators would be stored in two 3,850-gallon tanks. The tanks would be located above ground and would be double-walled to provide for leak-detection and containment. Additionally, the tanks would have a pre-cast concrete encasement to further protect against the possibility of a leak;
- A liquid propane tank would be located near the diesel fuel tanks to provide propane to the kitchen facility;
- A small emergency generator would provide back-up electrical service to the fire station (if developed). A small diesel tank would be used to power the generator; and
- Herbicides, pesticides, paints, and strong cleansers would be used as part of building and grounds maintenance.

Under state and federal laws that are jointly enforced under the Unified Program administered by the California Environmental Protection Agency, businesses and commercial and industrial operations are carefully monitored. Among the requirements for legal operation of a business or enterprise that is involved with reportable quantities of petroleum products or hazardous materials are the following:

- creation and implementation of a Hazardous Materials Business Plan, which includes a spill prevention, containment, and countermeasures plan;
- current inventory and site map of all reportable quantities of petroleum products or hazardous materials;
- annual inspections of the facility by the Certified Unified Program Agency and/or local fire department;
- employee training; and
- proper recordkeeping of purchases, disposal, and manifesting of hazardous materials and wastes.

If a business generates hazardous wastes above threshold volumes, the business must register as a Hazardous Waste Generator with the U.S. EPA and/or the California Environmental Protection Agency, depending upon the jurisdiction. Registration involves regular inspections as well as the implementation of requirements for storage, labeling,

contingency planning, training, shipping, reporting, and disposal of hazardous materials. The JIV would comply with these existing regulatory and monitoring mechanisms.

Risk of Causing Wildfire During Construction

Wildfires are a potential hazard in rural San Diego County. Areas adjacent to the project area are covered in fuel-rich vegetation, such as grasses, leaf litter, resinous shrubs, and trees. The Gaming Facility project area is located within an area of moderate to high fire hazard. Construction activities may introduce potential ignition sources that have the potential to initiate a wildfire, which could cause injury or death of people or property losses. Implementation of typical best management practices adopted by the JIV would reduce fire hazards.

5.2.9.3 Visual Resources

The JIV Gaming Facility is located in a setting of hilly terrain of semi-arid scrub, stone outcrops, and tree-lined drainages. The primary viewpoint of the project site is along SR-94 with additional viewpoints from the fire station located across SR-94 and distant residences in the surrounding hills.

Completion of Daisy Drive would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. The improvements would result in a wider expanse of pavement associated with wider lanes, added turn lanes, and the new access driveway. Minor alterations to the bends and curves of the road would also occur. Retaining walls, traffic signals located at intersections, and street lights would be located along stretches of improved roadway. All of the retaining walls are proposed to be between three and eight feet tall. The height of the walls is low relative to the surroundings, and they would run parallel to the roadway, rather than at right angles; thus conforming with lines of the roadway as a unified part of the improvements, making them less visible. Placement of the walls (as well as their height) would help to ensure they do not block the visibility of any natural features. Overall, the viewshed would remain an area of transition, primarily consisting of open grazed land surrounded by rocky hillsides, dotted with manmade features, fences, creeks, and scattered buildings.

Daisy Drive would be a divided roadway with an entrance ramp elevated over an exit ramp. The ramps would raise the roadway from the grade of SR-94 to the separate entrance and exit levels of the Gaming Facility. Based on engineering plans, up to 15 feet of fill would be added to accomplish the elevation change. Retaining walls would be constructed to contain the fill. The retaining walls would have a height of 10 to 17 feet. From the top of the fill ramp, the final 50 to 120 feet of entrance ramp would be an elevated bridge over the exit ramp. The access ramps would be constructed along a rising hillside located directly to the east of the roadway, thereby reducing the apparent

grade alteration from SR-94, and providing visual integration with the surrounding landscape. The most substantial retaining wall would be along the western edge of Daisy Drive and views of this feature by southbound travelers on SR-94 would be obscured by existing trees and planned landscaping.

If the access option of Daisy Drive is not selected, one of the two alternative access routes would be used. Improvements to Reservation Road or the development of a new access road from Melody Road would also include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. These access options would introduce similar features as described for Daisy Drive. However, if the option of a new access road from Melody Road is developed, there would be an increased potential for glare and light associated with the new intersection and driveway as no roadway currently exists in that location.

If the fire station is developed on the 4-acre parcel, it would occur in the same location formerly occupied by the San Diego Rural Fire Protection District. This building would be of scale and character consistent with the surrounding rural residential and open space area, and would not introduce a substantial visual element in the viewshed.

5.2.10 GROWTH-INDUCING EFFECTS

A growth inducing effect is an effect that fosters economic or population growth, or the construction of additional housing, either directly or indirectly. Direct growth would result, for example, if a project involved the construction of new housing. Indirect growth inducement could result if a project established substantial new permanent employment opportunities, which in turn induced housing growth or other additional service, office or other growth. Growth inducing effects could also result if the project would remove obstacles to population growth (e.g., expansion of a waste water treatment plant that could allow more construction in the service area).

The JIV Gaming Facility would result in an estimated 1,611 permanent jobs (**Table 5-29**). For purposes of this analysis, 100 percent of the total permanent jobs are assumed to be new jobs – jobs created in the economy rather than lateral shifts from one job to another without labor force replacement. Thus, the total *new* permanent jobs that would be created are therefore estimated to be 1,611 at full buildout of the gaming complex.

TABLE 5-29
DIRECT, INDIRECT AND INDUCED JOB CREATION

JOBS	JAMUL GAMING FACILITY
Operation	
Direct Operation Jobs	1,611
Indirect and Induced Operation Jobs	806
Total	2,417
SOURCE: Proforma Advisors LLC, 2012	

This analysis assumes that the workforce demands of 1,611 new permanent jobs resulting from the JIV Gaming Facility would be met within the geographical area of the San Diego-Carlsbad-San Marcos MSA due to the close proximity of populated areas within this area to the Reservation, and the existing estimated civilian unemployment rate of 5.1% (79,200) unemployed individuals) within this MSA (EDD, 2015). Given existing unemployment and the number of new jobs created by the JIV Gaming Facility, the existing labor force within the MSA would also be expected to fill the vast majority of any indirect and induced employment growth. As a result, it is assumed that the majority of new employees for the JIV Gaming Facility would continue to reside at their existing residences within the MSA.

While it is expected that a small percentage of new employees would choose to buy a home or relocate closer to their place of employment, the increased housing demand is expected to be met by vacant housing units available in the region, primarily in the East and South Suburban residential areas where 11,718 vacant units are estimated to be available (SANDAG, 2015). Looking forward, SANDAG has estimated that the East and South Suburban Areas would experience a cumulative growth of 21,303 housing units by 2020 (SANDAG, 2013). While the overall demand for housing could increase as a result of the Gaming Facility project, the demand is not expected to create the need for construction of new housing and would likely be filled by the existing housing stock.

The creation of temporary and permanent jobs is expected to result in increased demand for goods and services, which may result in commercial growth within San Diego County. Examples of goods and services include fresh produce, wholesale goods, marketing, and maintenance products and services. Commercial growth would also occur as the result of new employee wages, which would be used to provide the workers with housing, clothes, food, health care, and a range of other goods and services. Visitors who are attracted to the region as a result of the facilities could be expected to spend money on food, transportation, accommodation and entertainment elsewhere in the region. For example, casino patrons may also stop at a local shopping

center or service station. Demand for goods and services is expected to be most significant in the South Suburban areas where the majority of employees are expected to reside.

The employees of the JIV Gaming Facility would constitute only a small portion of total growth in population expected for the South Suburban area. Additionally, commercial growth within the South Suburban areas and other areas of San Diego County are to occur over a wide geographic area, supporting existing businesses as well as new businesses. The vast majority of increased commercial demand generated by the JIV Gaming Facility is expected to be absorbed by existing businesses and enterprises. These existing commercial areas have existing infrastructure such as water and wastewater service. Moreover, any new commercial development within San Diego County would be subject to approval pursuant to County land use plans and ordinances. Therefore, the JIV Gaming Facility is not likely to induce “disorderly” commercial growth within San Diego County, either directly or indirectly.

5.2.11 CUMULATIVE EFFECTS

This section extends the analysis of the No Action Alternative to consider effects beyond those solely attributable to the implementation of the Gaming Facility. Cumulative effects is defined as the effects on the environment that result from the incremental effect of the proposed action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

5.2.11.1 Cumulative Setting

The cumulative analysis begins with: 1) identifying past, present, and future actions and projects in association with the status of the resources, ecosystems, and human communities that may be affected, and 2) defining geographic borders and time frame of the analysis for each environmental topic addressed.

The following cumulative development projects have been identified in consultation with San Diego County.

1. *Tentative Parcel Map (TPM) 20550 (Morgan Minor Subdivision)* proposes to construct 2 single-family estate homes. The project site is proposed north of the Proctor Valley Road/Poplar Meadow Lane intersection.

2. *TM 5154 RPL1 (Hendrix Subdivision)* is located east of Campo Road on Las Palmas Road. The project proposes to develop 5 single-family estate homes.

3. *TM 5213 RPL2 (Mintz Subdivision)* is located north of Skyline Truck Trail and east of Hidden Trail drive. The project proposes to develop approximately 25 acres of land into 10 single-family estate homes.

4. *TM 5289 RPL2 (Jamul Highlands Subdivision)* proposes to construct 25 single-family estate homes. The project site is proposed south of the Valley Road/Jamul Highlands Road intersection.

5. *TPM 20626* proposes to construct 3 single-family estate homes. The project site is proposed on the west side of Proctor Valley Road, just north of the Proctor Valley Road/Melody Road intersection.

6. *TPM 20628 RPLI (Yacoo Minor Subdivision)* proposes to construct 4 single-family estate homes. The project site is proposed on Schlee Canyon Road north of Proctor Valley Road.

7. A Residential Development is located just east of the Reservation and south of Olive Vista Drive. The project proposes to develop 20 single-family estate homes.

8. *TPM 20599 RPLI (Blanco Parcel Map)* proposes to construct 4 single-family estate homes. The project site is proposed on the east side of SR-94, north of the Melody Road.

