

## 18 WATER SUPPLY

### INTRODUCTION

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The Mather Field Project EIR (2016) evaluated the Mather South Plan Area at the plan-level and that analysis is hereby incorporated by reference in this document and summarized where appropriate below. This chapter describes the availability, quality, and management of water supplies and addresses the ability of existing water service providers to supply potable water to the project. The analysis describes any relevant master planning of water supply infrastructure relevant to the new demands of the Mather South Project. The potential physical impacts of constructing facilities are described, as are the potential physical impacts of water demand. The analysis identifies impacts related to water supply from implementation of the Mather South Project at a project-level, and if necessary, recommends mitigation measures to reduce or eliminate significant impacts.

During the NOP scoping process, comments regarding water supply included availability of recycled water, the size of water tank site, and the dedication of a utility easement along the eastern boundary. A copy of the NOP and comment letters received in response to the NOP are included in Appendix PD-2 of this Mather South Project Draft EIR.

### ENVIRONMENTAL SETTING

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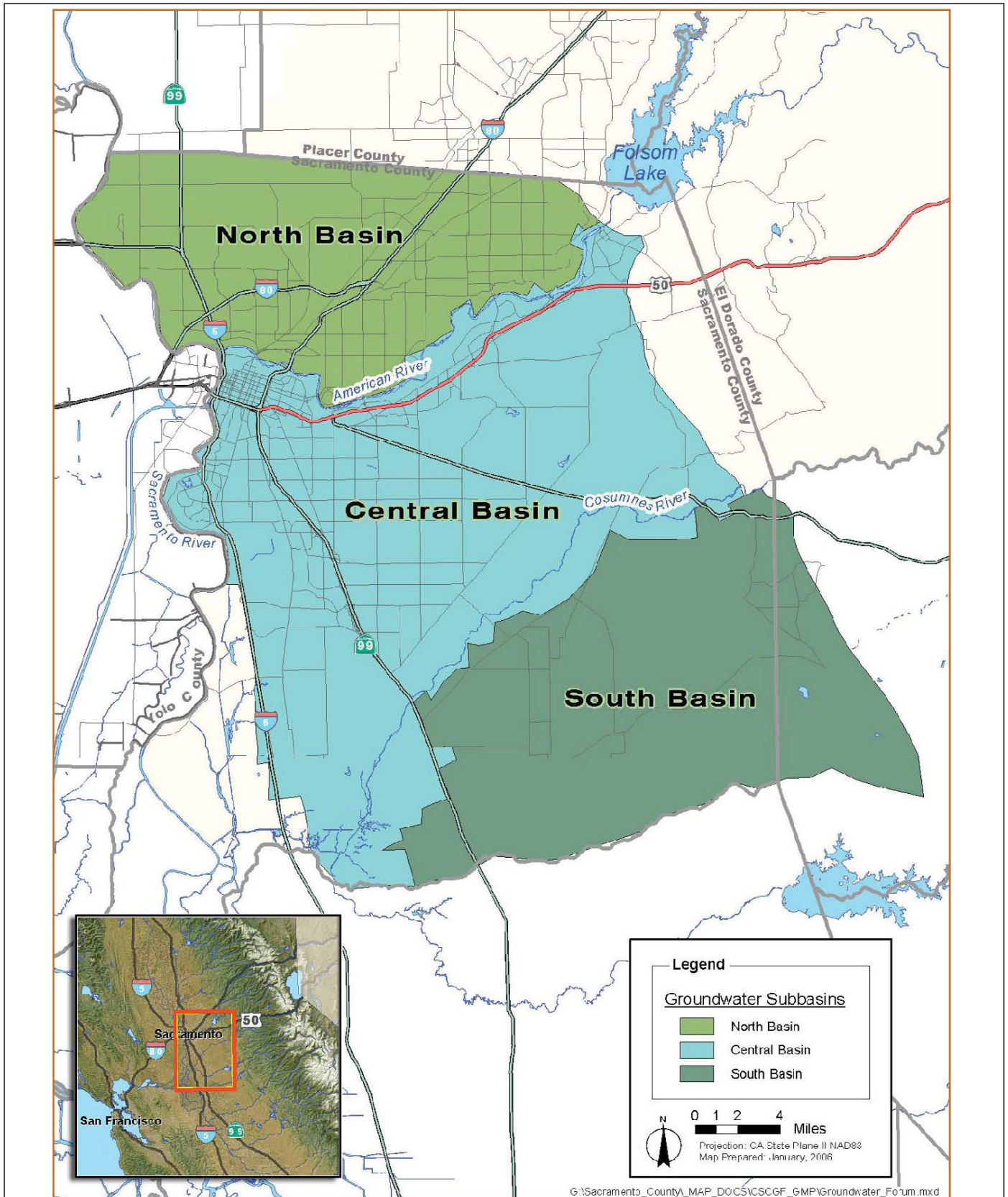
#### REGIONAL WATER SUPPLY

Twenty-eight water purveyors supply water to customers within Sacramento County. Water supply within Sacramento County consists of surface water from major rivers and streams, the Sacramento River Delta, and pumped groundwater from underground aquifers. A substantial network of water purveyors and/or districts distributes the water supply to mostly municipal and agricultural users. Individual private wells also supply rural residential and agricultural uses within the County (Sacramento County 2010).

#### *REGIONAL GROUNDWATER*

There are three primary groundwater zones in Sacramento County: the North Basin (north of the American River); the **South Central** Basin (between the American and the Cosumnes River); and the **Central South** Basin (Plate WS-1). The groundwater basin underlying Sacramento County has been utilized for domestic, agricultural, and urban water supply since the mid-1800s. In the 1940s, groundwater extractions began to exceed levels of recharge, which has caused a gradual lowering of groundwater levels in the region (SCGA 2006).

The Mather South Plan Area is in the Central Basin which has been subject to significant groundwater pumping and decline. The Central Basin is managed by the Sacramento Central Groundwater Authority (SCGA) which has adopted a groundwater management plan consistent with regional objectives (Sacramento County 2010).



Source: Sacramento Central Groundwater Authority 2006

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**Plate WS-1: Groundwater Basins in Sacramento County**



The Central Basin is roughly bound by the American River to the north, the Sacramento River to the west, the Cosumnes and Mokelumne Rivers to the south, and the Sierra foothills to the east. The watershed areas for rivers identified in Plate WS-2, as well as the upland foothill regions, serve as the major source of groundwater recharge in the Central Basin (SCGA 2006).

#### *LOCAL GROUNDWATER*

Groundwater underlying the Central Basin is contained within a shallow aquifer (Modesto Formation) and in a deep aquifer (Mehrten Formation). Groundwater is located from 20 to 100 feet below the ground surface depending on when and where the measurement is taken. Within the Central Basin, the shallow aquifer extends approximately 200 to 300 feet below the ground surface and, in general, water quality in this zone is good with the exception of arsenic detections in a few locations. The shallow aquifer is typically used for private domestic wells and typically requires no treatment (SCGA 2006).

The deep aquifer is separated from the shallow aquifer by a discontinuous clay layer that serves as a semi-confining layer. The base of the potable water portion of the deep aquifer averages approximately 1,400 feet below ground surface. Water in the deep aquifer typically has higher concentrations of total dissolved solids (TDS), iron, and manganese (SCGA 2006).

Groundwater used in the Central Basin is supplied from both the shallow and deeper aquifer systems. Intensive use of groundwater over the past 60 years has resulted in a general lowering of groundwater elevations. Over time isolated groundwater depressions have grown and coalesced into a single cone of depression that is centered in the southwestern portion of the Central Basin (SCGA 2006).

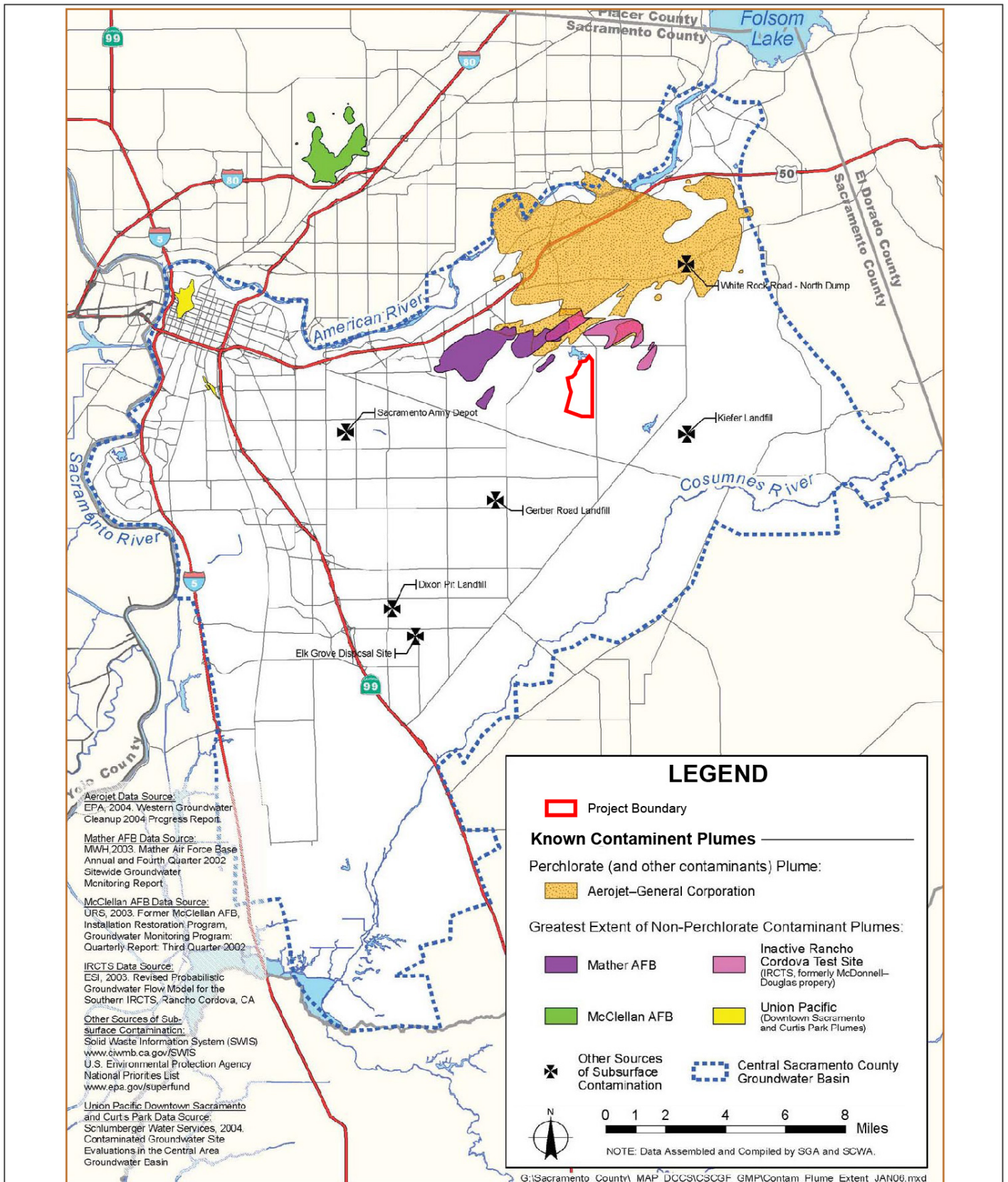
The main water quality contaminants of concern in the area are total dissolved solids, iron, manganese, and arsenic. However, the Central Basin also contains known plumes of contaminated groundwater within or near source areas such as Mather Field, McClellan Air Force Base, Aerojet, Boeing, the former Army Depot, the former Southern Pacific and Union Pacific railyards, Inactive Rancho Cordova Test Site (IRCTS, formerly McDonnell-Douglas) and various landfills. The known extent of groundwater contamination plumes and landfills is shown on Plate WS-3. For the Mather Field plumes, the primary contaminants of concern (COC) are tetrachloroethylene (TCE), perchloroethylene (PCE), and carbon tetrachloride. None of the Mather Field plumes extend to within the Plan Area.

For the Aerojet and IRCTS plumes, the primary COCs are TCE, n-nitrosodimethylamine (NDMA), and perchlorate. Leaking underground fuel tank (LUFT) sites also exist within the Central Basin. The sites can be fully remediated; however, an inventory of the number of sites, their locations, and their clean-up status is kept by the Sacramento County Environmental Management Department. Refer to Chapter 11 Hazardous Materials of this EIR for information related to LUFTs and other documented hazardous materials within the Plan Area (SCGA 2006).









**Aerojet Data Source:**  
EPA, 2004. Western Groundwater Cleanup 2004 Progress Report.

**Mather AFB Data Source:**  
MWH, 2003. Mather Air Force Base Annual and Fourth Quarter 2002 Sitewide Groundwater Monitoring Report.

**McClellan AFB Data Source:**  
URS, 2003. Former McClellan AFB, Installation Restoration Program, Groundwater Monitoring Program, Quarterly Report, Third Quarter 2002.

**IRCTS Data Source:**  
ESI, 2003. Revised Probabilistic Groundwater Flow Model for the Southern IRCCTS, Rancho Cordova, CA.

**Other Sources of Sub-surface Contamination:**  
Solid Waste Information System (SWIS) [www.ciwmn.ca.gov/SWIS](http://www.ciwmn.ca.gov/SWIS)  
U.S. Environmental Protection Agency National Priorities List [www.epa.gov/superfund](http://www.epa.gov/superfund)

**Union Pacific Downtown Sacramento and Curtis Park Data Source:**  
Schlumberger Water Services, 2004. Contaminated Groundwater Site Evaluations in the Central Area Groundwater Basin

Source: Sacramento Central Groundwater Authority 2006

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**Plate WS-3: Groundwater Contamination**



## REGIONAL WATER MANAGEMENT

### *SACRAMENTO AREA WATER FORUM*

In 1993, the City-County Office of Metropolitan Water Planning organized the Sacramento Area Water Forum (Water Forum). The Water Forum brought together a diverse group of stakeholders to evaluate water resources and future water supply needs of the Sacramento metropolitan region and resulted in the development of a Water Forum Agreement (WFA) and Water Forum Plan (WFP). Implementation of the WFA and development of the WFP has resulted in maximum sustainable yield long-term average annual operational yield limits (sustainable yields) for each of the three geographic subareas of the groundwater basin within Sacramento County. The Water Forum determined the estimated long-term average annual sustainable yield of groundwater from the Central Basin to be 273,000 acre-feet per year (AF/year) (Water Forum 2000).