9. *TPM 20868 (Stein Barth Minor Subdivision)* is located just north of the Reservation and south of Olive Vista Drive. The project proposes to develop 2 single-family estate homes.

10. *TPM 20594 (Pioneer Minor Subdivision)* is located just west of the Reservation and north of Melody Lane. The project proposes to develop 3 single-family estate homes.

11. *Otay Ranch -Village 19* is located south west of the Reservation and south of Melody Lane. The project proposes to develop 20 single-family estate homes.

12. *Jamul Estates II* is located just north east of the Reservation. The maximum allowable developable lots are 68 single-family estate homes based on the current zoning.

13. *Simpson Farms* is generally located on the northeast corner of the SR-94 (Campo Road)/Jefferson Road intersection in the Jamul Community of San Diego County. The project proposes to develop 98 single-family estate homes and 115,000 square feet (sf) of commercial uses.

14. *Peaceful Valley Ranch* project proposes the subdivision of 181.31 acres for an estate residential development, equestrian uses and amenities, and fire service facilities. The project is located east of SR-94 and would use the intersection of SR-94 and Melody Road as a single access point.

The cumulative analysis assumes the completion of two projects identified in the Mobility Element of the San Diego County General Plan: completion of Proctor Valley Road as a 2-lane light collector from Chula Vista city limits to SR-94, and realignment of Otay Lakes Road with the intersection of Honey Springs Road to form a four-way intersection at SR-94.

In addition to these specific projects, the cumulative analysis takes into account growth anticipated in the San Diego County General Plan (2011 update). The traffic analysis also uses the Regional Transportation Forecast Models developed by the San Diego Association of Governments (SANDAG).

The geographic boundaries of the cumulative effects zone have been determined by the nature of the resources affected and the distance that effects may travel. As an example, increased sedimentation of waterways that result from a project are limited to the watershed in which they occur. As a result, it is only necessary to examine incremental effects within that watershed. Air quality emissions from a project, however, travel over far greater distances and therefore necessitate analysis on a county, air basin, or regional level. For this analysis, the geographic boundaries of the cumulative effects zone is generally that of San Diego County, although with many resources (water, biological etc.) smaller natural or cultural boundaries are used.

The time frame of the cumulative effects analysis extends to 2035, which is the time frame of SANDAG's Series 12 Regional Model. Beyond 2035, information on growth patterns and future activities becomes scarce and uncertainties increase, limiting the usefulness of such analysis.

As recommended by CEQ *Considering Cumulative Effects*, not all potential cumulative effects issues have been included, only those that are considered to be relevant or consequential have been discussed in depth (CEQ, 1997:12).

5.2.11.1 Environmental Consequences

Land Resources

The geographic boundaries of the cumulative effects zone for land resources is the Gaming Facility area due to the fact that effects would occur to (and not from) the

proposed development areas and/or are specific to on-site conditions related to seismic ground acceleration and liquefaction, as well as landslide/slope stability and expansive soils. Cumulative development in the Jamul/Dulzura community would include land and roadway development necessary to accommodate the County's planned growth for this area. The most visible changes to topography would come from clearing and flattening of land to accommodate subdivision development. However, only limited grading would be associated with development of the fire station (if developed) and Daisy Drive or alternative access road. Soil loss associated with the fire station and roadway improvements would be minimized through incorporation and implementation of the Erosion Control Plan. The construction of the fire station and roadway improvements would not contribute to a cumulative increase of seismic hazards in the area. All features of the roadway improvements would be constructed to Caltrans standards. No significant mineral resources are known to exist in the project area. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative land resources impact.

Water Resources

The geographic boundaries of the cumulative effects zone for water resources is defined as the drainage basin boundaries identified for the Gaming Facility. Stormwater discharges from residential and roadway areas are a concern in managing water quality. Cumulative growth in the Jamul/Dulzura community would result in increased impervious surfaces, which would increase potential sedimentation, pollution and stormwater flows in the area waterways. Cumulative development within the Jamul/Dulzura community could result in cumulatively considerable effects if off-site flows from future development result in overload of the stormwater facilities leading to adverse impacts to downstream water resources. However, cumulative development would be required to comply with County requirements for storm water detention/retention, which are similar to those measures incorporated into the Gaming Facility. Compliance with County requirements would reduce adjacent cumulative development potential adverse impacts on the water facilities from off-site flows.

The amount of increased impervious surfaces due to on-site Gaming Facility development would be limited to that area necessary to accommodate Daisy Drive and the optional fire station. Daisy Drive would incorporate on-site detention/retention facilities and sediment filtering devices to ensure that cumulative contribution to off-site water resource effects are minimized. Similar measures would be taken with the fire station, if developed. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative water resources impact.

Air Quality

The geographic boundaries of the cumulative effects zone for air quality is defined as the San Diego Air Basin (SDAB), which is coincident with the boundaries of San Diego County. Past cumulative air pollutant emissions have resulted in a significant cumulative greenhouse gas impact. Moving forward, the cumulative emissions associated with the cumulative project list in this section would also contribute to this significant impact. The State's goal is to reduce these emissions back to the 1990 level, or an approximate 28% reduction from current levels.

The JIV Gaming Facility's contribution to this impact is estimated to be 10,516 metric tons of CO_{2e} per year. To address this, the Gaming Facility has incorporated solar and energy efficiency measures, which would assist in the attainment of the State's goal of achieving an overall 28% greenhouse gas reduction. Operation of the JIV Gaming Facility would add area source and mobile emissions, as discussed in **Section 5.2.3** Air Quality. However, the level of emissions created would not exceed significance screening thresholds. CO emissions due to additional mobile source emissions would not generate conditions that would require an operational hotspot CO concentration analysis. The operational activities of the JIV Gaming Facility would conform to applicable thresholds, would not create a CO hotspot, and would not result in a cumulatively considerable net increase of criteria pollutants. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative air quality impact.

Biological Resources

The geographic boundaries of the cumulative effects zone for biological resources is defined as the Jamul/Dulzura community. When other projects are considered, continuing development increases urbanization, which can result in additional loss of natural communities in the region. Cumulative projects that are in the vicinity of Willow Creek would have the potential to add cumulatively to the wildlife corridor impact. Land south of the JIV Tribal Lands is not expected to see future development given that it is included in the RJER (west of SR-94) and HCWA (east of SR-94) owned and operated by CDFW. This land south of the JIV Tribal Lands also contains a General Plan land use designation of Open Space Conservation, which would confirm its future open space/conservation status. The four-acre parcel is designated Semi-Rural Residential; however, the future use is expected to remain an access road parcel for the JIV Tribal Lands.

Other developments could occur on vacant Semi-Rural Residential designated land that exists on the west side of SR-94 north of Melody Road, which encompasses the Willow Creek riparian corridor, but no approved or pending developments have been identified. The 87-acre parcel to the south between Melody Road and the JIV Tribal Lands is classified as Hardline Preserve, Pre-Approved Mitigation, and Take-Authorized Areas. No developments exist on the 87-acre parcel, and no approved or pending developments have been identified with the exception of proposed Alternative 3 of the Proposed Project.

South of Melody Road/Peaceful Valley Ranch Road on the east side of SR-94, future land uses could consist of residential/equestrian uses in the Peaceful Valley Ranch development recently approved by San Diego County. As of now, the only new development consists of an improved Peaceful Valley Ranch Road and a fire station for the Rural Fire Protection District. Being on the east side of SR-94, future development in this area, including the Peaceful Valley Ranch development, would not contribute to the Willow Creek wildlife corridor impacts of Alternative 3 of the Proposed Project.

Development of Daisy Drive or alternative access road would result in the loss of open space and natural habitats. Thus, development of the Gaming Facility project area would contribute incrementally to the regional loss of open space and natural habitats. However, the natural habitats affected are in a degraded condition and are not known to support special-status species. Additionally, these losses would be offset by the purchase of compensatory habitat that is of higher quality. The roadway improvements would not block migratory routes or wildlife corridors, nurseries, or fisheries. Additionally, the roadway improvements would not conflict with policies or adopted habitat conservation plans. The County MSCP is designed to compensate for cumulative loss of open space and natural habitat by the creation and expansion of nature preserves. Impacts to the County MSCP are addressed in **Section 5.2.4**. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative biological resources impact.

Cultural Resources

The geographic boundaries of the cumulative effects zone for cultural resources is defined as the Jamul/Dulzura community. Significant cultural resources are non-renewable. The disturbance or alteration of a cultural resource causes an irreversible loss of significant information. Cumulative development in the County of San Diego and the Jamul/Dulzura Subregion may contribute to the destruction or modification of significant cultural resources. Mitigation is required for all development in San Diego County to comply with County policies, CEQA, and/or Section 106 of the NHPA. Adherence to all applicable regulations would ensure that potential impacts to cultural

resources are considered and mitigated. The Gaming Facility improvements would avoid known resources and would not directly adversely affect known significant cultural resources or directly contribute to a cumulative loss of known significant cultural resources. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative cultural resource impact.

Socioeconomic Conditions

The geographic boundary of the cumulative effects zone for socioeconomic conditions is defined as San Diego County. The Gaming Facility would result in the creation of jobs and increased sales tax revenue that would beneficially impact San Diego County. Potential social costs associated with gambling (including economic hardship and increased dependence on social services) would be avoided by the implementation of Problem Gaming Measures (**Section 3.4**). No significant adverse cumulative socioeconomic effects are anticipated. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative socioeconomic impact.

Resource Use Patterns

Transportation

The transportation analysis for Near-Term and Horizon Year conditions is presented in **Section 5.2.7.1** *Transportation/Circulation*.

Land Use

The geographic boundary of the cumulative land use analysis is defined as the Jamul/Dulzura Subregional Plan area. It should be noted that the Jamul/Dulzura Subregional Plan does not apply to the Reservation; however, it is used because potential land use effects would occur primarily within this area due to the location of the Reservation. While growth and development would occur in other areas of the San Diego County, the JIV Gaming Facility is expected to result in negligible land use effects beyond the Jamul/Dulzura community.

The San Diego County General Plan and Jamul/Dulzura Community Plan guide land uses within the unincorporated portion of the county where the Reservation is located. San Diego County estimates that growth in the Jamul/Dulzura area would increase from approximately 10,159 people in 2009 to 16,000 people at buildout. Growth is managed within this portion of the county by implementation of Goal 1 of the Jamul/Dulzura Community Plan, which states that “Development of the land in such a manner as to retain the rural densities and land uses of the community.”