### *SACRAMENTO CENTRAL GROUNDWATER AUTHORITY*

The Central Basin is managed by the Sacramento Central Groundwater Authority which consists of a Board of Directors made up of sixteen members and including representation from nine public agencies, two private water purveyors, one representative of agricultural interests, one representative of agricultural-residential groundwater users, one representative of commercial/industrial self-supplied groundwater users, one representative of conservation landowners and one representative of public agencies that are self-supplied groundwater users. Members of the Board are appointed by the cities of Sacramento, Folsom, Elk Grove, and Rancho Cordova, and the County of Sacramento Board of Supervisors to one four-year term (SCGA 2017).

### **THE CENTRAL SACRAMENTO COUNTY GROUNDWATER MANAGEMENT PLAN**

Central Basin groundwater supplies are managed through the existing Central Sacramento County Groundwater Management Plan (CSCGMP) (SCGA 2006) and regional planning efforts to increase conjunctive use. A goal of the CSCGMP is to ensure a viable groundwater resource for beneficial uses including water for purveyors, agricultural, agricultural residential, industrial, and municipal supplies that support the WFA's objectives of providing a reliable and safe water supply and preserving the fishery, wildlife, recreational, and aesthetic values of the lower American River. In addition, the CSCGMP recognizes the need to maintain and enhance flows in the Cosumnes River because of its ecological significance.

Specifically, the CSCGMP utilizes the following five basin management objectives to help achieve groundwater basin goals:

1. Maintain a long-term average groundwater extraction rate of 273,000 AF/year.
2. Establish specific minimum groundwater elevations within all areas of the basin consistent with the Water Forum "Solution."
3. Protect against any potential inelastic land surface subsidence.



4. Protect against any adverse impacts to surface water flows.
5. Develop specific water quality objectives for several constituents of concern.

#### *SACRAMENTO COUNTY WATER AGENCY*

The project is in Sacramento County Water Agency (SCWA) Zone 40. Zone 40 is in the central portion of the county (Plate WS-4), and has traditionally been a largely rural, agricultural region. Zone 40 plans, acquires, constructs, and operates facilities for the conjunctive use of groundwater and surface water in the area of influence of the Central Sacramento County Groundwater Basin. Once planned facilities have been constructed by SCWA, they are operated and maintained by Zone 41, which retails the water to customers within the area covered by Zone 41. Zone 40 and 41 have largely overlapping jurisdictional boundaries.

Zone 40 was established in 1985 with the goal of curtailing groundwater overdraft in the southern portion of Sacramento County by providing a conjunctive surface water/groundwater system. Initially, the water source for Zone 40 remained largely groundwater, with a smaller proportion coming from surface water pumped from the Sacramento River.

Currently, SCWA diverts firm and intermittent surface water from, or near, the mouth of the American River or from the Sacramento River and uses groundwater and surface water conjunctively to meet water system demands (SCWA 2016a).

#### **GROUNDWATER SUPPLIES**

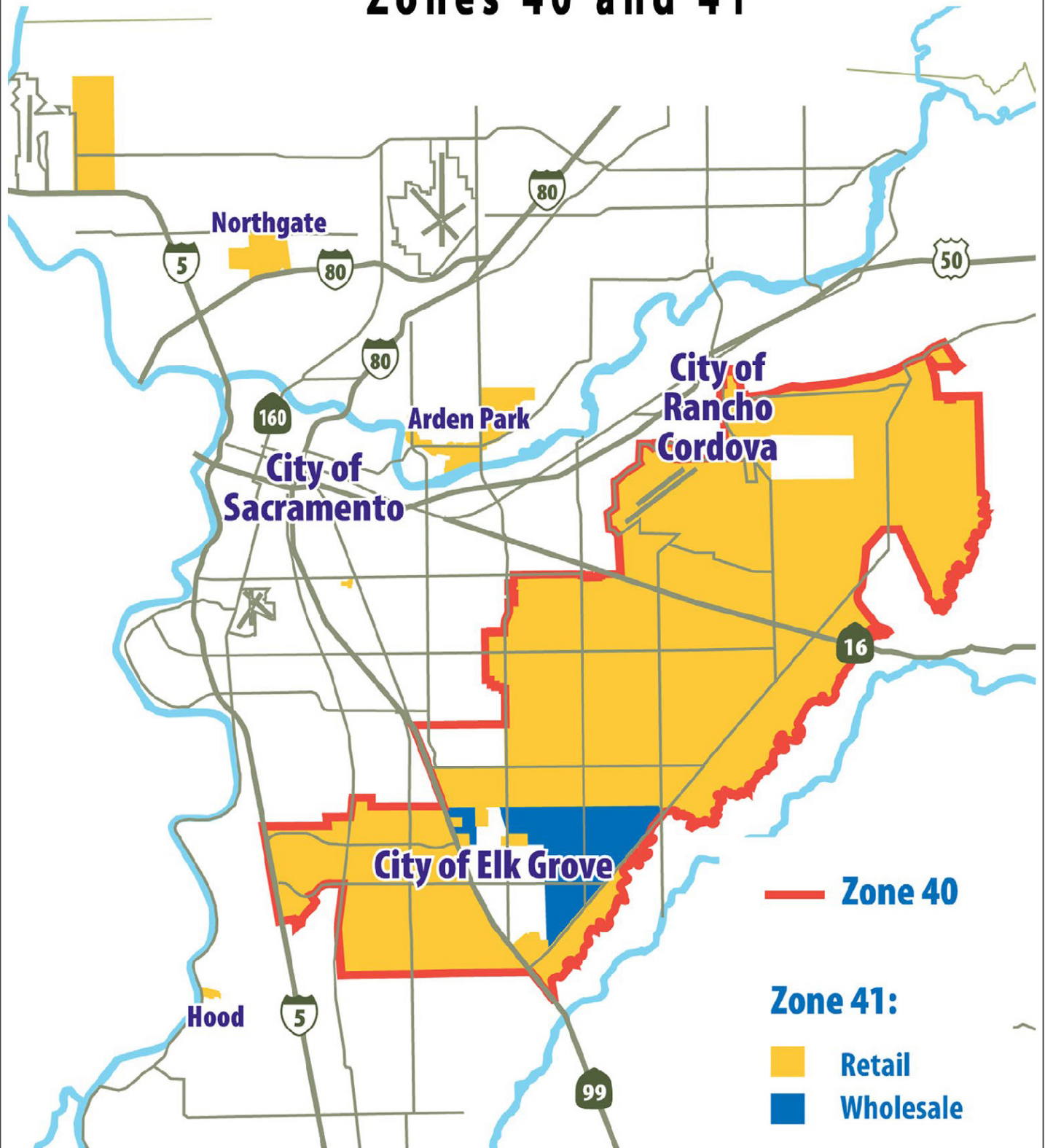
SCWA obtains most of its groundwater from extraction rights within the Central Basin, which underlies Zone 40. The estimated long-term annual sustainable yield of groundwater from the Central Basin is 273,000 AF/year as was negotiated during the WFA process. Additional groundwater is supplied through a remediated groundwater agreement between Sacramento County, SCWA, and Aerojet-General Corporation as well as from the Mather housing wells.

#### **SURFACE WATER SUPPLIES**

SCWA obtains surface water from a contract to purchase surface water from the Central Valley Project (CVP), an appropriative right to the American and Sacramento Rivers, and a small amount of recycled water (SCWA 2016a). Appropriative rights mean the ability to divert water at one point and use that water beneficially (appropriate) at another point that may not be proximate to where the water is diverted.

The CVP surface water supply consists of a total of 45,000 acre-ft/yr which is diverted at the Freeport diversion on the Sacramento River and treated at the Vineyard Surface Water Treatment Plant (VSWTP) which is approximately 3.5 miles southwest of the Plan Area. This water supply is subject to reductions in dry years (SCWA 2016a).

# Sacramento County Water Agency Zones 40 and 41



Source: Sacramento County Water Agency 2015

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Plate WS-4: SCWA Zones 40/41





A second source of surface water consists of the City of Sacramento's American River Place of Use (POU) appropriation which constitutes approximately 9,300 acre-ft/yr. This water is diverted at the Sacramento SWTP. The allocation of water is dependent upon American River flows, and a supply allocation of zero percent is assumed for dry years and 100 percent for normal climate years.

A third source of surface water is supplied through appropriate use of the Sacramento and American Rivers as approved by the SWRCB under Permit 21209. SCWA is entitled to approximately 71,000 acre-ft/yr in wet years. The water is diverted at the Freeport diversion on the Sacramento River (Plate WS-5).

## REGIONAL INFRASTRUCTURE

SCWA has existing and planned capital improvement projects that could support the delivery of water to the Mather South Project. There are two major projects relevant to the discussion which have already begun to increase the capacity of service delivery within Zone 40: the development of the VSWTP and the completion of the North Service Area (NSA) Pipeline.

### *VINEYARD SURFACE WATER TREATMENT PLAN*

The VSWTP and associated water supply facilities are in operation. The VSWTP is currently providing potable water to existing development within the SCWA Zone 40 service area. The VSWTP currently has a capacity to treat 50 million gallons per day (mgd) with a planned capacity of 100 mgd of raw surface water to serve future development.

### *NORTH SERVICE AREA PIPELINE*

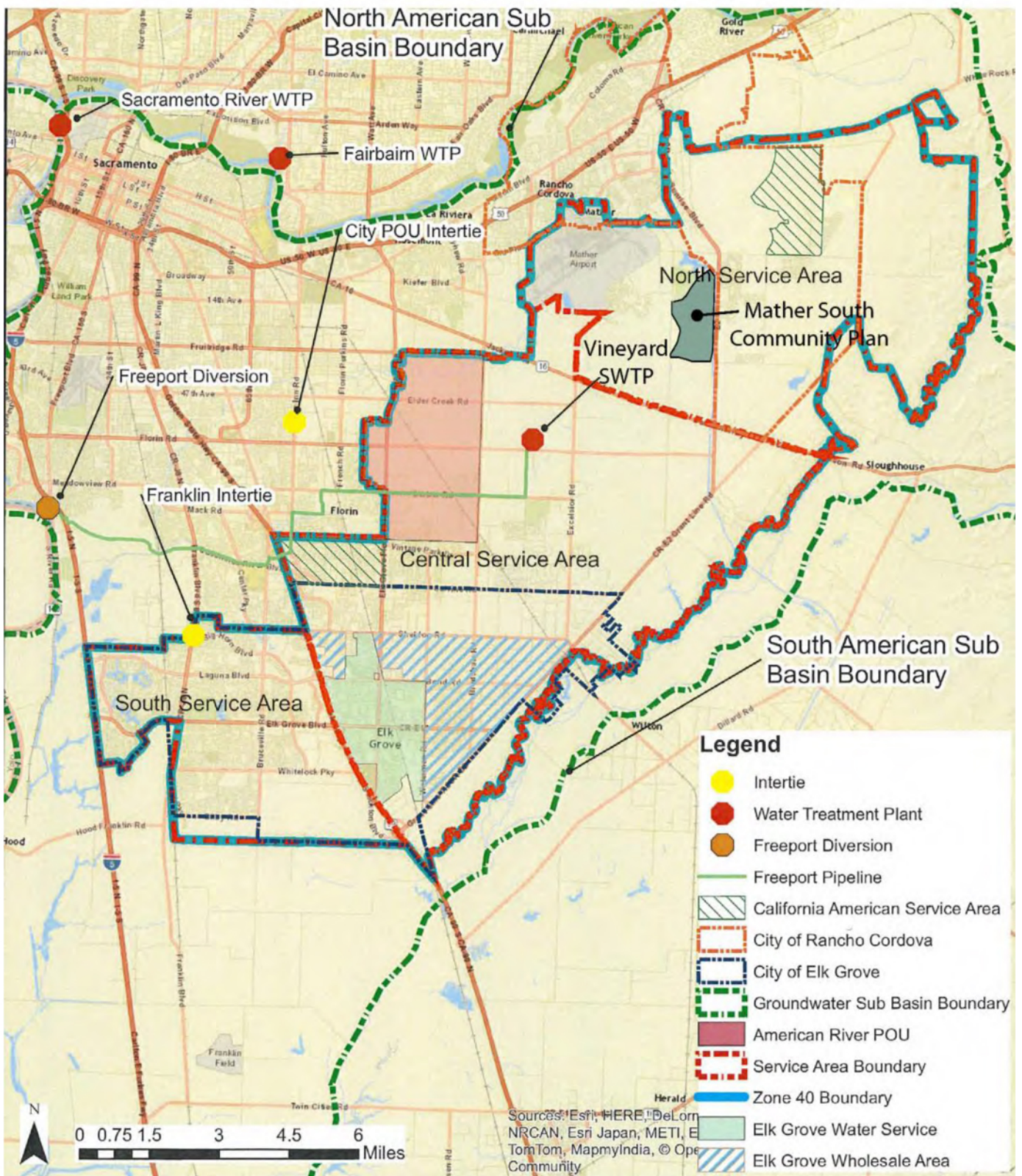
The NSA Pipeline Project includes the construction of a transmission main and booster tank station that will serve the Mather Field Specific Plan area and the NSA. The pipeline will begin at the VSWTP and convey water to the NSA (NSA Pipeline Phase A). SCWA completed and approved an Initial Study/Mitigated Negative Declaration (*NSA Pipeline Project*, Sacramento County Control Number 2007-70373) for construction of this pipeline in September 2010. In 2014, a supplemental Initial Study/Mitigated Negative Declaration was prepared and adopted for an interim pipeline project constructing a 66-inch pipe to the Excelsior Well Field and converting the raw water pipe line to treated water to the existing Anatolia Water Treatment Plant. The interim pipeline was constructed in 2016. The timing of construction of the remaining portion of NSA pipeline (NSA Pipeline Phase B) cannot be predicted at this time, as its timing is dependent on growth demand in the NSA.

### *WATER SUPPLY TO PROJECT*

The SCWA would be the purveyor of water to the Plan Area (Plate WS-5) and has prepared a Water Supply Assessment (WSA) in accordance with the California Water Code Sections 10910-10915 (described below) and included as Appendix WS-1. The water demands associated with the Mather South Project have been included and addressed in the latest Zone 41 Urban Water Management Plan (UWMP) (SCWA 2016a) and the Zone 40 Water System Infrastructure Plan (WSIP) (SCWA 2016b). The projected

annual water demand for the Mather South Project is 1,483 acre-feet per year, including system losses (SCWA 2018).