Cumulative land use effects that may occur in the Jamul/Dulzura community as a result of expected growth and development include the following:

- Conflicts with existing land uses, and
- Disruption of access to existing or planned land uses.

The anticipated future growth in the Jamul/Dulzura community outside the Reservation boundaries would be subject to the policies of the General Plan and Jamul/Dulzura Community Plan, which both were the result of public processes to determine the pattern of land use that would facilitate implementation of both plans. Enforcement of stated goals and policies through review and approval of land use development plans, ensures orderly development within the County. The stated goal above is expected to minimize land use conflicts as growth occurs within this area over the next 20+ years. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative land use impact.

Public Services

Although urban growth rates have slowed nationwide due to the economic recession, San Diego County remains one of the most rapidly growing regions in the Unites States. San Diego County has responded by regulating development, promoting smart growth, and by expanding public service infrastructure to meet projected demands. In 2004, the SANDAG adopted the Regional Comprehensive Plan to provide a blueprint for managing the region's growth while preserving natural resources and limiting urban sprawl.

Water Supply

The San Diego County Water Authority and the City of San Diego, along with other urban water suppliers, are required by the state to prepare urban water management plans and update them every five years. The Water Authority's 2010 Urban Water Management Plan identifies a diverse mix of water resources as goals to be implemented through 2030 to ensure long-term water supply reliability for the region.

Based on the Otay Water District's Master Plan, the existing emergency water reserves are deficient; the current capacity for total reservoir storage volume is 3.04 million gallons, and 3.5 million gallons is required for projected growth. However, the Otay Water District would address these deficiencies by building two additional reservoirs: a 2 million gallon reservoir that is in design / construction and a 10 million gallon reservoir to be added by 2016. Note that the Master Plan's ultimate storage requirements were designed for the residential build-out of Village 14 and Village 16, which are large tracts of land near the Reservation that have been purchased by the California Department of

Fish and Game and deed-restricted as wildlife preserves. Therefore, the projected ultimate consumption values are conservative due to the planned usages being decreased by open-space designations.

The JIV Gaming Facility has implemented mitigation by design by incorporating water-saving and water recycling measures into the Gaming Facility design. The water demand created by the development of the JIV Gaming Facility results in an increased demand on Pressure Zone 1296 of 2%. However, this increase and future water demand created by the JIV Gaming Facility would be fully offset by the future increased capacity of the Pressure Zone and the removal of the planned water demands of Village 14 and Village 16. The available flow of the 1296 Pressure Zone is 1,164 gpm, and the JIV Gaming Facility would require a daily design flow of 40 gallons per minute (and a peak flow of 57 gallons per minute) with water recycling measures implemented. Thus, the 1296 Pressure Zone has more than adequate capacity to handle the water demands of the JIV Gaming Facility. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative water supply impact.

Wastewater Service

The City of San Diego's Metropolitan Wastewater System treats the wastewater from the City and 15 other cities and districts (including the Otay Water District's service area) from a 450-square-mile area with a population of over 2.2 million (City of San Diego 2007). In the 1990s, the City constructed the two water reclamation plants, the biosolids treatment facility, and several pump stations, and made major upgrades to the Point Loma Plant. These facilities provide a treatment system capacity sufficient to meet the projected needs of the 450-square-mile service area through at least 2020 (City of San Diego, 2007).

The Reservation is not within a wastewater treatment service district. As part of the Gaming Facility project, a wastewater treatment plant would be constructed to service the project facilities. Wastewater flow would be treated to a level that would make it suitable for all recycled water uses and effluent disposal strategies identified for the Gaming Facility project. Wastewater would be treated using an immersed MBR wastewater treatment plant. Because all of the wastewater that is generated by the Gaming Facility would be collected, treated, and reused or properly disposed, there would be no increase in demand for regional wastewater services. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative wastewater service impact.

Solid Waste Service

The management of solid waste in San Diego County is mandated by state law and guided by policies at the state and local levels. The California Integrated Waste Management Act requires that all local jurisdictions, cities, and counties divert 50 percent of the total waste stream from landfill disposal. Unincorporated San Diego County, which includes Jamul, diverted 54% of its solid waste in 2006 (California Integrated Waste Management Board, 2011). Each local jurisdiction must demonstrate compliance by instituting source reduction programs. The County of San Diego Integrated Waste Management Plan includes a Countywide Siting Element, which demonstrates a remaining disposal capacity of at least 15 years to serve all of the jurisdictions within the County.

Waste generation resulting from operation of the JIV Gaming Facility's facilities was estimated to be approximately 6 tons per day, and the Gaming Facility would employ a 30 cubic yard compactor to reduce the volume of trash being produced. To reduce the volume of trash even further, a streamline compactor would be used to reduce the water content of the trash. The waste generated from the Gaming Facility project would be shipped to a transfer station in El Cajon, where recyclable materials are removed, thus reducing the amount of waste sent to either the Otay Landfill or the Sycamore Sanitary Landfill. Solid waste generation resulting from the Gaming Facility project would represent only 0.06% of the landfills' combined daily permitted intake. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative solid waste impact.

Electricity, Natural Gas, and Telecommunications

The Regional Energy Strategy 2030 prepared by the Regional Energy Office of SANDAG was produced to develop a vision for how energy would be produced and consumed in the region. This strategy developed policies and provided measurable targets to achieve the region's sustainable energy vision. The California Public Utilities Commission has the exclusive power and sole authority to regulate privately-owned or investor-owned public utilities such as SDG&E, the energy provider in the Jamul region. This exclusive power allows for the planned growth of utilities to serve expanding service areas and customers. SDG&E exceeded the state-required 20% Renewable Portfolio Standard in 2010.

Based on an electrical load analysis performed for the JIV Gaming Facility, it was estimated that the JIV Gaming Facility would have a peak demand load of 6.6 megawatts. When analyzed on a regional level (which is appropriate because electricity is produced and distributed on a regional basis), the JIV Gaming Facility would not likely

constitute a significant increase in power demand. According to the California Energy Commission (2011), California's electricity generation system generates more than 296,000 gigawatt hours each year, and San Diego County's current generating capacity is 5,438 megawatts from 68 generation facilities, ranging from nuclear to wind turbine. The JIV Gaming Facility's peak demand load represents 0.1% of the County's current generating capacity. The facility also includes the use of solar energy and low energy utilities to reduce electrical use.

AT&T provides telecommunications services to the area. The Jamul Tribal Government would fund and coordinate with the chosen service providers for additional utilities and/or upgrades of existing utilities. Propane would be used instead of natural gas for the kitchen facilities. The JIV Gaming Facility would not affect area natural gas facilities or supply. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative electricity, natural gas, and telecommunications impact.

Law Enforcement

The San Diego County Sheriff's Department provides general law enforcement and jail functions in a service area of approximately 4,200 square miles, including the Jamul area. In addition, the Sheriff's Department provides specialized regional services to the entire county, whether they are needed in incorporated cities within the county or in the unincorporated areas not serviced by a city law enforcement agency. Operation of the gaming facilities under the JIV Gaming Facility may increase demands on the San Diego County Sheriff's Department.

The JIV would provide continuous, on-site security for casino operations to reduce and prevent criminal and civil incidents. The JIV may enter into a service agreement with the San Diego County Sheriff's Department to address criminal issues on the federal reservation.

The California Highway Patrol is the chief law enforcement agency for traffic related issues on public highways and roads leading up to the Reservation. The El Cajon Station serves an extensive region of southern San Diego County. Based on information provided by the CHP, the increase in traffic along SR-94 due to operation of the JIV Gaming Facility could increase service demands on the El Cajon Office. Potential effects to patrol demands are based upon the ability of roadways to safely handle traffic. As noted in the transportation discussion in **Section 5.2.7.1**, the JIV would implement upgrades of the SR-94 Improvement Project as well as other fair-share contributions to traffic improvements in order to mitigate effects to SR-94. These measures would assist in reducing congestion and operation effects. The No Action Alternative, which

consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative law enforcement impact.

Fire Protection and Emergency Medical Services

The CDF, under contract to the BIA, provides wildland fire protection and responds to all wildfires. The San Diego Rural Fire Protection District covers 720 square miles in the southeastern portion of San Diego County. The majority of responses are for medical emergencies. The new Jamul Fire Station, located directly across SR-94 from the Reservation would allow for very quick emergency response times ranging from one to five minutes. The Reservation currently receives emergency medical services from the San Diego Rural Fire Protection District. The Rural Fire Protection District is not obligated to service the Reservation, but currently responds to medical emergencies as a courtesy to the Jamul Tribal Government.

Operation of the casino complex would introduce ignition sources and increase the risk of both structure fires and wildfires. The use of the Gaming Facility by patrons and employees would result in an increased demand for emergency medical services. However, the JIV Gaming Facility has been designed to comply with fire building codes, and the JIV Gaming Facility includes the construction and operation of a fire station and ambulatory services, or the JIV would contract for these services. The compliance with applicable codes and standards would assure that adequate, qualified fire protection services are provided for the Reservation and surrounding community. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative fire protection and emergency medical services impact.

Noise

Cumulative noise impacts would be associated with traffic noise. The analysis provided in **Section 5.2.9.1**, addresses traffic noise increases for the horizon year (2035) cumulative conditions.

Hazardous Materials

The geographic boundary of the cumulative effects zone for hazardous materials is defined as the Gaming Facility project area due to the fact that effects would be site-specific. There are no existing hazardous materials on the Gaming Facility project site. The Gaming Facility project would not use significant quantities of hazardous materials. Therefore, there are no significant cumulative hazardous materials issues associated with the JIV Gaming Facility. The No Action Alternative, which consists of Gaming

Facility management by the JIV, would not significantly contribute to a cumulative hazardous materials impact.