Source:

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Plate WS-5: Regional Water Service Infrastructure



### **POTABLE WATER SUPPLY**

The Mather South Project would receive surface and groundwater supplies from SCWA via the agency's existing potable water transmission system which would meet 100 percent of the build-out demand in the Plan Area. The VSWTP NSA Pipeline Phase A would deliver potable water from the VSWTP to the Douglas Road Tanks located in the northern portion of the Plan Area. The key facilities are illustrated on Plate WS-6. Initial service to the Plan Area would be from the VSWTP and from the North Vineyard Well Field and WTP. These supplies would be transported through an existing 30-inch diameter NSA Pipeline Phase A to the Anatolia Groundwater Treatment Plant located approximately 1.5 miles north of Kiefer Boulevard along Sunrise Boulevard. SCWA would install additional NSA transmission and storage facilities when regional water demands within the NSA warrant it. A grid of 8-inch to 12-inch mains would extend from ~~the existing 30-inch diameter NSA Pipeline Phase A water main transmission main in Kiefer Boulevard~~, the existing 16-inch diameter water line in Zinfandel Drive (south of Douglas Road) and the existing 16-inch diameter water line in Sunrise Boulevard to serve local developments within the Plan Area.

Depending on the timing of adjacent development, the existing water lines near the Mather South Project may have the capacity to serve the Plan Area. Ultimately, SCWA intends to install Phase B of the NSA Pipeline (54- inch diameter), from the existing 60-inch diameter Phase A line, located at the corner of Excelsior Road and Florin Road, easterly along Florin Road to Eagles Nest Road. The pipe would then run northerly to Kiefer Boulevard, then easterly on Kiefer to the west side of the Folsom South Canal, and finally along the east side of the Plan Area to the water tank (described below) located at the northeast corner of the Plan Area. A 54-inch/42-inch transmission pipeline would be installed northerly from the water tank to connect to the existing transmission system located in Douglas Road near Sunrise Blvd.

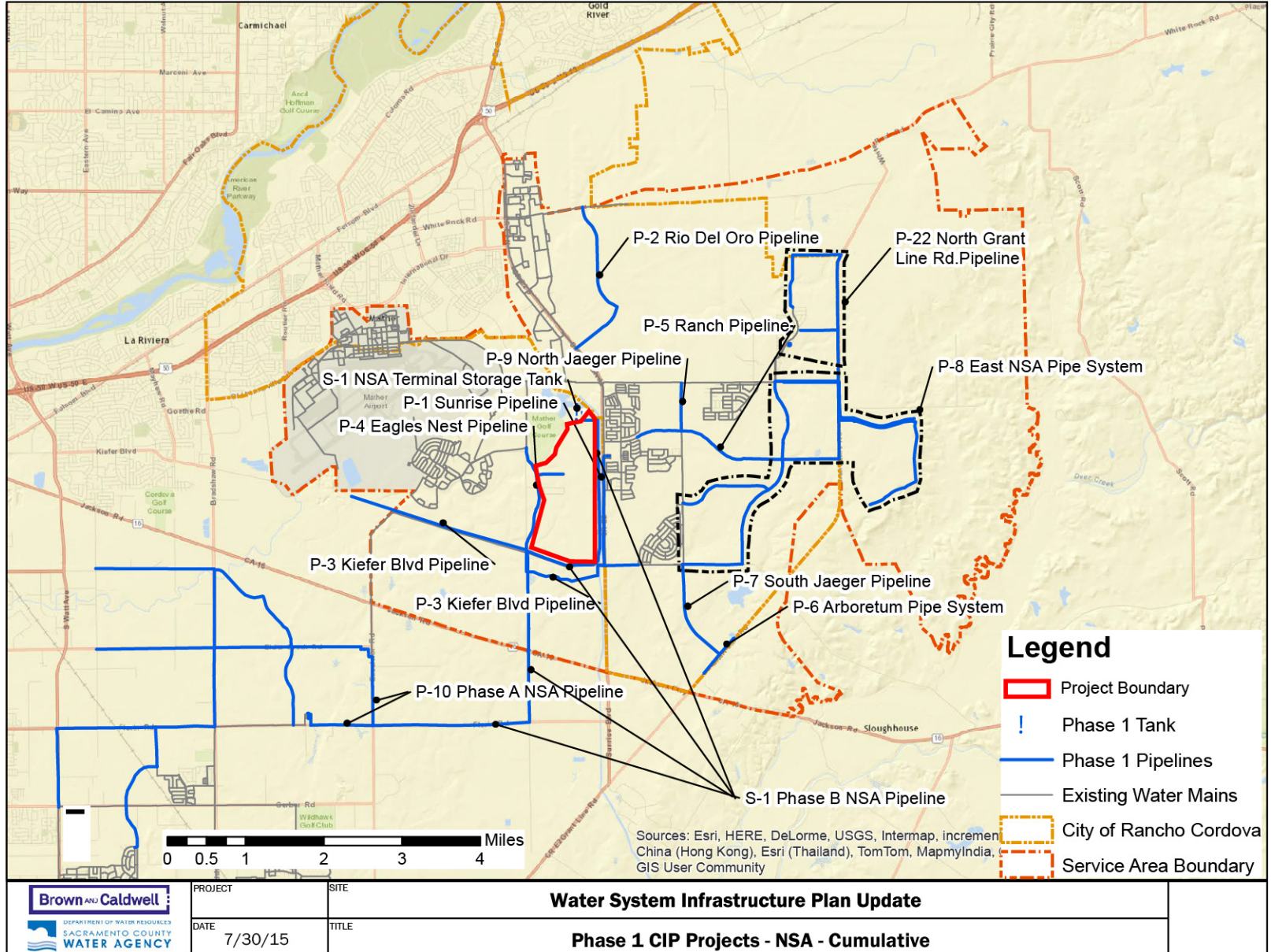
A ~~one~~ **ten** million-gallon water tank **farm** would be constructed to serve the greater NSA, including the Plan Area, and would be located in the northeast corner of the Plan Area as shown in Plate WS-7. The tank **farm** would be required when demands from new connections exceed the current storage capacity of the system. Depending on the timing of adjacent development and the water demands resulting from such development, the construction of the tank **farm** may not be required to serve the Plan Area. The tank **farm** would be served by an extension of the NSA Pipeline Phase B as depicted in Plate WS-7. The Mather South Community Master Plan anticipates that SCWA would construct the tank **farm** and the extension of the NSA Pipeline Phase B as future demands dictate.

### **NON-POTABLE WATER SUPPLY**

Non-potable water (or often called "recycled water") for irrigation of landscape corridors and parks is not available, or planned, near the Mather South Plan Area. Recycled water in the region is provided by the Sacramento Regional County Sanitation District (RegionalSan). Recycled water is treated wastewater that has undergone additional filtration and disinfection processes to make the water safe for non-potable uses. Recycled water is delivered to areas via purple pipe that is installed separately



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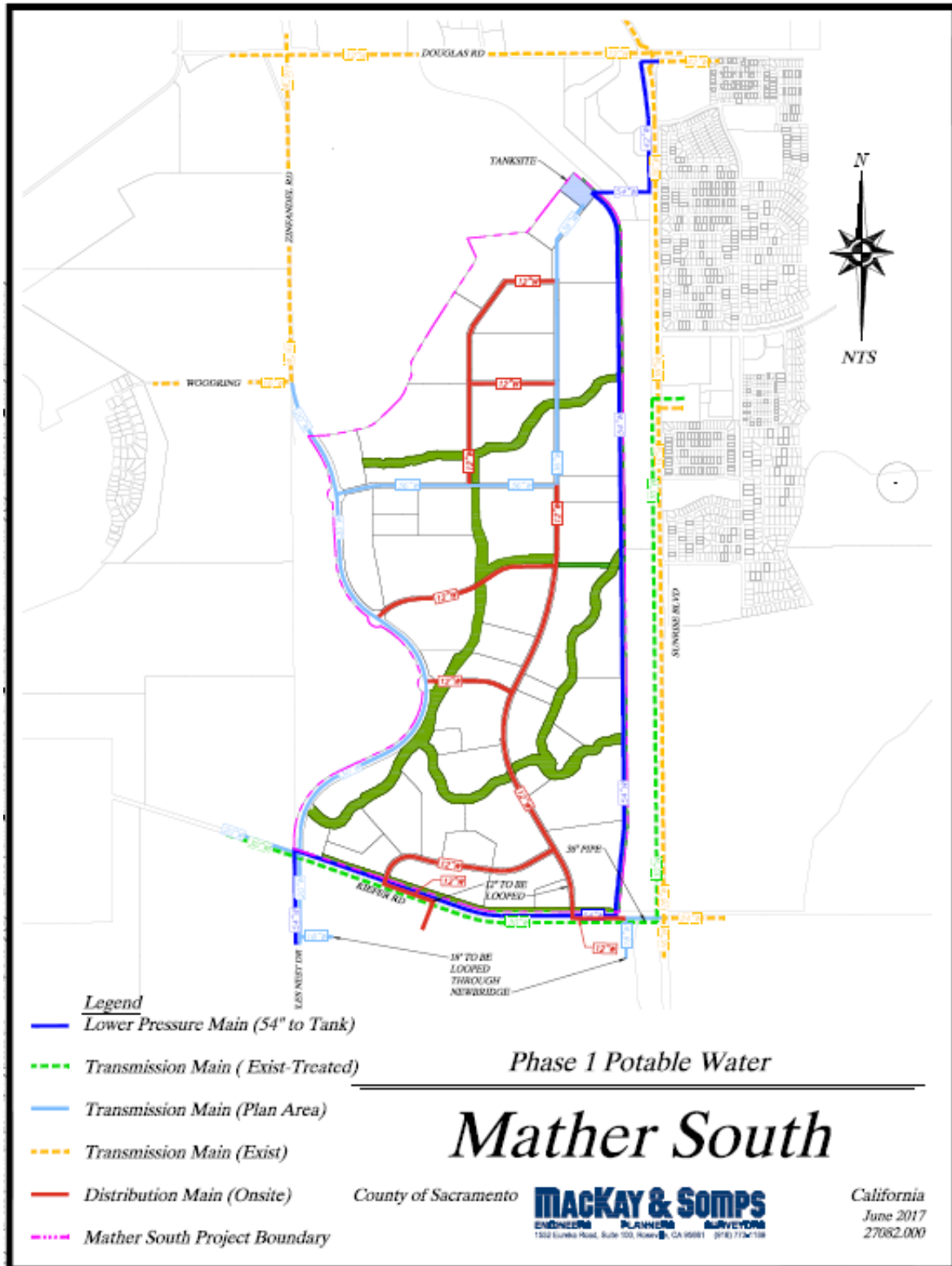


Source: Sacramento County Water Agency 2015

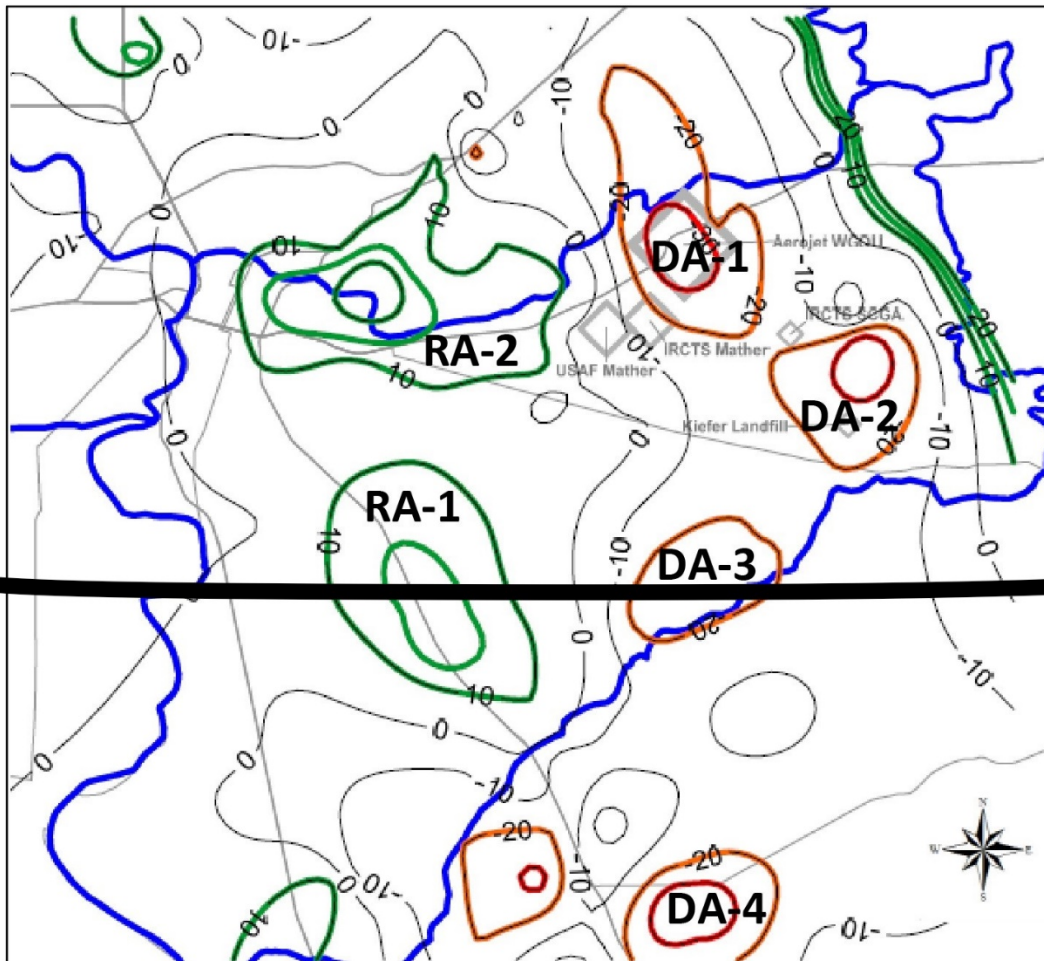
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Plate WS-6: Key Pipeline Infrastructure





**Plate WS-7 Mather South Water Supply Infrastructure**



Groundwater Elevation Difference (2015 minus 2005)

Source: Mather South Community Master Plan 2018

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from water supply lines. In 2007, RegionalSan evaluated recycled water opportunities throughout the Sacramento region, including the Mather South area, and determined that it ranked 7<sup>th</sup> out of 18 possible projects based upon lifecycle cost, water supplies and demands, implementability, annual yield, public acceptance and environmental benefits (RegionalSan 2007). Therefore, a non-potable water system is not included in planning for the project at this time.