Visual Resources

The geographic boundary of the cumulative effects zone for visual resources is defined as the Gaming Facility area and surrounding viewshed because changes in visual resources would be most noticeable in the vicinity of the Gaming Facility as geographic barriers typically prevent a visual resources effect from being perceived over large distances. The transformation of the Jamul valley began when San Diego County approved residential subdivisions and commercial development. Since then, a wide-scale transformation of the northern portion of the Jamul valley has occurred on both sides of SR-94. The development of the various subdivisions identified in the cumulative setting would continue this urbanization trend. Future development under the County's General Plan would also contribute to this continuing transformation of the valley and surrounding area. San Diego County has estimated the Jamul/Dulzura Subregion buildout potential to be approximately 16,000 people, which is a 57% increase above the 10,159 estimated to be living there in 2009. The planned construction of the Procter Valley Road extension to Melody Road would open up a large area of undeveloped land southwest of the Reservation.

The County is attempting to temper those cumulative visual impacts by allowing for the transfer of densities thereby preserving large areas of open space that are situated in sensitive areas. The State also assists in the preservation of the visual character of the Jamul valley by preserving land within the wildlife refuge. The largest tract of this refuge immediately borders the Reservation and encompasses thousands of acres south of the Reservation. However, the continuing visual transformation of the valley would continue into the future. Based on the goals and policies of the County's Jamul/Dulzura Subregional Plan, which does not apply to the Reservation, the County seeks to minimize: (1) visual effects on recognized scenic vistas, (2) new sources of substantial light and glare, which would adversely affect day or nighttime view of listed historic buildings or recognized views in the area, and (3) damage to recognized scenic resources including trees, rock outcroppings and historic buildings within a state scenic highway.

Completion of Daisy Drive or alternative access road would include the realignment and widening of SR-94 and improvements to the intersection of SR-94 and Melody Road. The new roadway improvements would contribute to the visual transformation of the Jamul Valley that was begun by the County and is expected to continue with buildout under the Jamul/Dulzura Community Plan. The surrounding areas would remain open

as is the case with the CDFG Refuge/Preserve lands immediately adjacent to the Reservation.

Cumulative growth is not expected to significantly impact recognized scenic vistas, provide a new source of substantial light and glare (which would adversely affect day or nighttime views of listed historic buildings or recognized views in the area), or damage recognized scenic resources. When measured against the significance criteria and goals/policies stated in the County's Jamul/Dulzura Community Plan, future County development goes through a public review process that ensures growth consistency with stated County policies within this portion of the County. The No Action Alternative, which consists of Gaming Facility management by the JIV, would not significantly contribute to a cumulative visual resources impact.

5.3 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

As stated in **Section 3.3**, the proposed GMA would allow SDGV to control the day-to-day operation of the JIV Gaming Facility. SDGV would, among other things, determine use of vendors; rates; pricing; charges to guests or patrons; concessioners, the issuance of credit; the granting of complementaries; the terms of admittance to the Gaming Facility for purposes of entertainment; staffing levels; organizational structure; and the type and character of publicity, marketing, advertising, entertainment and promotion. Full operational efficiency of the JIV Gaming Facility would result in patronage/traffic as described in the No Action Alternative baseline analysis. It is assumed for purposes of this analysis that the Gaming Facility would be used as planned and described in the Final TEE and in **Section 3.4** of the Final SEIS. That is, all parking demand would be met in the planned parking structure and surface parking lot, water demand met with potable water from the Otay Water District, wastewater treatment would be provided by the on-site wastewater treatment and wastewater disposal provided on-site and by trucking, etc. The GMA would not alter the external look and operation of the facility. Internally, promotional/advertising programs, entertainment acts, staffing, etc. would all be accommodated within the planned areas of the facility. No new temporary or permanent structures beyond those identified in the No Action Alternative baseline description in **Section 3.4** would result from approval of the Proposed Action. The GMA is merely an operational feature of the Tribal-approved Gaming Facility. The GMA would not result in activities that would impact the environment. Additionally, the operation of the Gaming Facility by SDGV would not contribute to a cumulative environmental impact.

The GMA does not grant SDGV the authority to construct gaming related facilities beyond those identified in the Final TEE/Addendums. The GMA is limited to the management of the Gaming Facility as described in **Section 3.3**.

SECTION 6.0

MITIGATION MEASURES

SECTION 6.0

MITIGATION MEASURES

6.1 INTRODUCTION

Neither the Proposed Action nor No Action Alternative would result in an impact on the environment; therefore, no mitigation measures are required.

SECTION 7.0

INDIRECT EFFECTS:
NO ACTION ALTERNATIVE BASELINE CONDITIONS

SECTION 7.0

INDIRECT EFFECTS: NO ACTION ALTERNATIVE BASELINE CONDITIONS

7.1 INTRODUCTION

This section addresses environmental effects of the No Action Alternative baseline that include components of the JIV Gaming Facility that would be constructed later in time and are removed in distance from the Reservation. The indirect effects include traffic improvements at five intersections along SR-94. The traffic mitigation addressed in this section includes the following off-site intersection improvements:

1. SR-94 & Jamacha Boulevard,
2. SR-94 & Jamacha Road,
3. SR-94 & Steele Canyon Road,
4. SR-94 & Lyons Valley Road, and
5. SR-94 & Maxfield Road.

These intersection improvements would be financed and implemented by JIV. Caltrans (District 11) is currently conducting engineering and environmental review on these intersection improvements as part of the State Route 94 Improvement Project. Caltrans issued a Draft EIR on the State Route 94 Improvement Project in mid-2015. The Final EIR is expected in early 2016.

Section 7.2 presents descriptions of the off-site intersection improvements, as well as a setting/impact/mitigation discussion for these improvements.

7.2 INTERSECTION IMPROVEMENTS

7.2.1 IMPROVEMENT DESCRIPTIONS

Details concerning the off-site intersections to be improved include the following:

7.2.1.1 SR-94/Jamacha Boulevard Intersection

Restripe the northbound left-turn lane to a through shared-left-turn lane and the northbound through-shared-left turn lane as a second right-turn lane, including required traffic signal modifications (**Figure 7-1**). No grading would be required for this improvement. The restriping efforts would extend beyond the Caltrans ROW to roadway within San Diego County.

7.2.1.2 SR-94/Jamacha Road Intersection

Add a second eastbound right-turn lane and retaining wall, including required traffic signal modifications (**Figure 7-2**). The right-turn lane would extend beyond the existing Caltrans ROW. Reconstruct the northbound median to provide additional left-turn storage capacity for the northbound left-turn movement. The median would be reduced to provide additional storage while maintaining the left-turn storage for southbound left-turns into Rancho San Diego Town Center. Construct a vegetated bioswale on the north side of the SR-94, west of the Campo Road intersection, to treat storm water runoff. Treatment works by filtration removal of pollutants through vegetative uptake and soil filtration. Runoff would enter the bioswale by curb cuts along the north side of SR-94.

7.2.1.3 SR-94/Steele Canyon Road Intersection

Add a second eastbound and westbound through lane, including required traffic signal modification (**Figure 7-3**). Two of the approaches are within the County ROW. Vegetated bioswales would be constructed to treat the storm water runoff from the proposed improvements. One bioswale is located on the west bound side, west of Steele Canyon Road. Two bioswales are proposed on the east bound side, east and west of Steele Canyon Road. Treatment works by filtration removal of pollutants through vegetative uptake and soil filtration. Runoff would enter the bioswale by curb cuts along the north side of SR-94.

7.2.1.4 SR-94/Lyons Valley Road Intersection

Install a traffic signal (**Figure 7-4**) and improve site distance on the southbound approach. Traffic signal equipment, such as detection system, conduits and pullboxes

would have to be installed within the County's ROW, as well as tree trimming inside and outside of existing Caltrans ROW.

7.2.1.5 SR-94/Maxfield Road Intersection

Restripe the northbound approaches along SR-94 to include an acceleration lane. This improvement would also include the widening of SR-94 north of Maxfield Road necessary to accommodate additional acceleration lane. The existing hillside on the west side of SR-94 (north of the intersection) would need to be graded to provide additional sight distance for motorists. The grading limits would encompass approximately one acre of area and would include a vegetated two-to-one slope and retaining wall along the existing Caltrans ROW. The retaining wall would be approximately 340 feet in length at an average height of 10 feet. Lastly, construct two vegetated bioswales on the west side of SR-94, north of the Maxfield intersection, to treat storm water runoff by removing pollutants by filtration through vegetative uptake and soil filtration. Runoff would enter the bioswale by curb cuts along SR-94. Please see **Figure 7-5**.

7.2.2 AFFECTED ENVIRONMENT

7.2.2.1 SR-94/Jamacha Boulevard Intersection

This intersection is characterized by its rural setting and steep topography. A natural drainage channel runs parallel to SR-94 on the south side. The nearest development is the recently constructed Skyline Wesleyan Church located north of the intersection. West of Jamacha Boulevard to Avocado Boulevard, SR-94 is a four-lane expressway. East of Jamacha Boulevard to Jamacha Road, SR-94 has six lanes. At this intersection SR-94 has two eastbound lanes and three westbound lanes, and additional dedicated turning lanes. Jamacha Boulevard, which terminates at this intersection, has four travel lanes and an additional left turn lane at the intersection, and is characterized by residential and commercial development. The driveway to the church, which is directly opposite Jamacha Boulevard, has four lanes.

At the SR-94 / Jamacha Boulevard Intersection, topography is rolling, and an unnamed intermittent drainage runs east toward Sweetwater River. The setting is rural except for the recently constructed Skyline Wesleyan Church located north of the intersection. The SR-94/Jamacha Boulevard Intersection project area has no natural habitats, as the project area consists entirely of pavement. Habitats in the vicinity consist of ruderal and urbanized areas, annual grassland, Diegan coastal sage scrub, and coast live oak riparian. Naturally occurring soils in the vicinity of this intersection include Placentia sandy loam (PfC), Friant rocky fine sandy loam (FxG), Diablo Clay (DaE and DaD), and

Huerhuero loam (HrD2). Road improvements on SR-94 are already in progress, and a massive sound wall is being constructed in conjunction with the road widening (new eastbound lane) from Via Mercado, past Jamacha Boulevard, to Jamacha Road.

Record searches have revealed the presence of a previously identified cultural resource site within the vicinity of the intersection. The intersection improvement site, while disturbed, is therefore considered to be sensitive with respect to cultural resources.