## REGULATORY SETTING

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### FEDERAL

#### *UNITED STATES BUREAU OF RECLAMATION*

The Bureau of Reclamation is part of the United States Department of the Interior and is responsible for the development and conservation of much of the water resources in the western United States. The Bureau operates Folsom Dam, Nimbus Dam, and the Folsom South Canal. While the original purpose of the Bureau was to provide for the reclamation of arid and semiarid lands in the west, the agency's current mission covers a wider range of interrelated functions. These functions include providing municipal and industrial water supplies through the Central Valley Project; generating hydroelectric power; providing irrigation water for agriculture; improving water quality, flood control, and river navigation; providing river regulation and control and fish/wildlife enhancement; offering water-based recreation opportunities; and conducting research on a variety of water-related topics.

#### *UNITED STATES GEOLOGICAL SURVEY*

The United States Geological Survey (USGS) National Water Use Information Program is responsible for compiling and disseminating the nation's water use data. The USGS works in cooperation with federal, state, and local environmental agencies to collect water use information at the local level.

### STATE

#### *DEPARTMENT OF WATER RESOURCES*

The Department of Water Resources (DWR) is responsible for the preparation of the California Water Plan, management of the State Water Project, protection, and restoration of the Sacramento-San Joaquin River Delta, regulation of dams, provision of flood protection, and other functions related to surface water and groundwater resources. Other functions include helping water agencies prepare their Urban Water Management Plans and reviewing such plans to ensure that they comply with the related Urban Water Management Planning Act.

#### *STATE WATER RESOURCES CONTROL BOARD*

The Water Resources Control Board (State Water Resources) was established in 1967 to administer state water rights and water quality functions. State Water Resources and

nine regional water quality control boards administer water rights and enforce pollution control standards. State Water Resources is responsible for the granting of water right permits and licenses through an appropriation process following public hearings and appropriate environmental review by applicants and responsible agencies. In granting water right permits and licenses, the WRCB must consider all beneficial uses, including water for downstream human and environmental uses.

*CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD*

The Central Valley Regional Water Quality Control Board (Regional Water Board) is responsible for the preparation and implementation of basin water quality plans consistent with the Clean Water Act and enforcement of those plans to ensure that local water quality is protected. The Regional Water Board may become involved in water supply programs as a responsible agency with respect to project impacts on downstream beneficial uses.

*CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE*

The California Department of Fish and Wildlife (CDFW) is a responsible agency with respect to the review of water right applications and is responsible for issuing lake and streambed alteration permits for new water supply projects. CDFW often helps establish in stream flows to maintain habitat below a project.

*URBAN WATER MANAGEMENT PLANNING ACT*

Pursuant to California Water Code Sections 10610-10657, as last amended by Senate Bill 318 in 2004, the Urban Water Management Planning Act requires all urban water suppliers with more than 3,000 service connections or water use of more than 3,000 AFA to submit an UWMP to the California Department of Water Resources every 5 years and update the plan on or before December 31 in years ending in 5 and 0. SB 318 is the 18th amendment to the original bill requiring a UWMP, which was initially enacted in 1983. Amendments to SB 318 have focused on ensuring that the UWMP emphasizes and addresses drought contingency planning, water demand management, reclamation, and groundwater resources. The most recent update to the UWMP was prepared by SCWA in 2016.

*SENATE BILL 610*

SB 610 became effective January 1, 2002. The purpose of SB 610 is to strengthen the process by which local agencies determine the adequacy and sufficiency of current and future water supplies to meet current and future demands. SB 610 amended the California Public Resources Code to incorporate Water Code requirements within the CEQA process for certain types of projects (described below). SB 610 also amended the water code to broaden the types of information included in a UWMP. SB 610 consists of two primary components, the UWMP and the water supply assessment (WSA) (Water Code Sections 10910-10915).

*WATER CODE SECTION 10910*

Water Code Section 10910 et seq. defines the projects for which the preparation of a WSA is required as well as the lead agency's responsibilities related to the WSA. The Water Code also clarifies the roles and responsibilities of the lead agency under CEQA and of the water supplier with respect to describing current and future supplies compared to current and future demands. A WSA is required for:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use development that includes one or more of the uses described above;
- A development that would demand a volume of water equivalent to or greater than the volume of water required by a 500-dwelling unit project; and
- For lead agencies with fewer than 5,000 water service connections, any new development that would increase the number of water service connections in the service area by 10 percent or more.

*SENATE BILL 221*

SB 221 requires a city or county to include as a condition of approval of any tentative map, parcel map, or development agreement for certain residential subdivisions a requirement that a "sufficient water supply" be available. Proof of a sufficient water supply must be based on a written verification from the public water system that would serve the development.

*SUSTAINABLE GROUNDWATER MANAGEMENT ACT OF 2014*

The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015 and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

Pursuant to the SGMA, any local agency that has water supply, water management, or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). The groundwater sustainability agency for the North American subbasin is the Sacramento Groundwater Authority.



The SGMA also requires DWR to categorize each groundwater basin in the state as high-, medium-, low-, or very low priority (Water Code Sections 10720.7, 10722.4) All basins designated as high- or medium-priority basins must be managed by a groundwater sustainability agency under a groundwater sustainability plan that complies with Water Code section 10727 et seq. If required to be prepared, groundwater sustainability plans must be prepared by January 31, 2020 for all high- and medium-priority basins that are subject to critical conditions of overdraft, as determined by DWR, or by January 31, 2022 for all other high- and medium-priority basins. In lieu of preparation of a groundwater sustainability plan, a local agency may submit an alternative that complies with the SGMA no later than January 1, 2017 (Water Code Section 10733.6).

On December 15, 2014, DWR announced its official “initial prioritization” of the state’s groundwater basins for purposes of complying with the SGMA and this priority list became effective on January 1, 2015 (DWR 2016). DWR has ranked the Sacramento Valley Groundwater Basin as “high priority.” As described above, the South Subbasin which underlies the Plan Area has been managed by the SCGA and a groundwater management plan was prepared and adopted in 2006. Therefore, SCGA has submitted the plan to DWR as an alternative management plan, that will satisfy the requirements of SGMA (SCGA 2018).

#### *CALIFORNIA SAFE DRINKING WATER ACT*

The California Safe Drinking Water Act (CA SDWA; California Health and Safety Code 4010 – 4039.6) authorizes the California Division of Drinking Water’s (DDW) to establish maximum contaminants levels (MCLs) that are at least as stringent as those required by the US EPA under the SDWA. The DDW has established MCLs for contaminants that may occur in public water systems, including all the substances for which federal MCLs exist, and may have adverse health effects. Operators of public water systems in California are required to meet federal and state drinking water standards.

#### LOCAL

##### *SACRAMENTO COUNTY GENERAL PLAN*

The Sacramento County General Plan contains the following policies and implementation measures which pertain to the provision of water supply and may be applicable to the project.

- AG-27.** The County shall actively encourage groundwater recharge, water conservation and water recycling by both agricultural and urban water users.
- CO-1.** Support conjunctive use water supply for development.
- CO-7.** Support the Water Forum Agreement Groundwater Management Element. Prior to approving any new development water supply plan shall be approved that demonstrates consistency with an adopted groundwater management plan.

- CO-8.** Applicants proposing developments in areas with significant groundwater recharge characteristics shall evaluate the impact of said development on groundwater recharge and quality. This evaluation should recognize criteria defined in any broader County-wide determination and/or evaluation of groundwater recharge areas.
- CO-9.** Developments in areas with significant contamination shall utilize remediated groundwater as part of their water supply when feasible.
- CO-13.** Support the WFA Conservation Element and the California Urban Water Conservation Council Best Management Practices for Water Conservation.
- CO-14.** Support the use of recycled wastewater to meet non-potable water demands where financially feasible.
- CO-16.** Ensure developments are consistent with the County Water Efficient Landscape Ordinance, which shall be updated as needed to conform to state law.
- CO-22.** Support water management practices that are responsive to the impacts of Global Climate Change such as groundwater banking and other water storage projects.
- CO-23.** Development approval shall be subject to a finding regarding its impact on valuable water-supported ecosystems.
- CO-34.** Development applications shall be subject to compliance with applicable sections of the California Water Code and Government Code to determine the availability of an adequate and reliable water supply through the Water Supply Assessment and Written Verification processes.
- CO-35.** New development that will generate additional water demand shall not be approved and building permits shall not be issued if sufficient water supply is not available, as demonstrated by Water Supply Assessment and Written Verification processes.
- CO-36.** Water supply entitlements will be granted on a first come first serve basis to optimize the use of available water supplies.
- LU-73.** Sewer and water treatment and delivery systems shall not provide for greater capacity than that authorized by the General Plan.
- PF-2.** Municipal and industrial development within the Urban Service Boundary but outside of existing water purveyors' service areas shall be served by either annexation to an existing public agency providing water service or by creation or extension of a benefit zone of the SCWA.
- PF-4.** Connector fees for new development shall cover the fair share of costs to acquire and distribute surface water to the urban area.

- PF-5.** New treatment facilities and all facility operations shall be funded by beneficiaries.

*CORDOVA COMMUNITY PLAN*

The Cordova Community Plan contains the following policies related to water supply:

- PS-2.** Provide a reliable, contaminant-free, long-term source of water to serve the community, which protects the groundwater aquifer(s) from long-term damage attributable to drawdown by the use of public/private wells.

- PS-6.** Ensure the availability and accessibility of public services for all segments of the population.

*MATHER FIELD SPECIFIC PLAN AND SPECIAL PLANNING AREA*

603-19. PERFORMANCE STANDARDS FOR MATHER FIELD EXCEPT THE SINGLE FAMILY RESIDENCES AND PARKS SUBAREAS AS IDENTIFIED IN SECTION 603-20.3 AS "Site D."

**INFRASTRUCTURE PROVISION AND FINANCING**

- B. All development within the Mather Field Special Planning Area (SPA), new and existing, regardless of private or public ownership, shall be subject to the payment of fees, assessments, special taxes, and any other charges in accordance with any subsequent infrastructure financing plan adopted by the Board of Supervisors for the Mather Field SPA, including any authorized adjustments thereto as provided within such infrastructure financing plan, and any other fees adopted by the County in accordance with the requirements of Chapter 5 (commencing with Section 66000) of Division 1 of Title 7 of the Government Code or pursuant to any other enabling law. Such infrastructure financing plan may include, but not by way of limitation, roadway, transit, water supply, sanitary sewer, drainage, fire protection, landscape and lighting facilities, and utilities.
- C. No entitlement (tentative maps, building permits or other entitlements) shall be granted for development which results in a cumulative water demand exceeding existing Mather Field water supply capacity (i.e., an average water use of 5,000 AFA or 4.6 MGD), until the Sacramento County Board of Supervisors adopts a Master Water Plan for the Mather Field site which demonstrates that an adequate and reliable water supply (which includes supplemental surface water) will be available to serve buildout of the Mather Field Specific Plan land use and the surrounding region.
- D. Prior to annexation of the Mather Field Specific Plan area into Zone 40, new users requiring a new service or upsizing of an existing service shall pay to Zone 40 a fair share contribution equivalent to the applicable Zone 40 development fee (consistent with the current method used to collect Zone 40 fees) in accordance with Ordinance No. 18 of the Sacramento County Water Agency prior to issuance of a connection permit. At such time that the County of Sacramento begins to bill for water service, new water users shall begin payment to Zone 40 a fair share bi-monthly contribution



equivalent to the Zone 40 user charge in accordance with Schedule B of Ordinance No. 18 of the Sacramento County Water Agency.

- E. Prior to the annexation of the Mather Field Specific Plan area into the Sacramento County Water Maintenance District or Sacramento County gaining effective control of the Mather Field Water Supply System (whichever occurs later), each new water user shall pay a fair share contribution equivalent to the applicable Sacramento County Water Maintenance District connection fee paid prior to the issuance of a connection permit. Subsequent to the County of Sacramento gaining effective control of the Mather Field Water Supply System, all water users will begin payment of a fair share contribution equivalent to the Sacramento County Water Maintenance District service charge per Chapter 15 of the Sacramento County Code.

## SIGNIFICANCE CRITERIA

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Based on the CEQA Guidelines Appendix G and the sustainable groundwater yield identified in the WSA, a project would have a significant impact on water supply if it would:

1. Require or result in the construction of new or the expansion of existing water facilities, the construction of which could cause significant environmental effects.
2. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
3. Result in a service demand that cannot be met by existing or reasonably foreseeable future service capacity.
4. Contribute to groundwater pumping to serve project growth such that the average annual sustainable yield of 273,000 acre-feet for the Central Sacramento Groundwater Basin is exceeded.
5. Interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

## METHODOLOGY

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A number of documents and studies were consulted to assess impacts to water supply including:

- 2018 Water Supply Assessment for Mather South Community Master Plan, Sacramento County Water Agency (Appendix WS-1)
- 2015 Urban Water Management Plan, Sacramento County Water Agency
- 2016 Water Supply Infrastructure Plan, Sacramento County Water Agency

- 2005 Zone 40: Water Supply Master Plan, Sacramento County Water Agency
- 2006 Central Sacramento County Groundwater Management Plan, Central Sacramento County

#### ISSUES NOT DISCUSSED FURTHER

All issues have been evaluated below.

#### IMPACTS AND ANALYSIS

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##### 2016 MATHER FIELD PROJECT EIR DETERMINATION

The Mather Field Project EIR evaluated impacts related to water supply from implementation of the Mather Field Project which consisted of a realignment of Zinfandel Drive and trunk extension, creation of the Mather Preserve and the establishment of an Urban Development Area designation for the Mather South Plan Area.

The EIR concluded that impacts related to water supply and water quality were less than significant. The discussion of impacts can be found on page 11-25 through 11-27 of the Mather Field Project EIR and is hereby incorporated by reference.

##### MATHER SOUTH PROJECT IMPACTS DETERMINATION

*IMPACT: REQUIRE OR RESULT IN THE CONSTRUCTION OF NEW OR THE EXPANSION OF EXISTING WATER FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS. RESULT IN DEMAND THAT CANNOT BE MET BY EXISTING OR REASONABLY FORESEEABLE FUTURE SERVICE CAPACITY.*

The Mather South Project would include the construction of water lines located throughout the site as illustrated on Plate WS-7. A grid of 8-inch to 12-inch mains would extend from the existing 30-inch diameter NSA Pipeline Phase A water main transmission main in Kiefer Boulevard, the existing 16-inch diameter water line in Zinfandel Drive (south of Douglas Road) and the existing 16-inch diameter water line in Sunrise Boulevard to serve local neighborhoods and commercial uses within the Plan Area. Additionally, a new ~~one~~**ten**-million-gallon water tank **farm** would be constructed in the northeastern portion of the Plan Area to serve the greater NSA. However, the need for the tank **farm** is related to the greater cumulative demand from anticipated storage needs within the NSA. The tank **farm** would be required when demands from new connections exceed the current storage capacity of the system. Depending on the timing of adjacent development and the water demands resulting from such development, the construction of the tank **farm** may not be required to serve the Plan Area. The tank **farm** would be served by an extension of the NSA Pipeline Phase B as depicted in Plate WS-7. The Mather South Community Master Plan anticipates that SCWA would construct the tank **farm** and the extension of the NSA Pipeline Phase B

as future demands dictate. At any rate, the location of the tank **farm** is within the Mather South Plan Area, the impacts of which would be onsite and have been evaluated throughout each of the resource sections of this EIR.

Each of the water service pipeline extensions and water tank **farm** location would be located within areas already proposed for development within the Plan Area. Proposed grading, excavation, and construction activities associated with the trenching for new water service infrastructure could include clearing and grading; excavation; stockpiling of soils and materials; and other typical construction activities. These construction activities could result in ground disturbance, sedimentation, and the possibility of pollutants if they are washed into surface waters. Additionally, construction activities result in the use of hydrocarbons such as fuels and oils, as well as activities that result in noise.

Construction-related activities from development of water supply infrastructure may result in physical environmental impacts to resource areas such as air quality, biological resources, cultural resources, and noise. These impacts are evaluated in applicable resource chapters of this EIR and impacts are mitigated as described within those resource chapters. No new offsite water distribution or treatment infrastructure would be needed for the project as adequate supplies and treatment capacity is available to meet project demands. Therefore, project impacts as a result of construction of new water supply infrastructure would be **less than significant**.

#### **MITIGATION MEASURES**

None required.

*IMPACT: HAVE SUFFICIENT WATER SUPPLIES AVAILABLE TO SERVE THE PROJECT FROM EXISTING ENTITLEMENTS AND RESOURCES, OR ARE NEW OR EXPANDED ENTITLEMENTS NEEDED?*

As described above, the SCWA is the purveyor of water to the Plan Area. SCWA utilizes a coordinated approach to manage surface water and groundwater supplies to maximize the yield of available water resources. The conjunctive use program for SCWA includes the use of groundwater, surface water, remediated water, and recycled water supplies. The program also includes the construction of a surface water diversion structure, a surface-water treatment plant, and water conveyance pipelines, as well as groundwater extraction, treatment, and distribution facilities (SCWA 2018).

The conjunctive use program relies on an abundance of surface water in wet years when as much surface water as possible is diverted, within entitlement limitations, minimizing the use of groundwater. During these years the groundwater aquifer is allowed to naturally replenish. In dry years, when surface water availability is reduced, SCWA pumps more groundwater from the replenished aquifer. Using surface water and groundwater conjunctively makes it easier for SCWA to meet demands in a single-dry year or in multiple-dry years. The goal of the conjunctive use program is to meet all demands during wet and dry years.



SCWA and has prepared a WSA in accordance with the California Water Code. The water demands associated with the Mather South Project have been included and addressed in the latest Zone 41 UWMP (SCWA 2016a) and the Zone 40 WSIP (SCWA, 2016b).

The total project area is estimated to be 848.31 acres and based upon the proposed land uses listed in Table WS-1, would result in a total of 3,522 dwelling units and 800,000 sq/ft of commercial and education/research uses. The project would be anticipated to have an annual average demand of 1,483.61 ac-ft/yr (including 7.5 percent for system losses). The project land uses and estimated water demand for the project is provided in Table WS-1.

**Table WS-1: Projected Water Demand for Mather South Project**

Land Uses	Units/Sq. Ft.	Unit Water Demand Factor (ac-ft/yr)	Acreage	Water Demand (ac-ft/yr)
<b>Residential Designations</b>				
Residential Dwelling 5-7 units/acre	1,950	2.13	310.93	662.28
Residential Dwelling 8-10 units /acre	791	2.44	87.24	212.87
Residential Dwelling 20 units/acre	781	3.33	34.07	113.45
Subtotal	3,522	-	432.25	988.60
<b>Commercial + Office Zones</b>				
Commercial-Retail/Clubhouse	200,000	2.02	26.86	54.26
EEC/Research & Development Campuses	600,000	2.02	44.25	89.39
Subtotal	800,000	-	71.11	143.65
<b>Public/Quasi Public Zones</b>				
Public- Schools	-	.81	22.19	17.97
Public- Water Storage Facility	-	.81	5.27	4.27
Subtotal	-	-	27.46	22.24
<b>Park + Open Space Zones</b>				
Parks/Landscape/Trail Corridors	-	2.80	62.36	174.61
Open Space	-	-	192.17	-
Roadways	-	.81	62.97	51.01
Subtotal	-	-	317.5	225.62
Units	3,522		848.31	1,380.10
Sq. Ft.	800,000	7.5% Loss		103.51
<b>Total Demand</b>				<b>1,483.61</b>
Note: The land-use classification and acreage information were provided by the project applicant in October 2017; and the unit water demand factors used for water demand estimate uses were documented in the 2016 Zone 40 WSIP.				

Table WS-2 illustrates the projected water demand growth for the project in 5-year increments.

**Table WS-2: Projected Water Demand Growth in Five-Year Increments for the Project (ac-ft/yr)**

	2020	2025	2030	2035	2040
Projected Water Demand	217.96	734.62	1,307.54	1,483.61	1,483.61
Note: the growth projection information was provided by the project applicant in October 2017.					

SCWA's existing supplies for normal and dry years would exceed the total projected buildout water demand for the entire NSA, including the project as illustrated in Table WS-3 below.

**Table WS-3: Zone 40 Water Supply Sufficiency Analysis in Five-Year Increments (ac-ft/yr)**

Water Year	2020	2025	2030	2035	2040
<b>Normal Year (See Table 7-4, UWMP)</b>					
Total Supply	82,900	82,900	87,900	97,900	97,900
Total Demand	48,121	55,490	63,288	71,143	79,278
Sufficiency (Supply Minus Demand)	34,779	27,410	24,612	26,757	18,622
<b>Single Dry Year (See Table 7-6, UWMP)</b>					
Total Supply	70,200	70,500	74,600	83,600	83,800
Total Demand	48,121	55,490	63,288	71,143	79,278
Sufficiency (Supply Minus Demand)	22,079	15,010	11,312	12,457	4,522
<b>Multiple Dry Year (1) (See Table 7-8, UWMP)</b>					
Total Supply	82,900	82,900	87,900	97,900	97,900
Total Demand	48,121	55,489	63,288	71,145	79,278
Sufficiency (Supply Minus Demand)	35,779	27,411	24,612	26,755	18,622
<b>Multiple Dry Year (2) (See Table 7-8, UWMP)</b>					
Total Supply	77,900	77,900	81,900	90,900	90,900
Total Demand	48,121	55,489	63,288	71,145	79,278
Sufficiency (Supply Minus Demand)	29,779	22,410	18,612	19,757	11,622
<b>Multiple Dry Year (3) (See Table 7-8, UWMP)</b>					
Total Supply	70,200	70,500	74,600	83,600	83,800
Total Demand	48,121	55,489	63,288	71,145	79,278
Sufficiency (Supply Minus Demand)	22,079	15,011	11,312	12,455	4,522
Source: SCWA 2016					

SCWA determined that it has sufficient water supplies to meet the water demands of the Mather South Project over the next 20 years during normal, single-dry, and multiple-dry years. SCWA's conjunctive use program is a sustainable water supply program that provides a 100-percent reliable water supply while protecting environmental values and stabilizing the groundwater basin underlying Zone 40.

- The Project will be served by water supplies made available through SCWA's conjunctive use program.
- A financing plan for SCWA's conjunctive use program for constructing facilities required for delivering groundwater and surface water to the Mather South Project has been approved by the County's Board of Supervisors through its adoption of the WSMP, Bond Feasibility Reports, and the Sacramento County Water Agency Code.

Therefore, the impacts related to water supplies are **less than significant**.

### **MITIGATION MEASURES**

None required.

*IMPACT: CONTRIBUTE TO GROUNDWATER PUMPING TO SERVE PROJECT GROWTH SUCH THAT THE AVERAGE ANNUAL SUSTAINABLE YIELD OF 273,000 ACRE-FEET FOR THE CENTRAL SACRAMENTO GROUNDWATER BASIN IS EXCEEDED?*

As described above, project water demands would be met by a conjunctive use of primarily groundwater and surface water. The conjunctive use program relies on an abundance of surface water in wet years when as much surface water as possible is diverted, within entitlement limitations, minimizing the use of groundwater. During wet years the groundwater aquifer is allowed to naturally replenish. In dry years, when surface water availability is reduced, SCWA pumps more groundwater from the replenished aquifer. Using surface water and groundwater conjunctively makes it easier for SCWA to meet demands in a single-dry year or in multiple-dry years (SCWA 2018).

SCWA pumps groundwater from the South American Sub-basin, which is a portion of the Central Basin underlying Zone 40. SCWA is a signatory to the WFA and member of the Sacramento Central Groundwater Authority, and as such, is responsible for recognizing and implementing the sustainable long-term average annual yield for the Central Basin of 273,000 acre feet (Water Forum 2000). The long-term annual pumping limit is described as the hydro-geologic process under which the groundwater can be pumped and not exceed average natural recharge over the long-term.

In addition, SCWA receives a remediated groundwater supply of 8,900 af/yr in accordance with the terms and conditions in the agreement entitled "Agreement between Sacramento County, SCWA, and Aerojet-General Corporation with Respect to Transfer of GET Water" dated May 2010. The timing and amount of remediated groundwater available is subject to change as a result of on-going negotiations with water purveyors affected by groundwater contamination and with Aerojet/Boeing as remediation plans are subject to changes as directed by regulatory agencies. The

remediated supply is diverted by SCWA from the Sacramento River at Freeport, along with SCWA's surface supplies. Table WS-4 below describes SCWA's projected availability of groundwater over the next 20 years.

**Table WS-4: SCWA Projected Groundwater Supply Availability (AF/Year)**

	2020	2025	2030	2035	2040
Groundwater	47,000	47,000	52,000	62,000	62,000
Remediated Groundwater	8,900	8,900	8,900	8,900	8,900
Total	55,900	55,900	60,900	70,900	70,900

As a part of the SCGA, SCWA has committed to the implementation of the Central Basin GMP. The Central Basin GMP contains five Basin Management Objectives (BMOs) designed to maintain a safe, sustainable, and high-quality groundwater resource within the Central Basin. The BMOs are designed to manage and monitor groundwater levels within the basin and include limits on annual extractions, maintenance of groundwater elevations, protection against subsidence, protection against adverse impacts to surface water flows in nearby rivers, and water quality objectives (SCWA 2018).

Additional protection against overdrafting of the groundwater resources within the Central Basin is provided by state legislation. The Sustainable Groundwater Management Act (SGMA) was enacted in 2014 and amended in 2015. SGMA requires groundwater management in priority groundwater basins. The South American Subbasin which underlies Zone 40 has been identified as high or medium priority, but not critically overdrafted, which requires that a groundwater sustainability plan (GSP) be prepared for management of the resource by January 31, 2022.

Therefore, as described within the Mather South WSA, because project water demands would be met through the conjunctive use of surface and groundwater supplies and adequate supplies are available such that overdraft of the underlying groundwater basin would not occur, the project would result in **less than significant** impacts related to groundwater use.

**MITIGATION MEASURES**

None required.

*IMPACT: INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THERE WOULD BE A NET DEFICIT IN AQUIFER VOLUME OR A LOWERING OF THE LOCAL GROUNDWATER TABLE LEVEL?*

As described above, the groundwater in the Central Basin portion of the South American Subbasin is managed by the SCGA. Recharge of the aquifer system occurs along active river and stream channels where extensive sand and gravel deposits exist, and especially along the American, Cosumnes, and Sacramento rivers. Additional recharge occurs along the eastern boundary of Sacramento County at the transition



point from the consolidated rocks of the Sierra Nevada to the alluvial-deposited basin sediments. This recharge is classified as subsurface recharge along with underground flow into and out of the basin with adjacent groundwater basins. However, as described in the Mather South WSA and the 2015 UWMP, intensive groundwater use in the Central Basin over the past 60 years has resulted in a general lowering of groundwater elevations. There has been a single cone of depression that is centered over the southwest portion of the basin, and approximately 15 miles southwest of the Mather South Plan Area, near the City of Elk Grove. The wells nearest the project site have groundwater level trends that vary between 40 feet above to 40 feet below mean sea level (SCWA 2018).