7.2.2.2. SR-94/Jamacha Road Intersection

This intersection is characterized by its urban setting and flat topography. A natural drainage channel runs parallel to State Route 94 on the southwest side. Commercial developments surround this intersection. West of this intersection to Jamacha Boulevard, SR-94 is a six-lane expressway. East of this intersection Jamacha Road is a six-lane expressway with two two-way turn lanes. South of this intersection, SR-94 continues as a four-lane expressway with one southbound dedicated turn lane and two northbound dedicated turn lanes. After the commercial district, SR-94 quickly tapers to a four-lane and then a 2-lane conventional highway. At this intersection SR-94 has three eastbound lanes with dedicated left and right turn lanes and three northbound turn lanes with a shared through lane and a right turn “sneaker” lane. Jamacha Road, which terminates at this intersection, has six travel lanes and three dedicated turn lanes on the westbound site.

At the SR-94 / Jamacha Road Intersection, topography is flat, and an unnamed intermittent drainage runs east toward Sweetwater River, but continues under SR-94 as part of the municipal storm sewer system. The setting is urbanized and is surrounded by commercial and retail centers, a gasoline service station, and a San Diego County Department of Public Works corporation yard located southwest of the intersection.

The SR-94/Jamacha Road Intersection project area consists entirely of urbanized features (riprap and pavement), except for a small portion of intermittent stream channel, which consists of southern wouldow riparian scrub with some freshwater marsh. The dominant canopy trees are wouldows (e.g. *Salix gooddingii* and *S. lucida*). Upstream, other trees are present, such as cottonwood (*Populus fremontii*) and non-native trees such as Eucalyptus and pepper tree (*Schinus molle*) and ornamental palms. Understory vegetation consists primarily of poison oak (*Toxicodendron diversilobum*). The riparian habitat has been compromised by channelization and the placement of riprap. Where the gradient is flatter, in-stream wetlands have formed, and contain watercress (*Rorippa nasturtium-aquaticum*); reeds (*Juncus* spp.); sedges (*Cyperus* spp.) and various exotic/invasive hydrophytes. This unnamed intermittent drainage runs east and under SR-94 and a commercial center as part of the municipal storm sewer system, which

eventually discharges to the Sweetwater River. Other vegetation types in the vicinity of this project consist of non-native grassland, Diegan coastal sage scrub, and southern coast live oak riparian forest. Naturally occurring soils in the vicinity of this intersection include PfC, FxG, Visalia sandy loam (VaA), gravel pits, and Las Posas fine sandy loam (LpD2).

In the SR-94/Jamacha Road Intersection project area, there is one water feature that is subject to USACE jurisdiction under the Clean Water Act: an unnamed intermittent stream and its associated in-stream wetlands. The feature extends the entire length of the project area, and varies in channel width between 3 and 35 feet, with an average width of about 10 feet. The stream is degraded from channelization (including the placement of riprap along the banks) and invasive species and other urbanization effects. An in-stream riverine marsh is located within the channel of this intermittent stream, measuring approximately 20 feet average width by 100 feet (2,000 square feet).

7.2.2.3 SR-94/Steele Canyon Road Intersection

This intersection and the segment of Steele Canyon Road from SR-94 and Jamul Drive is characterized by commercial and residential land uses and steep topography. SR-94 is a two-lane conventional highway with a two-way left turn lane. Steele Canyon Road, which terminates at this intersection, has two lanes.

Habitats in this project area consist entirely of ruderal/urbanized areas. Habitats in the vicinity of the intersection and segment of Steele Canyon Road include sparsely vegetated roadside areas, orchard, scrub, and riparian woodland. Naturally occurring soil in the vicinity of the intersection, Ramona sandy loam (RaC), has a slight to moderate erosion hazard. Naturally occurring soil along the segment of Steele Canyon Road also include Vista course sandy loams (VsE and VsG), FaD2, and PfC, which have a slight to very high erosion potential (USDA, 1973).

According to the Phase 1 Environmental Site Assessment, one current recognized environmental condition was identified in the SR-94 / Steele Canyon Road Intersection project area (Natural Investigations Co. 2014). The 7 Eleven Store #21802 at 12981 Campo Road, during removal of previously-used USTs, which apparently leaked, discovered contamination from diesel, gasoline, and gasoline additives in both soil and groundwater. Groundwater under the SR-94 / Steele Canyon Rd. intersection project area is currently contaminated from the historical 7 Eleven Store petroleum product releases. Contaminants include diesel, gasoline, and gasoline additives (tert-butyl alcohol, methyl tert-butyl ether, and benzene). Soil under the project area may or may not be contaminated from these off-site petroleum product releases.

Record searches have not revealed the presence of previously identified cultural resource sites within the immediate vicinity of the intersection and segment. However, due to the abundance of known cultural resource sites along Steele Canyon, the intersection improvement site is considered to be sensitive with respect to cultural resources.

7.2.2.4 SR-94/Lyons Valley Road Intersection

This intersection is characterized by a variety of land uses, steep topography, and an adjacent drainage channel. Surrounding land uses include the Taproot Montessori Preschool directly south of the interchange, commercial land uses on the northeast and southwest corners, and residential uses in all directions. SR-94 is two-lane conventional highway with a two-way left turn lane. Lyons Valley Road is a two-lane road with a right turn “sneaker” lane at this intersection.

Habitats in this project area consist entirely of ruderal/urbanized areas, primarily pavement. Habitats in the vicinity of the intersection consist primarily of disturbed roadside areas, coast live oak woodland, coastal sage scrub, and a riparian corridor associated with an intermittent drainage that flows southwest under Indian Springs Road/SR-94. Naturally occurring soil in the vicinity of the intersection, Cieneba very rocky coarse sandy loam (CmrG), has a high to very high erosion hazard (USDA, 1973). Other soils in the vicinity include Fallbrook rocky sandy loam (FaC2, FaD2, FeE2), Ramona sandy loam (RaC2), Placentia sandy loam (PeC2, PfC), and Fallbrook-Vista sandy loam (FvE).

Record searches have revealed the presence of previously identified cultural resource sites within the vicinity of the intersection. The intersection improvement site, while disturbed, is therefore considered to be sensitive with respect to cultural resources.

7.2.2.5 SR-94/Maxfield Road Intersection

This intersection is characterized by a variety of land uses and gently-sloping topography. Surrounding land uses consist of commercial (esp. farm & feed supply), a post office, fenced pasture, and residences (estates and smaller subdivisions). In the area of the intersection, SR-94 is two-lane conventional highway with a northbound left turn lane. Maxfield Road is a two-lane road with a right turn “sneaker” lane at this intersection.

At the intersection of SR-94 and Maxfield Road, the topography is flat to gently sloping (to the south). Naturally occurring soil in the vicinity of the intersection, Cienega very rocky coarse sandy loam (CmrG), has a high to very high erosion hazard (USDA, 1973). Other soils in the vicinity include Fallbrook rocky sandy loam (FaC2, FaD2, FeE2),

Ramona sandy loam (RaC2), Placentia sandy loam (PeC2, PfC), and Fallbrook-Vista sandy loam (FvE) (USDA, 1973).Record searches have revealed the presence of previously identified cultural resource sites within the vicinity of the intersection. The intersection improvement site, while disturbed, is therefore considered to be sensitive with respect to cultural resources.

7.2.3 ENVIRONMENTAL CONSEQUENCES

7.2.3.1 Land Use

Construction of the intersection improvements would enhance a preexisting rural roadway and transportation corridor. The conversion of existing land uses would be limited to the existing highway ROW and strips of land adjacent to the highway ROW. Construction of the intersection improvements would not conflict with existing land uses, disrupt or divide a community or conflict with land use designations in the vicinity of the project site. Additionally, the improved intersections are not expected to reduce parcel sizes below the threshold minimums.

7.2.3.2 Aesthetics

Minor visual effects, such as the addition of a traffic signal, would occur as the result of the expansion of the existing roadway facilities. The improvements would not result in the removal or alteration of significant areas of vegetation, topographic features, or other key visual characteristics.

7.2.3.3 Geology and Soils

Effects to land resources would consist of grading and the introduction of fill material to extend the existing shoulders and roadbed to provide for the additional facilities. The steepest topography would be encountered at the intersection with Lyons Valley Road where large embankments currently exist. Stable fill material, embankments, and erosion control features would be used to reduce the potential for sloped instability, subsidence, and erosion. However, naturally occurring soils located at the improvement locations have a slight to very high erosion hazard (USDA, 1973). For construction on non-federal lands in California, the landowner and contractor must enroll for coverage under the State Water Resources Control Board's General Storm Water Discharge Permit for Construction Activities (Order No. 2009-0009, NPDES No. CAS000002) prior to the initiation of construction. Coverage under either permit requires creation and implementation of an effective storm water pollution prevention plan, erosion control plan, hazardous materials management and spill response plan, and construction best management practices, all of which are designed to minimize or eliminate erosion issues and eliminate sediment discharges. With proper implementation, these plans would

reduce or eliminate the potential for accidental release of sediment and other pollutants during construction, as well as reduce the potential for erosion. The erosion control plan would be prepared before construction commences, and would identify the location of erosion control features necessary to protect and filter stormwater runoff. Features used during construction may include but are not limited to silt fences, fiber rolls, and gravel bag check dams. The grading plans would meet or exceed standards established by Sections 87.101 through 87.717 of San Diego County Code of Regulatory Ordinances (Grading, Clearing, and Watercourses Ordinance), which requires effective erosion control and compensatory mitigation for natural habitat loss, if applicable.

7.2.3.4 Hydrology and Water Quality

The development of roadway improvements at the identified intersections could affect water quality due to grading and construction activities and an increase in impervious surfaces in close proximity to existing natural drainage channels. Adverse effects to water quality during the construction phase would be mitigated through compliance with Caltrans Storm Water Quality Handbook and implementation of the Erosion Control Plan. The Erosion Control Plan would identify the location erosion control features needed to direct and filter stormwater runoff. Features used during construction may include but are not limited to silt fences, fiber rolls, and rock bag dams. The location of permanent erosion control features such as sediment/grease traps, vegetated drainage swales, and riprap would also be identified. The effects to runoff volumes resulting from the increase of impervious surfaces are expected to be minimal due to the limited extent of the improvements in comparison to the existing facilities. Some existing curb and gutters and drainage inlets would be demolished and relocated along portions of the roadways to provide space for the improvements. Curb and gutters, inlets, and other drainage facilities would be reconstructed to provide adequate facilities to direct stormwater runoff

Some intersection improvements may require bridge modifications or bridge replacement to allow for improvements (SR-94SR-94/Melody Road). Such bridge modification or replacement could constrict surface flows and result in potential flooding if not properly designed and constructed. Mitigation measures identified and required by Caltrans (including consultation with USACE) would reduce the potential for flooding.