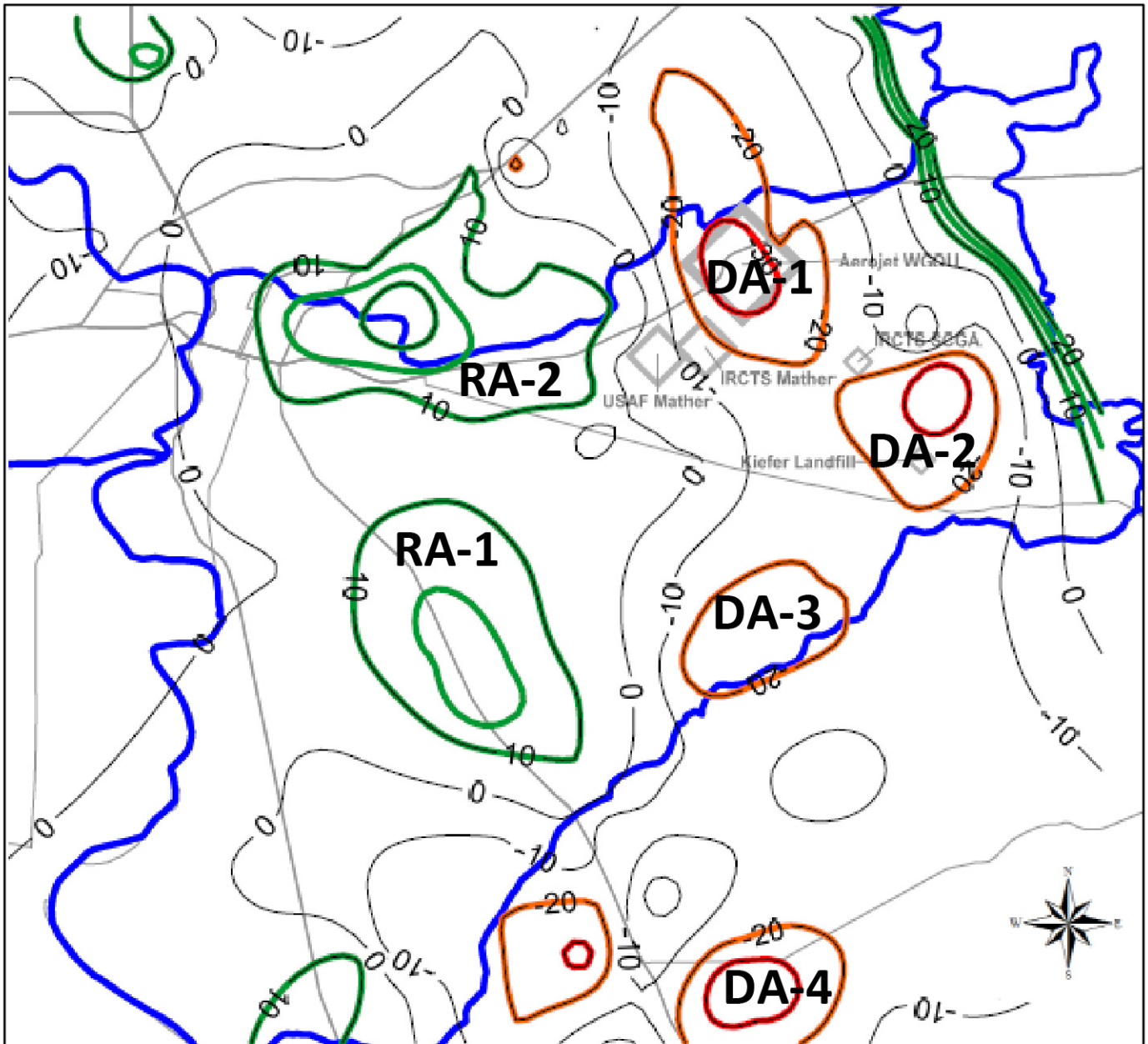
A summary of the changes occurring in the Central Basin as described in the 2014 SCGA SGMA Submittal demonstrates that the basin is beginning to recover from the historical overdrafting that had occurred. In general, a map of changes in groundwater levels within the basin from 2005 to 2015 demonstrates that the basin is in a period of recharge, with the exceptions of areas in the eastern and southern portions of the basin that are being pumped as a result of groundwater remediation programs from historical contamination (Plate WS-8). The difference contour map below provides the best roadmap to illustrate the changes occurring in the groundwater basin and the level of management taking place. The contour lines in the figure represent 10 foot (and 5 foot in the extreme points) intervals of elevation change between 2005 and 2015. Red and orange contour lines represent a decrease in groundwater elevations (storage loss), and light green and dark green contours represent an increase in groundwater elevations (storage gain). Some decline is noted along the Cosumnes River (DA-3 and DA-4) as a result of drought conditions and less total water available for recharge; however, this area has previously demonstrated high levels of resiliency and is expected to recharge with the return of wet year conditions (SCGA 2017).

The Mather South Project would introduce impervious surfaces that prevent or hinder groundwater recharge; however, most of the recharge and groundwater storage in the Central Basin occurs from subsurface flow, which would not be adversely affected by implementation of the project. Additionally, the Mather South Project includes approximately 210-acres of open space which is approximately 25 percent of the Plan Area, including 50.4-acres of stormwater management basins (~~nineteen~~ **ten** basins) which would allow for the percolation of stormwater.

The basins would be connected to the open space corridors that are included in the project. The corridors would convey storm water to the basins, which would be naturalized with trees and native plant materials, and with contoured grading such that they blend with the surrounding terrain and the drainage corridors. The inclusion of basins would reduce the overall impact of impervious surfaces created by the project. Therefore, impacts would be **less than significant** related to groundwater recharge.

#### **MITIGATION MEASURES**

None required.



Groundwater Elevation Difference (2015 minus 2005)

Source: Mather South Community Master Plan 2018

X15010101 08 054

**Plate WS-8: Groundwater Recharge Area**



## 19 SUMMARY OF IMPACTS AND THEIR DISPOSITION

### SIGNIFICANT EFFECTS WHICH CANNOT BE AVOIDED

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Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The evaluation of resources in Chapters 3 through 18 of this draft EIR identifies significant impacts in aesthetics, air quality, biological resources, noise, traffic and circulation that remain significant and unavoidable after mitigation.

#### AESTHETICS

##### *DEGRADATION OF EXISTING VIEWS AND VISUAL QUALITY*

The Mather South Project would substantially change the existing viewshed due to the introduction of urban levels of development, and because of the substantial changes in the types of land uses and introduction of buildings and infrastructure into the viewshed. Though this would increase the diversity of the view, the loss of grassland and undeveloped views across the Plan Area would result in permanent changes to visual quality and would significantly and negatively impact viewshed. No mitigation is available.

##### ~~*NEW SOURCES OF LIGHT OR GLARE*~~

~~Project lighting that would include roadways, traffic lights, signage, and safety lighting within residential neighborhoods and around parking lots would introduce a substantial new source of light. These impacts are due to the placement of a large urban development in an area currently dominated by open space. No mitigation is available.~~

#### AIR QUALITY

##### *LONG-TERM OPERATIONAL EMISSIONS OF NO<sub>x</sub>, ROG, PM<sub>10</sub>, AND PM<sub>2.5</sub>*

Development of the Mather South Project would result in the generation of long-term operational emissions of reactive organic gases (ROG), oxides of nitrogen (NO<sub>x</sub>), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) because of mobile, stationary, and area-wide sources. Mobile-source emissions of criteria air pollutants and precursors would result from vehicle trips generated by residents, users of the parks, students at the schools, employee commute trips, and other associated vehicle trips (e.g., delivery of supplies, maintenance vehicles for commercial and retail land uses). Stationary and area-wide sources would include the combustion of natural gas for space and water heating (i.e., energy use), the use of landscaping equipment and other small equipment, the periodic application of architectural coatings, and ROG from the use of consumer products. Mitigation would include implementation of the Air Quality Mitigation Plan which would introduce traffic calming measures, electric vehicle infrastructure, building energy efficiency design features, and high efficiency appliances and lighting, impacts would still be significant.

## BIOLOGICAL RESOURCES

*SWAINSON'S HAWK*

Swainson's hawk are known to occur within the Plan Area. There are numerous trees in the Plan Area that provide potential nest sites and project implementation would result in removal of these trees and removal of approximately 592 acres of annual grassland foraging habitat, which could result in mortality of individuals and nest abandonment. The Mather Preserve protects approximately 1,383 acres of foraging habitat, however, development of the Mather South Project would result in a net loss of foraging habitat for nesting pairs within 10 miles. Loss of active nests, chicks and eggs, displacement of breeding pairs, and loss of reproductive success due to loss of foraging habitat would contribute to the continuing decline of a species that is listed as threatened under CESA, has experienced an estimated 90 percent decline in statewide population numbers, and that is continuing to lose valuable habitat from its core population centers in the Sacramento Valley. The loss of nesting and foraging habitat increases the potential for this species becoming endangered and decreases the potential for recovery. Mitigation would include nest avoidance, however impacts would be significant and unavoidable due to loss of habitat.

*BIOLOGICAL IMPACTS ASSOCIATED WITH OFFSITE IMPROVEMENTS*

**Detailed construction plans are not available and specific locations for offsite infrastructure are unknown, impacts associated with offsite improvements are discussed at a programmatic level. While some of the offsite improvements, including roadway and energy infrastructure, may occur within existing rights-of-way that do not provide suitable habitat for special-status or other sensitive biological resources, other offsite improvements may occur in areas that contain habitat for special-status species, or other sensitive resources including waters of the U.S., riparian habitat, and native trees. Additional environmental analysis would need to be completed before any of the offsite improvements can proceed unless such analysis has already been completed for the respective infrastructure project. These impacts would be potentially significant, and it cannot be confirmed that they can be mitigated; this impact is significant and unavoidable.**



HYDROLOGY, DRAINAGE, AND WATER QUALITYFLOODING

**On-site flooding: The project Storm Drainage Plan analyzes at a plan-level the drainage requirements for buildout of the Mather South Project and evaluates the proposed drainage facilities to maintain downstream drainage impacts at or below existing conditions. The study establishes a conceptual backbone drainage system, tributary watersheds, the location of drainage facilities, pre-development and post-development flows, required flood detention and post-project water quality conditions. Since the Storm Drainage Plan is conceptual and prepared for a plan-level analysis, additional detailed design calculations would need to be prepared for subdivision map improvement plans.**

**Off-site flooding: The Mather South Project is designed so that peak flows are attenuated to pre-project conditions; however, there will be more volume leaving the site due to the increase in impervious surfaces. The Beach Stone Lakes Area Impact Analysis Memorandum indicates that while detention basins are designed to capture and keep peak runoff and not exceed existing conditions, an incremental amount of runoff may occur and contribute to the existing flooding condition downstream at the Beach Stone Lakes area.**

## NOISE

*EXPOSURE OF NEW SENSITIVE RECEPTORS TO EXISTING AND NEW STATIONARY NOISE SOURCES*

Implementation of the Mather South Project would result in the development of new land uses which would include new stationary noise sources and which may affect new sensitive receptors. Stationary mechanical equipment such as emergency generators, heating, ventilating, and air conditioning (HVAC) units would be included in various land uses within the project site (e.g. commercial, residential). Vehicular and human activity in parking lots, commercial activity at loading docks at retail locations and utility infrastructure, particularly electrical transmission lines and substations would generate noise with the potential to cause disturbance to new sensitive receptors. The Mather South Project's land use plan has the potential for new sensitive receptors to be located adjacent to the above mentioned stationary noise sources and has the potential to cause disturbance to new sensitive receptors, resulting in exceedance of Sacramento County Non-Transportation Noise Standards. The County's Noise Ordinance Section 6.68.120 would regulate the noise associated with operation of mechanical equipment in residential settings, ensuring that stationary sources included in new development would not exceed 60 dBA at one foot inside the property line or exceed 55 dBA outside of the neighboring living area window nearest the equipment location. For new stationary noise sources within non-residential zones, specific locations of noise generating sources are unknown at the plan level and may exceed the County's Noise Ordinance, therefore mitigation would include the preparation of a site-specific noise study and implementation of recommended noise control measures and reducing noise exposure to existing sensitive receptors by siting new stationary sources an adequate

distance away. However, because it may not be possible to adequately reduce noise impacts upon new and existing sensitive receptors, this impact remains significant and unavoidable.

#### *SUBSTANTIAL INCREASE IN THE EXISTING AMBIENT NOISE LEVELS*

New land uses to be developed as part of the Mather South Project, specifically commercial/retail land uses, would result in the siting of new noise sources associated with stationary equipment as part of building operations as well as new commercial activities areas (i.e. loading docks). Project land uses which result in new vehicle trip generation would contribute to traffic volume increases along roadways in and around the Plan Area and increase traffic related noise levels in the surrounding area. A noise level increase of 5.0 dB, or greater, would typically be considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dB. Within areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Increases of 1.5 dB, or greater, could result in increased levels of annoyance in areas where the ambient noise level exceeds 65 dB. Based on the traffic noise modeling conducted, several affected roadway segments and their adjacent land uses outside of the Plan Area would experience substantial increases in ambient noise levels, including portions of Eagles Nest Road, Kiefer Boulevard, and Zinfandel Drive. Generally, land uses along the affected roadway segments are not designated as noise sensitive uses, however, there are several existing single-family homes along Eagles Nest Road that would likely experience a perceptible increase in traffic noise. Mitigation would include the installation of sound barriers along Eagles Nest Road between Kiefer Boulevard and Jackson Road near the affected residences and paving with rubberized pavement materials however the impact would remain significant and unavoidable because it cannot be guaranteed that private property owners would agree to the construction of a sound barrier.

## TRAFFIC AND CIRCULATION

#### *IMPACTS TO ROADWAY SEGMENT OPERATIONS*

The Mather South Project would generate new vehicle trips and would exceed applicable level of service (LOS) and V/C thresholds along six roadway segments. The traffic analysis assumed that the Mather South Project would construct travel lanes on roadway segments that are internal to or on the boundary of the Mather South project, which would be greater than the number of lanes in the existing condition. This is a required condition of approval for all the Jackson Corridor projects. The construction of the additional traffic lanes on these internal or boundary roadway segments would affect whether impacts would exist at some point before full build out of the Mather South Project. The analysis provided in the Joint TIS provides a static picture of project-related impacts based on the baseline and cumulative assumptions used in the traffic model. In reality, the development of a community is dynamic with multiple projects occurring simultaneously to create and mitigate impacts. Ultimately, multiple projects may need to contribute to the same improvement to resolve their individual project-related impacts. Mitigation would include participation in the Jackson Corridor Transportation Mitigation

Strategy by constructing or providing funding for its fair share of transportation improvements identified in the master list of cumulative improvements, agreement to use of the County's Dynamic Implementation Tool (Tool) to determine required improvements, and implementation of the mitigation improvements determined through use of the Tool. However, as shown in Table TR-19, because the roadway segment of Zinfandel Drive from US 50 to White Rock Road has reached the maximum number of lanes allowed under the General Plan, there is no additional feasible mitigation to improve the LOS along this roadway segment to an acceptable level. Therefore, this impact would be significant and unavoidable.

#### *IMPACTS TO INTERSECTION OPERATIONS*

The Mather South Project would generate new vehicle trips and would trigger new signal warrants for some existing intersections. Signal warrant analysis was conducted for all unsignalized intersections along Jackson Road, and other unsignalized intersections near the project. With implementation of the Mather South Project, the following unsignalized intersections would experience traffic volumes resulting in one or more traffic signal warrants being met:

- Woodring Drive and Zinfandel Drive
- Happy Lane and Old Placerville Road
- Eagles Nest Road and Jackson Road

The addition of vehicle trips generated by project buildout would result in the exceedance of applicable LOS and delay thresholds. Mitigation would include the payment of fair share money toward improvements, however, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. If all improvements were implemented in a timely way, all intersection impacts would be reduced to a less-than-significant level. However, because the timing of implementation of all required improvements cannot be guaranteed and their implementation is not subject to the responsibility of just Mather South applicants and the County, it cannot be guaranteed that significant impacts to roadway segments would be reduced to a less than significant at the time of phased development. Therefore, this impact would be significant and unavoidable.