7.2.3.5 Hazardous Materials

According to the Phase 1 Environmental Site Assessment, one current recognized environmental condition was identified in the SR-94 / Steele Canyon Road Intersection project area (Natural Investigations Co. 2014). The 7 Eleven Store #21802 at 12981 Campo Road, during removal of previously-used USTs, which apparently leaked,

discovered contamination from diesel, gasoline, and gasoline additives in both soil and groundwater. Groundwater under the SR-94 / Steele Canyon Rd. intersection project area is currently contaminated from the historical 7 Eleven Store petroleum product releases. Contaminants include diesel, gasoline, and gasoline additives (tert-butyl alcohol, methyl tert-butyl ether, and benzene). Soil under the project area may or may not be contaminated from these off-site petroleum product releases. The contractor would be required to adhere to all federal, state and local regulations for handling and disposing of contaminated soil, if encountered. Required measures would protect workers and the environment from contamination.

The accidental release of hazardous materials used during grading and construction activities could pose a hazard to construction employees and the environment. Additionally, equipment used during grading and construction activities could ignite dry grasses and weeds on the project sites. State and local regulations control the use and storage of hazardous materials. Local regulations also control activities that may result in fire hazards.

7.2.3.6 Biological Resources

Disturbance areas associated with the proposed road improvements are located along existing roadsides that are subject to substantial human activity and do not contain sensitive habitat features. However, some components of the various improvements may involve limited removal of existing vegetation and modification of intermittent drainage channels (e.g. replacement of existing culverts, or the placement of such as bridge abutments or piers). Removal of sensitive native vegetation (e.g. oak trees), vegetation with a potential to provide habitat for special-status species or support nesting migratory birds, and modification of intermittent drainages may occur.

Potential Impacts to Listed Species or Other Sensitive Species

Previous field surveys over the last decade did not detect any special-status species within the intersection improvement project areas. Their absence within the project areas might be explained by the preponderance of exotic / competing species, and habitat degradation associated with urbanization and cattle grazing. Nevertheless, several special-status species were ranked “moderate” or “high” in potential occurrence in the intersection improvement project areas because suitable habitat is present where undisturbed, natural habitats are present. Because special-status species that occur in the vicinity of the project area could migrate onto the proposed project construction areas between the time that the field surveys were completed and the start of construction, construction of any of the intersection improvements could result in take of a listed species or other sensitive species. Incorporation of mitigation measures

identified and required by Caltrans (including pre-construction surveys and consultation with the USFWS if special-status species are present) would reduce this possibility.

Special-status bird species exist in the vicinity of the intersection improvement footprints, including Coastal California gnatcatcher, Least Bell's vireo, and yellow-billed cuckoo. Lands adjacent to the intersection improvement areas contains nesting habitat for various bird species because of the presence of trees, poles, and riparian canopy. However, no nests were observed during field surveys. Migratory birds and raptors are protected by state and federal laws while nesting. If construction activities are conducted during the nesting season, nesting birds could be directly impacted by tree removal, and impacted by noise, vibration, and other construction-related disturbance. The mitigation identified and required by Caltrans (including pre-construction surveys) would reduce this possibility.

Other potential adverse effects to nesting birds associated with implementation of traffic improvements consist of future increase of noise, vehicular traffic, and other human activity within the intersection improvement footprints. However, given the extent of existing habitat degradation within proposed development areas and the existing extent of human activity in the immediate vicinity, it is unlikely that implementation of traffic improvements would result in significant adverse impacts to nesting birds.

Potential Impacts from Degradation or loss of Sensitive Habitat

No critical habitat or sensitive habitat designated by federal or State regulations or agencies was identified. However, habitats protected by County ordinances (grasslands, coastal scrub, riparian, etc.) and the MSCP do occur within the construction footprints of the intersection improvements. Construction of intersection improvements would involve operation of heavy equipment, staging of soils, grading and excavation activities that could impact protected habitats.

No southern coast live oak riparian forest occurs within the intersection improvement project areas. Diegan coastal sage scrub habitat occurs within only one of the intersection improvement project areas: the SR-94 / Maxfield Road intersection. Construction of intersection improvements would impact approximately 0.69 acres of Diegan coastal sage scrub: 0.56 acres on the west side of SR-94 for a hillside cut for line-of-sight safety improvements; and 0.13 acres on the east side of SR-94 for hillside cuts for lane and shoulder widening. The only intersection improvement project area that contains southern wouldow riparian scrub is at the SR-94 / Jamacha Road Intersection. The impacts are primarily associated with excavation and casting of concrete footers for the retaining wall. Although no permanent impacts to southern wouldow riparian scrub are expected, up to 0.05 acres of temporary impacts may occur

from construction activities. The mitigation identified and required by Caltrans (compensatory mitigation as dictated by the MSCP) would offset the disturbance or loss of habitat.

Potential Impacts to Jurisdictional Waters

Construction of the intersection improvements could result in adverse impacts to water resources by modification or destruction of stream banks or riparian vegetation, by the placement of fill within a channel, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance.

The only intersection improvement project area that contains jurisdictional water resources is at the SR-94 / Jamacha Road Intersection. The impacts are primarily associated with excavation and casting of concrete footers for the retaining wall; the impacts are estimated at 3 square feet of permanent impacts and 1,369 square feet of temporary impacts to jurisdictional channel. No riparian vegetation would need to be removed, although branches of wouldow trees may need to be trimmed. This activity and other construction effects could result in up to 0.05 acres of temporary impacts to southern wouldow riparian scrub.

Note that portions of the SR-94 / Jamacha Road Intersection project area are located within two overlapping County mitigation areas (Gail Jurgella, San Diego County DPW, pers. comm. Nov. 2013):

> 1) The first area is a wetland enhancement area that was required as part of the USFWS Biological Opinion for the SR-54/SR-94 Widening Project, dated May 23, 2005. The enhancement area is described as a "50-foot by 1,000-foot area immediately adjacent to (south of) the roadway, which starts at the SR-94/Jamacha intersection and ends 1000 feet west." This area is within the SR-94 / Jamacha Road Intersection project area and is referring to the rip-rap slope adjacent to the SR-94 eastbound right turn lane and the associated intermittent channel. The enhancement consisted of re-vegetating disturbed areas with native vegetation and removing non-native vegetation. Construction of the SR-94 / Jamacha Road Intersection improvement project would disturb portions of this habitat enhancement area.
>
> 2) The second area is a least Bell’s vireo habitat enhancement area, also required as part of the USFWS Biological Opinion for the SR-54/SR-94 Widening Project, located within the County-owned parcel. Approximately 750 square feet of this habitat enhancement area would be affected by construction of the SR-94 / Jamacha Road Intersection improvement project. The 750 square-foot area

consists of disturbed (ruderal) habitat lacking a specific vegetation community structure.

The mitigation identified and required by Caltrans (compensatory mitigation as dictated by the MSCP) would offset this loss of habitat. Compensatory mitigation ratios would be doubled since impacts are occurring to a mitigation site.

7.2.3.7 Cultural Resources

Due to the abundance of cultural resource sites along SR-94, construction of the intersection improvements could potentially result in the disturbance of cultural resources. Previously identified or unknown sites may be inadvertently disturbed by construction activities. Mitigation identified and required by Caltrans would reduce the significance of the potential cultural resource disturbance.

7.2.3.8 Noise

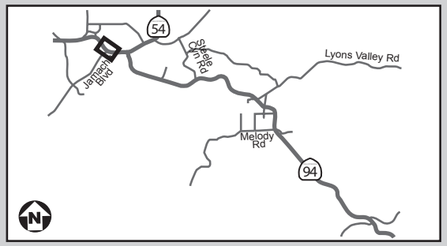
Construction activities would result in short-term increases in the local ambient noise environments. Increases in the existing noise environment would be most noticeable at the intersections of SR-94/Lyons Valley Road due to the close proximity of residences and businesses. However, because construction activities would be temporary in nature and would occur during normal daytime hours, potential disturbance is expected to be limited. Likewise, operational changes at each of the intersections are not expected to result in substantial noise increases to neighboring sensitive receptors due primarily to the fact that operational improvements are either within the existing Caltrans ROW or immediately adjacent.

7.2.3.9 Air Quality

Air Quality impacts associated with the intersection improvements would primarily result from changes in traffic operations due to the modified lane arrangement for select intersections (e.g., *SR-94/Via Mercado, SR-94/Jamacha Blvd., SR-94/Jamacha Road, SR-94/Cougar Canyon Road, SR-94/Steele Canyon Road, and SR-94/Jefferson Road*). Due to the distances and temporary nature of construction, none of the intersection improvements are anticipated to result in exposure of local sensitive receptors to adverse concentrations of criteria pollutants or TACs. Additionally, all intersection road upgrades would result in improved operations on SR-94, thus potential off-Reservation traffic would not result in adverse concentrations of CO.

7.2.3.10 Public Services

Construction of the intersection improvements may entail the relocation of utilities located within the existing ROWs. These utilities include overhead electricity and underground water lines. Relocation of lines could result in a temporary break in service to some homes and businesses in the area. However, these effects are necessary when upgrading and maintaining utility services, and potential service breaks would be temporary. No impediments to fire or emergency medical services are expected as access through the intersections and to adjacent homes and businesses would be maintained during construction of the improvements.

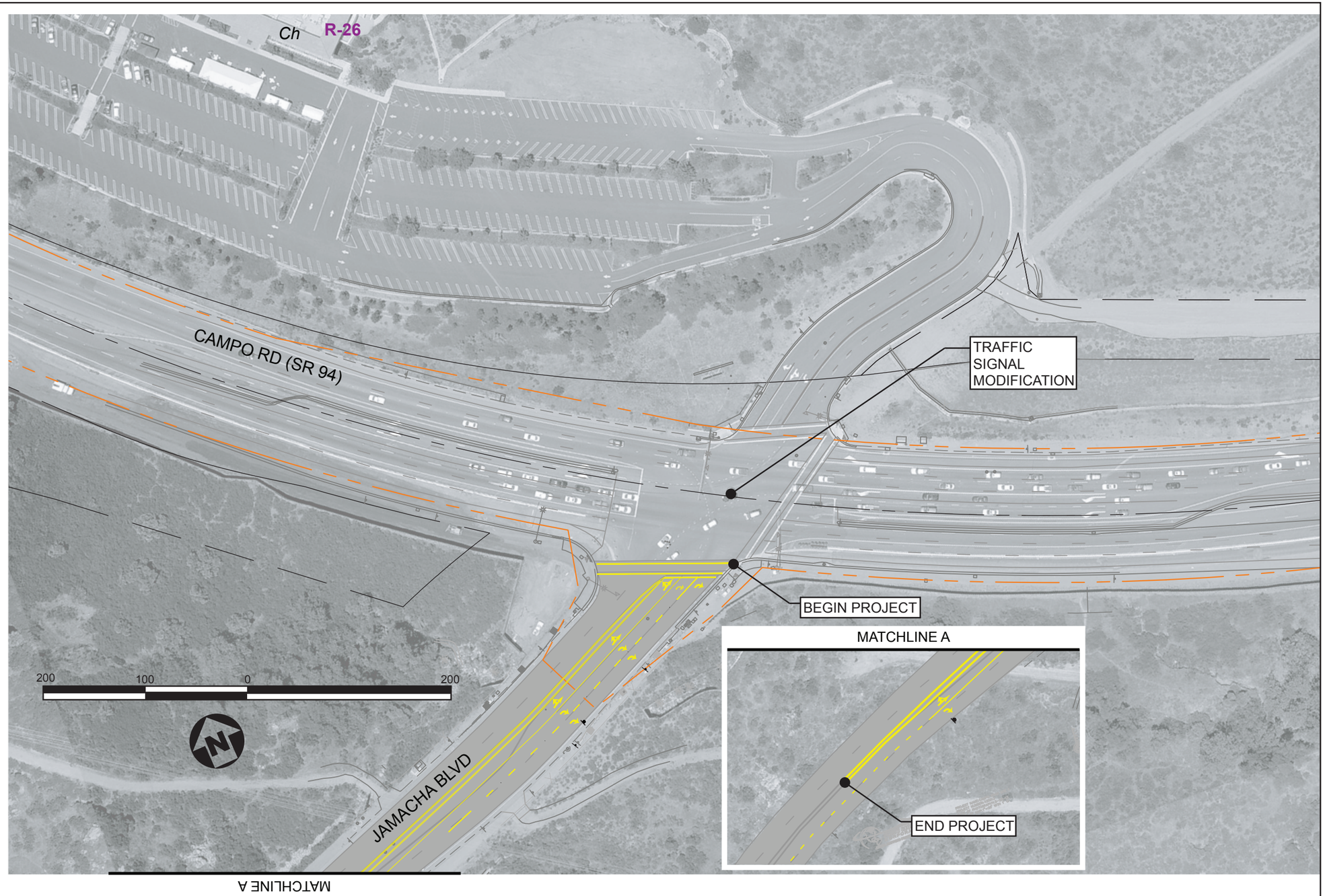


LEGEND

- Existing Right-of-way
- Proposed Restriping
- Property Boundaries

LAND USE LEGEND

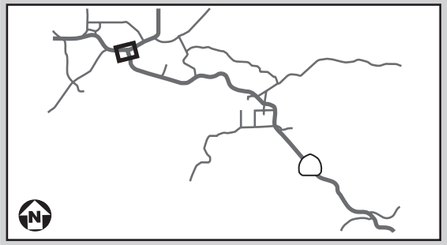
Ch Church



SOURCE: Caltrans, 2014; Kimley-Horne and Associates, 2014; EDS, 2015

Figure 7-1

SR-94/Jamacha Boulevard Intersection Improvements

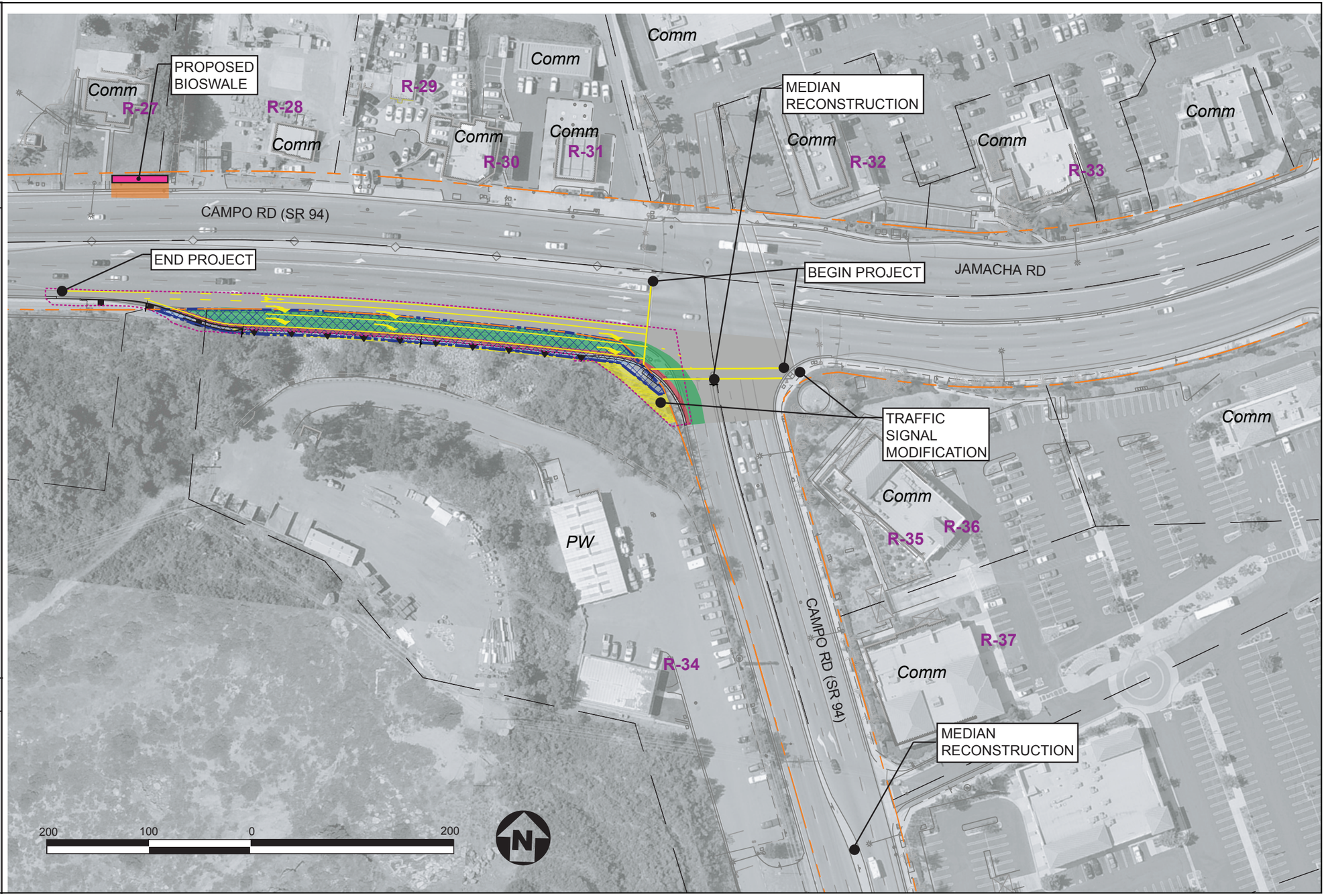


LEGEND

- Proposed Culvert Widening or Replacement
- Proposed Outside Lane Widening
- Proposed Retaining Wall
- Proposed Grading Limits (cut)
- Proposed Grading Limits (fill)
- Existing Right-of-way
- Proposed Bioswale
- Proposed Acquisition Area
- Proposed Temporary Easement
- Proposed Restriping
- Property Boundaries

LAND USE LEGEND

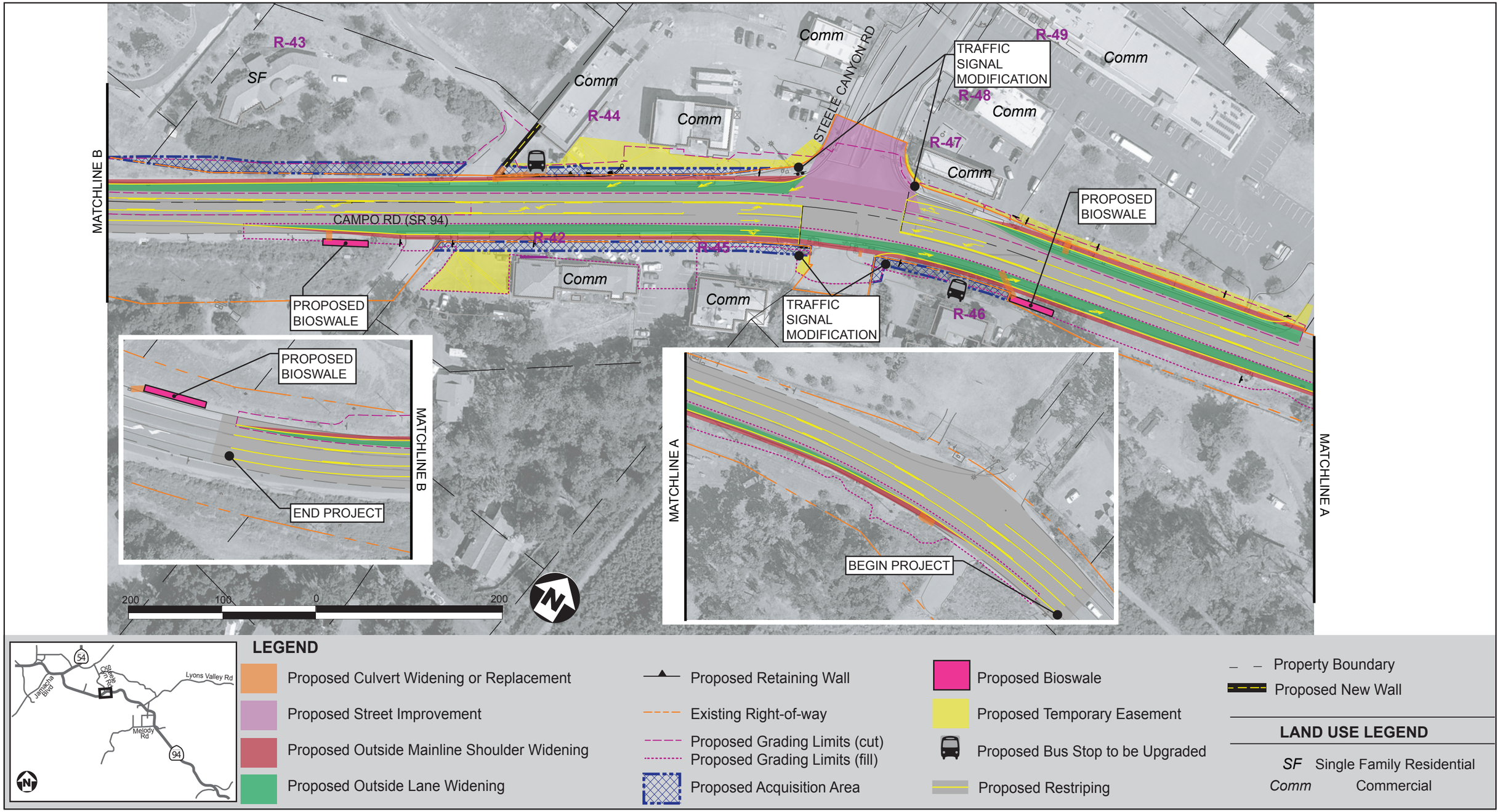
Comm	Commercial
PW	Public Works Facility