#### *FREEWAY FACILITY IMPACTS*

The evaluation of new vehicle trips provided in the traffic impact study for the Mather South Project indicated that the California Department of Transportation (Caltrans) thresholds for U.S. 50 freeway segments would not be exceeded and that peak hour freeway ramp intersection queuing would not result in queues that would extend into the ramp's deceleration area, onto the freeway, or queues greater than the available storage capacity. However, the westbound Watt Avenue to Howe Avenue weave segment would experience higher p.m. peak hour LOS than the overall freeway LOS.

Mitigation would include the implementation of intelligent transportation systems (ITS) and integrated corridor management (ICM) projects to reduce impacts since widening is infeasible. ITS is the application of technology to ground transportation to improve safety, mobility and efficiency. ICM projects focus on the management of corridors as a multimodal system and make operational decisions for the benefit of the corridor as a whole. The TCR and CSMP also identify potential improvements to parallel local facilities that would be expected to reduce travel demand on US 50. Project applicants would pay a fair share toward the construction of one of several identified improvements however, because the implementation of improvements would be outside of the jurisdictional control of Sacramento County, the impact would remain significant and unavoidable.

#### *ROADWAY FUNCTIONALITY IMPACTS*

The traffic analysis assumed that the Mather South Project would construct several travel lanes on roadway segments that are internal to, or on the boundary of the Mather South Project, and the entire roadway segment would be reconstructed to County standards. The timing of implementation of these additional traffic lanes on these internal or boundary roadway segments would affect whether or not impacts would occur as some point before full build out of the Mather South Project.

As shown in Table TR-26, implementation of the project would result in functionality impacts along 12 roadway segments within the project study area. Mitigation would result in fair share payments toward improvements. However, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development proposed for the Mather South Project because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. If all improvements were implemented in a timely way, all impacts would be reduced to a less-than-significant level. However, because the timing of implementation of all required improvements cannot be guaranteed and is not subject to the sole responsibility of just Mather South applicants and the County, it cannot be guaranteed that significant impacts to roadway segments would be reduced to a less-than-significant at the time of development. Impacts would be significant and unavoidable.

#### SIGNIFICANT EFFECTS WHICH COULD BE AVOIDED WITH IMPLEMENTATION OF MITIGATION MEASURES

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The following impacts were determined to be less than significant with mitigation upon being evaluated in the Draft EIR.

#### AESTHETICS

##### NEW SOURCES OF LIGHT OR GLARE

**Project lighting that would include roadways, traffic lights, signage, and safety lighting within residential neighborhoods and around parking lots would**



**introduce a substantial new source of light. These impacts are due to the placement of a large urban development in an area currently dominated by open space. Mitigation would ensure that only light fixtures approved by the International Dark Sky Association would be used within the project.**

## AIR QUALITY

### *CONSTRUCTION EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS (NO<sub>x</sub>, ROG, PM<sub>10</sub>, AND PM<sub>2.5</sub>)*

Construction activities associated with the Mather South Project would result in the use of construction vehicles, operation of automobiles for worker trips, and other miscellaneous activities (e.g., building construction, asphalt paving, application of architectural coatings). Fugitive dust emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are associated primarily with site preparation and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on and off the site. Emissions of ozone precursors, ROG and NO<sub>x</sub>, are associated primarily with construction equipment and on-road mobile exhaust. Paving and the application of architectural coatings results in off-gas emissions of ROG. PM<sub>10</sub> and PM<sub>2.5</sub> are also contained in vehicle exhaust. With implementation of mitigation that controls fugitive dust emissions and exhaust emissions, impacts are reduced to less than significant.

### *EXPOSURE OF SENSITIVE RECEPTORS TO TACs*

Sensitive receptors could be exposed to toxic air contaminants (TACs), especially diesel fuel, during construction and operation of the Mather South Project. Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., demolition, clearing, grading); paving; application of architectural coatings; on-road truck travel; and other miscellaneous activities. Operation of some land uses developed under the Mather South Project would result in new sources of TACs associated with new vehicular trips on existing and new roadways, as well as new sources of diesel PM associated with commercial loading docks visited by diesel-powered delivery trucks and backup diesel generators. Construction activities would not expose new or sensitive receptors to TACs, and mitigation that would reduce exposure of sensitive receptors to loading docks would reduce operational impacts to less than significant.

### *EXPOSE SENSITIVE RECEPTORS TO ODORS*

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the affected receptors. While offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Minor odors from the use of diesel equipment during construction activities would occur but would not be acute enough to create an odor impact. Operation of the project would result in new diesel-fuel delivery trucks visiting commercial loading docks within the project however this is typical of urban uses. The Sacramento Rendering

Plant is across Kiefer Boulevard from the project and the project would bring new sensitive receptors to an area of the County that could experience unpleasant odors from the existing plant. Ongoing permitting activities and design considerations implemented at the time of site plan development (i.e., building orientation, window type, and other relevant odor controls) would result in mitigation of future odor impacts to less than significant.

## AIRPORT COMPATIBILITY

### *SAFETY HAZARD TO PEOPLE LIVING AND WORKING IN THE VICINITY OF AN AIRPORT/AIRSTRIP*

Airport safety zones are established to minimize the number of people exposed to aircraft crash hazards. According to the compatibility land use plan (CLUP) for Mather Airport, a portion of the Mather South Plan Area is located within the Overflight Zone, which is the least restrictive for development. There are no areas of the Plan Area that are located in the Clear Zone or the Approach/Departure Zones. Mitigation that would require the Airport Land Use Commission to review development plans prior to issuance of building permits would reduce this impact to less than significant.

### *EXPOSURE TO EXCESSIVE NOISE LEVELS ASSOCIATED WITH AIRPORT OPERATIONS*

The Mather South Plan Area is approximately one mile from the Mather Airport and would be subjected to noise generated from existing and projected future airport operations. Mitigation that would require the Mather South Project to comply with standards in the County's Noise Element prior to issuance of building permits would reduce this impact to less than significant.

## BIOLOGICAL RESOURCES

### *BIRD SPECIES*

The Mather South Project would result in the conversion of 592 acres of grassland to urban uses. All of the species listed above use grasslands for foraging and/or nesting and would be impacted by the project. The following bird species are identified as having potential to occur on or near the Plan Area: tricolored blackbirds, burrowing owl, northern harrier, white-tailed kite, Cooper's hawk, and loggerhead shrike. Mitigation would include the following: nest avoidance, preconstruction surveys, owl relocation plans, and compensation for loss of habitat and impacts would be reduced to less than significant.

### *MAMMAL SPECIES*

Annual grassland and scrub, as well as open portions of cottonwood woodland throughout the Plan Area represents suitable habitat for American badger and two potential badger dens have been observed in the Plan Area and in the Mather Preserve. Mitigation includes preconstruction surveys, implementation of protective measures and worker awareness programs and impacts would be reduced to less than significant.

**Although the potential for occurrence of pallid bat and western red bat in the Plan Area is low, suitable foraging and roosting habitat is present and these species may roost onsite. Given the wide range of habitats suitable for foraging within the County, the loss of foraging habitat within the Plan Area is not likely to be substantial. If roosts and maternity colonies are present in mature trees and structures within the Plan Area, the removal of these trees and structures could result in the loss of bats and reproductive capacity which could further reduce the population of bats in the region. Therefore, the loss of roosts or disruption of maternity colonies in the Plan Area would be a potentially significant impact. Implementation of Mitigation Measure BR-23 would reduce potentially significant impacts on special-status bats to less than significant with mitigation because this measure requires conducting surveys for roost sites, identifying any roosts in the Plan Area, implementing procedures to reduce mortality, and compensation for lost roosts.**

#### *REPTILE, AMPHIBIAN, AND INSECT SPECIES*

Vernal pool tadpole shrimp, a species listed as endangered under the Endangered Species Act (ESA), is known to occur in the Plan Area. Three other special-status vernal pool invertebrate species, vernal pool fairy shrimp, midvalley fairy shrimp, and Ricksecker's scavenger beetle, have high potential to occur in the Plan Area because suitable habitat is present, and they have been documented within the Mather Field Specific Plan area, west of the Plan Area. All the designated critical habitat is outside of the Plan Area and the project would not adversely modify this critical habitat, however, there remains some potential for species to occur within portions of the Plan Area that would be developed. Mitigation would include the following: implementation of conservation easements, preparation of a hardpan restoration plan, compensation for loss of habitat and take of species, implementation of worker awareness programs, habitat protection during construction and impacts would be reduced to less than significant.

Western spadefoot (toad) has been previously documented in an onsite vernal pool and vernal pools, seasonal wetlands, and vernal swales throughout the Plan Area represent potentially suitable breeding habitat for this species. The one Plan Area vernal pool known to support breeding western spadefoot would be retained within the Open Space Mather Preserve; however, there is potential for this species to be present in other onsite wetlands and throughout the upland habitats. Mitigation would include the above described measures, and pre-construction surveys and minimization of take measures and impacts would be reduced to less than significant.

Project development would result in removal of all, or nearly all, elderberry shrubs existing in the Plan Area and these shrubs could contain larvae of valley elderberry longhorn beetle. Mitigation would include compensation for the loss of habitat and impacts would be reduced to less than significant.

The western pond turtle has been documented at Mather Lake and there is potential for western pond turtle to nest, bask, or overwinter in those portions of the Plan Area that

are within 1,650 feet of the lake. Mitigation includes preconstruction surveys and avoidance of nests if needed and impacts would be reduced to less than significant.

#### *PLANT SPECIES*

**Seven** ~~Five~~ special-status plant species are known or have potential to occur in the Mather South Plan Area: slender orcutt grass, Sacramento orcutt grass, Ahart's dwarf rush, Bogg's Lake hedge-hyssop, **dwarf downingia**, **pincushion navarretia** and legenera. Slender orcutt grass and Sacramento Orcutt grass (vernal pool grasses) are formally protected under ESA and the California ESA. The Mather Preserve would protect most of these species of grasses, however there is the potential to occur within the 848-acre Plan Area. Special-status plants that were found in the Plan Area during the 2002-2003 botanical surveys consist of Ahart's dwarf rush and legenera. The vernal pools where these surveys observed the plants would be lost to development. Mitigation would require pre-construction surveys and avoidance or mitigation for loss would be pursued if plants were noted. Mitigation would also include implementation of mitigation listed above for reptile and amphibian species, and pre-construction floristic surveys with loss compensation and impacts would be reduced to less than significant.

The Mather South Project would convert approximately 706 acres of undeveloped grassland and other habitat forms into developed uses, but the Plan Area does not include areas that are mapped as being important to wildlife movement. Mitigation would include preconstruction surveys for nesting birds and impacts would be reduced to less than significant.

#### *WETLANDS AND WATERS*

The Mather South Project would result in the loss of approximately 15.09 acres of waters of the United States consisting of 14.72 acres of wetlands and 0.37 acre of other waters (stream/creek). The majority of stream/creek habitat in the Plan Area would be preserved within the Open Space Drain land use and 4.29 acres of the wetland habitat would be ~~preserved~~ **avoided** in the Open Space preserves. There is a total of 24.92 acres of potential waters of the United States in the Plan Area, of which approximately 9.83 acres would be preserved onsite. Mitigation would include the measures described above for reptiles, amphibians, and insects and compensation for loss and impacts would be less than significant.

#### *NATIVE AND NONNATIVE TREES*

A comprehensive tree survey in the Plan Area in 2014 identified 455 native trees with a diameter at breast height (DBH) of 4 inches or greater, of which 453 are Fremont cottonwood and two are Pacific willow. The Plan Area also includes 22 nonnative trees with a DBH of 6 inches or greater. Mitigation would include compensation for the removal of native trees and replacement of nonnative tree canopy and impacts would be reduced to less than significant.



## CLIMATE CHANGE

### *PROJECT GREENHOUSE GAS EMISSIONS*

Development of the Mather South Project would result in greenhouse gas (GHG) emissions from energy consumption (e.g., electricity use, natural gas use, water use), mobile sources (i.e., project-generated vehicle miles traveled (VMT)), and from waste generation at offsite landfills. Energy-related emissions associated with the proposed residential land uses would result in 0.57 MTCO<sub>2e</sub> per capita, which is below the 0.73 MTCO<sub>2e</sub> per-capita threshold. Energy-related emissions from nonresidential land uses would result in 2.97 MTCO<sub>2e</sub> per 1,000 square feet, which is below the 4.28 MTCO<sub>2e</sub> per 1,000 square feet threshold. However, emissions from project-generated VMT in 2032 would result in 2.46 MTCO<sub>2e</sub> per capita, which is above the 1.47 MTCO<sub>2e</sub> per-capita threshold. The surplus of emissions reductions from the residential and nonresidential sectors can be applied to GHG emissions reductions needed for the mobile sector. The additional reduction of 2,659 MTCO<sub>2e</sub>/year would reduce the mobile sector's per capita emissions to 2.17 MTCO<sub>2e</sub>. Mitigation would include implementation of the Air Quality Mitigation Plan, implementation of onsite GHG emissions mitigation, and purchase of carbon offsets as needed and this impact would be reduced to less than significant.

## CULTURAL RESOURCES

### *HISTORIC RESOURCES*

Based upon the conclusions of the studies discussed previously, a total of 23 cultural resources (archaeological and built environment resources) were identified adjacent to or within the Mather South Plan Area. The ICF Addendum Reports conclude that none of these resources meet the criteria for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR). There does not appear to be the potential for a historic district or a historic landscape for which these resources might be considered as contributing elements. Consequently, none of the 23 buildings, structures or objects are considered historic resources for the purposes of CEQA. However, the potential for discovery of previously unidentified cultural resources exists. Mitigation includes work stoppage if resources are discovered and impacts would be reduced to less than significant.

### *ARCHAEOLOGICAL RESOURCES*

No archaeological resources were identified as a result of previous studies conducted; however, it is still possible that significant buried archaeological materials are present within the Mather South Plan Area. Mitigation includes work stoppage if resources are discovered and impacts would be reduced to less than significant.

### *HUMAN REMAINS*

There are no known human burial sites within the Mather South Plan Area; however, it is possible that buried human remains are present and have not been identified due to a

lack of surficial evidence. Mitigation includes work stoppage if human remains are discovered and impacts would be reduced to less than significant.

#### *TRIBAL CULTURAL RESOURCES*

To determine the possibility of impacts to tribal cultural resources, County staff consulted with three separate tribal entities: The Lone Band of Miwok, the UAIC, and Wilton Rancheria. None of these tribes have indicated that tribal cultural resources are known within the Mather South Plan Area. However, there remains the potential to discover previously unknown tribal cultural resources. Mitigation includes work stoppage if resources are discovered and impacts would be reduced to less than significant.