SOURCE: Caltrans, 2014; Kimley-Horn, and Associates 2014; EDS, 2015

Figure 7-2

SR-94/Jamacha Road Intersection Improvements



SOURCE: Caltrans, 2014; Kimley-Horn and Associates, 2014; EDS, 2015

Figure 7-3

SR-94/Steele Canyon Road Intersection Improvements

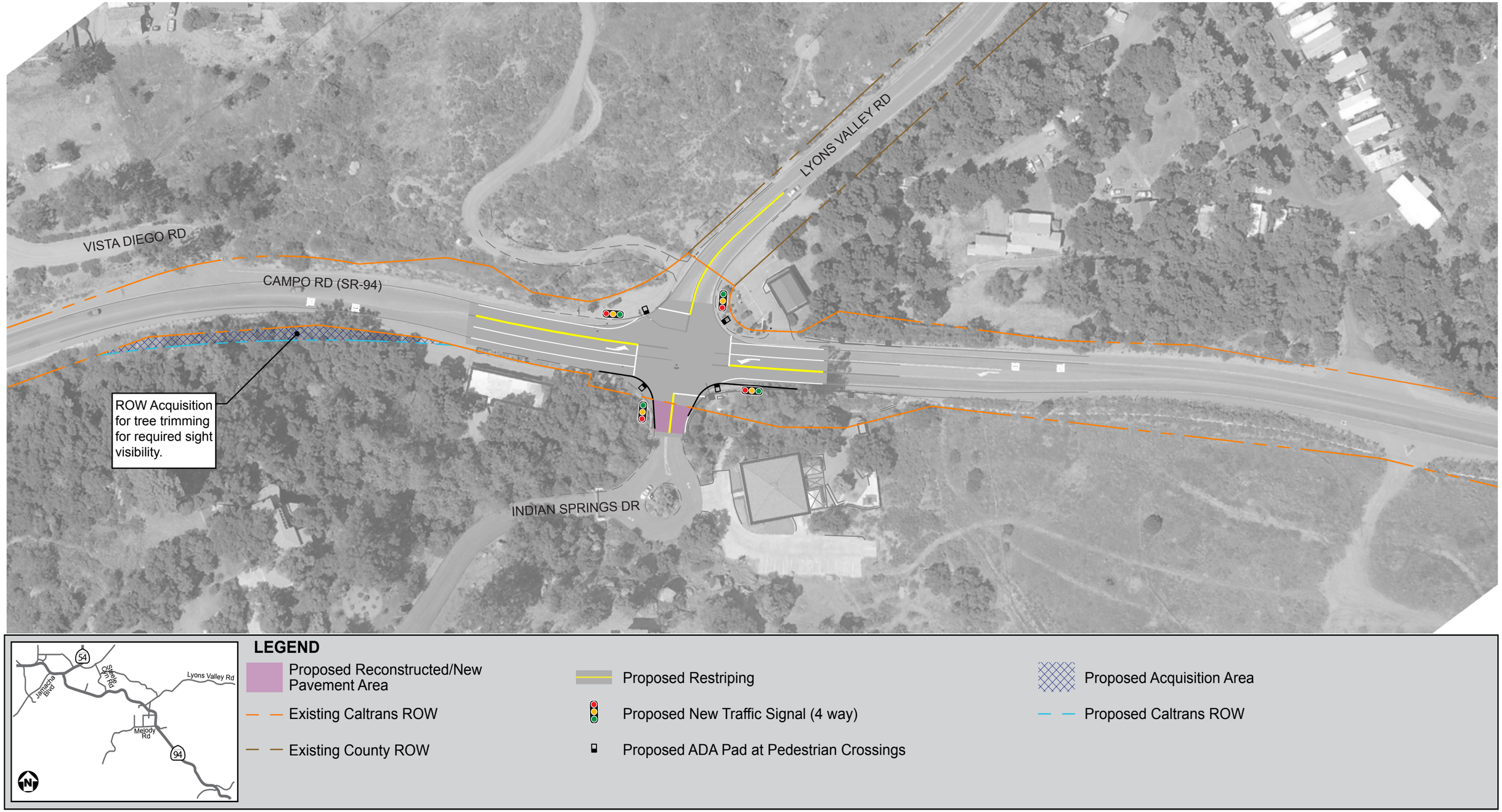
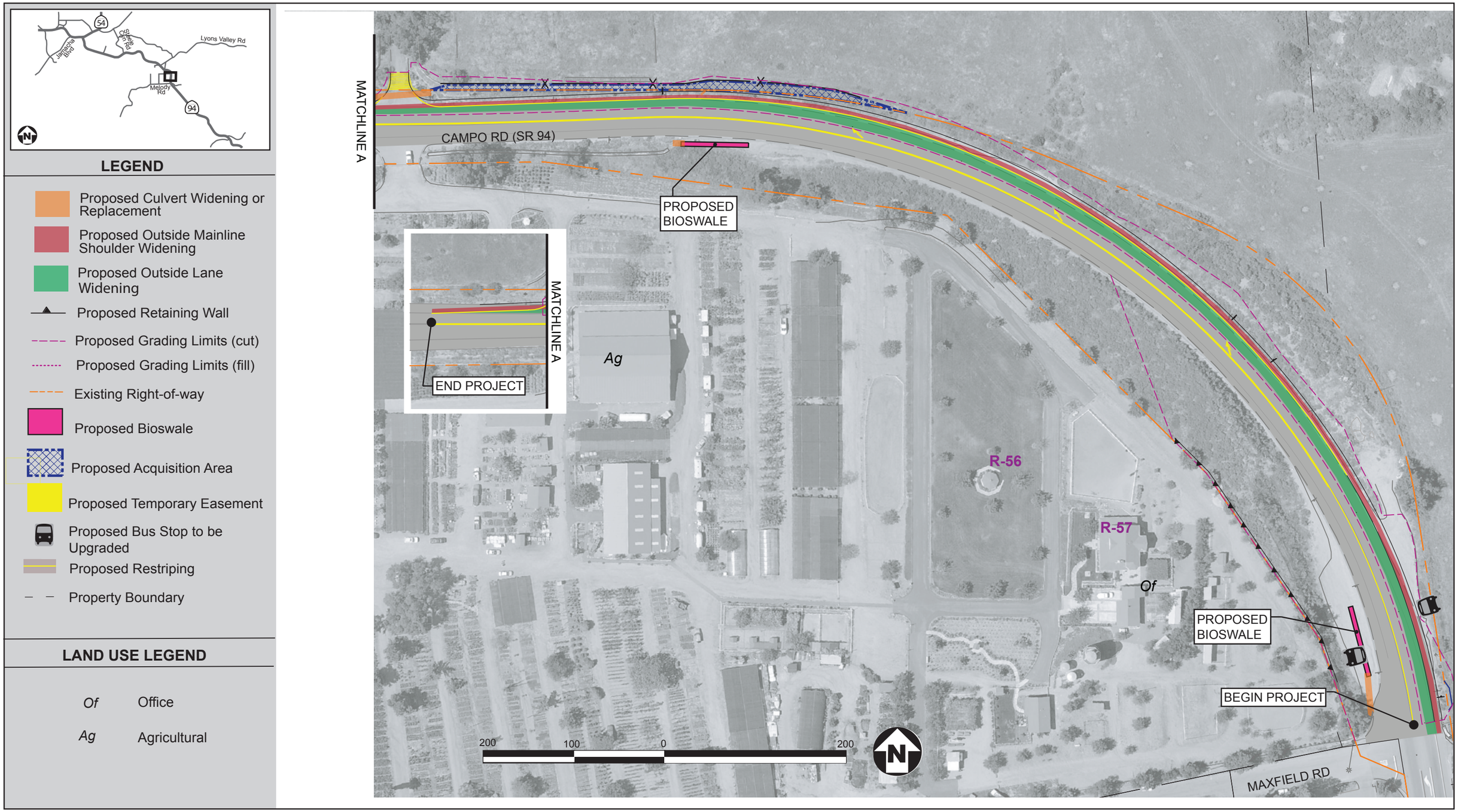


Figure 7-4
SR-94/Lyons Valley Road Intersection Improvements



SOURCE: Caltrans, 2014; Kimley-Horn and Associates, 2014; EDS, 2015

Figure 7-5
SR-94/Maxfield Road Intersection Improvements

SECTION 8.0

LIST OF PREPARERS

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LIST OF PREPARERS

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SECTION 9.0

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