#### GEOLOGY AND SOILS

##### *PALEONTOLOGICAL RESOURCES*

Construction of the Mather South Project would result in grading activities that could damage previously unidentified paleontological resources. Because grading and trenching would be relatively shallow, the potential for encountering resources would be low. Mitigation includes work stoppage if resources are discovered and impacts would be reduced to less than significant.

#### HAZARDOUS MATERIALS

##### *UPSET AND ACCIDENTAL RELEASE*

Construction associated with the Mather South Project would involve site grading, excavation, trenching, and demolition and construction of buildings. All activities have the potential to release hazardous materials into the environment because of the routine use of hazardous materials during these activities including fuel, lubricants, and solvents. The Plan Area contains decommissioned bunkers that may contain asbestos and could pose a risk to workers. The applicant would be required to get a permit from the local air district (SMAQMD). As part of the permit process, the applicant would need to show compliance with federal regulations and Air District Rule 902, which requires a survey for asbestos before demolition. The Plan Area also contains land that was previously used by the military and parts of which have been described as areas of environmental concern based upon the presence of contaminants in the underlying soils and groundwater. Although most of these sites have been remediated, excavation and construction activities at or near these areas could potentially expose construction workers and the general public to previously unidentified soil contamination. Additionally, there remains risk that munitions and explosives of concern may be located on or just under the surface, since munitions detection technology is not 100% reliable. Mitigation would include the preparation and implementation of a Hazardous Materials Contingency Plan, soil sampling, implementation of a soil contingency plan, and hazardous materials notification and impacts would be reduced to less than significant.

*HAZARDOUS MATERIALS WITHIN PROXIMITY TO SCHOOLS*

There are no existing schools within one-quarter mile of the Mather South Plan Area. However, two new schools are included within the Mather South Project. Both school sites would be located within one-quarter mile of identified hazardous waste cleanup sites within the Plan Area. Pursuant to Education Code sections 17071.13, 17072.13, 17210, 17210.1, 17213.1-3, and 17268 (described above under Regulatory Setting), a qualified consultant would be hired to complete a preliminary endangerment assessment (PEA) under the California Department of Toxic Substances Control (DTSC) oversight and review. The PEA includes the sampling of soils and risk assessment to determine whether a release of hazardous material has occurred, there is a threat of release, or a naturally occurring hazardous material poses a significant health risk. If no hazardous materials are identified, or if they do not pose a significant health risk, DTSC will approve the PEA and issue a determination letter stating that "no further action" is required. If required by DTSC because of health risks associated with hazardous materials are identified in the approved PEA, the local enforcement agency would prepare and implement a Response Action (cleanup, removal, or remediation of hazardous materials) under DTSC oversight and approval. Mitigation would include the preparation and implementation of a Hazardous Materials Contingency Plan, soil sampling, implementation of a soil contingency plan, and hazardous materials notification and impacts would be reduced to less than significant.

*LISTED PER GOVERNMENT CODE SECTION 65962.5*

Mather AFB, including the Plan Area, is a federal superfund site and the Phase I reported recognized environmental condition based on review of historic record, property records, and environment records, including the Cortese List. While those sites are listed as remediated, it is still possible that excavation and construction activities at or near those areas could expose workers to contamination that was previously unidentified. Mitigation would include the preparation and implementation of a Hazardous Materials Contingency Plan, soil sampling, implementation of a soil contingency plan, and hazardous materials notification and impacts would be less than significant.

## HYDROLOGY

*HYDROMODIFICATION*

The Mather South Project would result in a change in existing drainage of the Plan Area because of the development of new land uses and infrastructure. Mather South Project includes multi-purpose detention basins which include stormwater quality features, that would be kept in the wet condition during the summer months due to the anticipated summer nuisance flows, and hydromodification mitigation features. Mitigation would require that a drainage study is prepared which describes how permanent stormwater quality treatment facilities would facilitate appropriate drainage in the post-project condition and impacts would be less than significant.

### *FLOODING*

~~The Mather South Plan Area includes both federal emergency management (FEMA) FIRM 100- and 500-year inundation areas as well as local floodplains. The project would construct new detention basins that would capture and detain peak runoff during storms, however, a nominal amount of water may occur and contribute to the existing flooding condition downstream at the Beach Stone Lakes area. Mitigation would include the project applicant paying a fair share contribution to the Beach Stone Lakes Mitigation Program fee for future improvements and impacts would be reduced to less than significant.~~

### LAND USE

#### *LAND USE CONFLICTS OR ADJACENCY ISSUES*

The Mather Field Project, which was approved in 2016, resulted in the redesignation of the Mather South Plan Area as an Urban Development Area which signaled the intent of the County to pursue a development plan for the area. The Plan Area is also within the Urban Services Boundary (USB) and Urban Policy Area (UPA) which indicates the intent to provide public services to the Plan Area. The project has been master-planned and would result in a mix of uses that are designed to complement each other to establish a new full-service community. Development standards and design guidelines would ensure orderly and consistent aesthetics throughout. However, the project would result in the development of residential uses near the existing Sacramento Rendering Plant which could result in adjacency conflicts. Mitigation would include implementation of design features to minimize adjacency issues, and notification to future owners of the presence of the plant prior to purchase and impacts would be reduced to less than significant.

### NOISE

#### *CONSTRUCTION NOISE*

Construction activity associated with the development of land uses included in the Mather South Project as well as project related infrastructure would result in construction noise, although construction noise would be temporary in nature depending on the characteristics of the construction activity and land uses being developed. Noise associated with the construction of buildings, facilities, and infrastructure for land uses in the Mather South Project would be associated with the operation of off-road construction equipment including demolition and excavation equipment, material handlers, and portable generators. In addition to new noise sensitive land uses developed as part of the project, there is an existing residential neighborhood within the City of Rancho Cordova located approximately 500 feet to the east of the project site. Based on construction noise modeling results, noise levels would exceed both the Sacramento County exterior noise thresholds for both the daytime and nighttime standards. Mitigation would require the preparation and implementation of a noise monitoring plan and noise control measures.

### *CONSTRUCTION VIBRATION*

The use of off-road heavy-duty construction equipment as well as other construction equipment (e.g., impact pile driver) can result in temporary ground vibration, depending on the type of equipment used and the type of construction activities occurring. At the lowest levels, vibration from construction activity can result in a detectable low rumbling sounds and, at its loudest levels, can result in annoyance and sleep disturbance. Typically, during construction activity, the highest vibration levels are generated from the use of pile drivers. Mitigation would require the preparation and implementation of a vibration control plan and implementation of vibration control measures and impacts would be reduced to less than significant.

### TRAFFIC AND CIRCULATION

#### *BICYCLE AND PEDESTRIAN FACILITIES*

The Mather South Project would not remove any existing or planned bicycle or pedestrian facilities. Additionally, the Mather South Project would provide sidewalks and on-street (Class II) bike lanes on all collector, arterial and thoroughfare roadways. The Mather South Project also provides several off-street (Class I) multi-purpose trails. Sidewalks would be required as part of the frontage improvements along all new roadway construction in the Mather South Project vicinity in conformance with County design standards. Additionally, circulation and access to all proposed public spaces shall include sidewalks that meet Americans with Disabilities Act standards. Mitigation would require coordination with the County to identify necessary on- and offsite pedestrian and bicycle facilities to serve the individual project and which would ensure bicycle and pedestrian safety prior to tentative map approval and impacts would be reduced to less than significant.

### EFFECTS FOUND NOT TO BE SIGNIFICANT

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The following impacts were determined to be less than significant upon being evaluated in the Draft EIR.

#### AIR QUALITY

##### *MOBILE-SOURCE CO CONCENTRATIONS*

Mobile-source emissions from vehicle operations are measured locally, and are a function of traffic volume, speed, and delay. CO concentrations near roadways and/or intersections may reach unhealthy levels at nearby sensitive land uses, such as residential units, hospitals, schools, and childcare facilities. The Mather South Project would not generate enough vehicle trips to create an impact related to this criteria. This impact would be less than significant.



## AIRPORT COMPATIBILITY

### *EFFECTS ON SAFE AND EFFICIENT USE OF NAVIGABLE AIRSPACE*

The Mather Field Airport Land Use Compatibility Plan establishes height limits for buildings near the airport. Additionally, projects are required to comply with the Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace, which includes restrictions on wildlife attractors to prevent navigation hazards from occurring. The Mather South Project would be required to comply with height restrictions and as a result of developing a currently undeveloped grassland area, would decrease the potential for birdstrikes. This impact would be less than significant.

## BIOLOGICAL RESOURCES

### *RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITIES*

The Plan Area does not contain designated sensitive natural communities other than vernal pools and the cottonwood woodland in the Plan Area is not associated with any water bodies. This impact would be less than significant.

### *CONFLICTS WITH SOUTH SACRAMENTO HABITAT CONSERVATION PLAN*

The South Sacramento Habitat Conservation Plan (SSHCP) identifies the Plan Area as an urban development area and does not provide incidental take coverage to the Mather South Project. Mitigation for impacts to covered species is included in this EIR and would not conflict with the SSHCP conservation strategy for covered species. This impact would be less than significant.

## CLIMATE CHANGE

### *CLIMATE CHANGE EFFECTS OF THE PROJECT*

Based on currently available data, the project is not located within an area projected to experience a substantial increase in wildland fire risk or flooding as a result of climate changes in the future. Further water supply for the project would be adequate. Anticipated changes in future climate patterns are not anticipated to have any substantial adverse effects on the project. This impact would be less than significant.

## ENERGY

### *WASTEFUL OR INEFFICIENT ENERGY CONSUMPTION*

Project construction activity would result in gasoline consumption from construction worker commute trips, diesel fuel use from on-road diesel vehicles for vendor trips and off-road diesel construction equipment used in the construction of buildings, facilities and infrastructure. Operational activity associated with the project's land uses would generate new vehicles trips resulting in the consumption of gasoline, diesel fuel, natural gas, and electricity. Buildings and facilities as part of the project's various land uses would result in the consumption of electricity from lighting and appliances as well as

natural gas for water and space heating. The Mather South Project would incorporate energy conservation measures to reduce building energy consumption and vehicle miles traveled. This impact would be less than significant.

#### *EXCEED AVAILABLE ENERGY RESOURCES*

The Mather South Project would require development of new natural gas and electricity infrastructure. Given the size and location of the Mather South Project, the project would result in new energy demand which would exceed the existing energy needs associated with the currently undeveloped Plan Area. However, as discussed above, the planning and development of energy infrastructure to support project implementation has been integrated into the project planning process and integrated to the project site plans. Therefore, this impact would be less than significant.

### GEOLOGY AND SOILS

#### *SEISMICITY*

The Mather South Plan Area is not located within an Alquist-Priolo Earthquake Fault Zone or within the vicinity of a known fault. Sacramento County is also in one of the least susceptible areas for earthquake shaking potential and the Mather South Project would ensure that buildings are constructed in compliance with the California Building Code (CBC). This impact would be less than significant.

#### *EROSION*

The soil types mapped within the Plan Area have water erosion potential ranging from low to moderate. The most likely potential for erosion to occur would be during construction when soils would be graded and excavated, and may be exposed to the effects of wind and/or water for some length of time. The Mather South Project would be required to comply with the County's grading and erosion control ordinance which requires implementation of best management practices to curb erosion potential. This impact would be less than significant.

#### *EXPANSIVE SOILS*

The Plan Area contains clayey soils with medium to high expansive properties with variations in moisture content. The Plan Area soils also exhibit low to high shrink-swell potential. The project would implement all engineering recommendations contained within geotechnical reports performed prior to construction activities, and would conform to criteria within the CBC. This impact would be less than significant.

#### *MINERAL RESOURCES*

Development of the Mather South Project would result in a permanent loss of access to mineral resources within the Plan Area. The Plan Area has been designated a part of the Urban Services Boundary, which indicates the County's intent for development of the site. Additionally, the site has not been designated by the State as an ARA, nor is it adjacent to any of the active mining sites in the vicinity. This impact would be less than significant.

## HAZARDOUS MATERIALS

### *ACCIDENTAL RELEASE*

Construction activities would occur within the Mather South Plan Area and would require the use of standard hazardous materials such as fuels, oils, lubricants, glues, paints, paint thinners, soaps, bleach, and solvents. All persons involved in the handling of these hazardous materials are required to use, store, and transport hazardous materials in compliance with local, state, and federal regulations during project construction and operational activities. Because construction and operation of the Mather South Project would implement and comply with federal, state, and local hazardous materials regulations and codes monitored by the state (e.g., California Occupational Safety and Health Administration, DTSC, California Highway Patrol, Caltrans) and/or local jurisdictions (e.g., Sacramento Metro Fire and Sacramento County Environmental Management Department), impacts related to creation of significant hazards for construction workers, employees, and the general public within the Plan Area through routine transport, use, and disposal of hazardous materials would be unlikely. Therefore, this impact would be less than significant.

### *WILDFIRE HAZARDS*

The Plan Area is in a non-very high fire hazard severity zone within Sacramento County, as mapped by Metro Fire and the California Department of Forestry and Fire Protection (CAL FIRE 2008). As required by Policy SA-23 in the Sacramento County General Plan, plans for the facility would be provided to Metro Fire Department for review and comment regarding: adequacy of water supply; site design for fire department access into and around structures; ability for a safe and efficient fire department response; traffic flow and ingress/egress for residents and emergency vehicles; site-specific built-in fire protection; and potential impacts to emergency services and fire department response. Impacts would be less than significant.

## HYDROLOGY

### *WATER QUALITY STANDARDS*

The Mather South Project would result in construction of residential and commercial buildings, along with associated streets and other paved areas. Water quality impacts could occur during construction from increased soil erosion and sedimentation due to clearing of vegetation, alteration of drainages, and grading. Similarly, operation of the project could result in contaminated water runoff from automobiles, use of household chemicals in uncontained systems, and use of fertilizers which could result in pollution entering into streams that are used for recreation, wildlife habitat, and drinking. Implementation of best management practices that would result in control measures to remove pollutants prior to entering the stormwater system, such as vegetated swales and water quality detention basins, would allow pollutants to settle out prior to discharge. The Mather South Project would also comply with the County's Stormwater Ordinance and implement a Drainage Master Plan to reduce erosion. Impacts would be less than significant.

*DAM/LEVEE FAILURE*

The closest dam to the Plan Area is Mather Dam, which provides flood control to the Mather Lake, just north of the project site. In a breach study, the USACE determined that Zinfandel Drive would be overtopped and flows would generally follow the existing Morrison Creek along the west side of the project if a breach occurred. The next closest dams are over 12 miles north. Impacts would be less than significant.

## LAND USE

*PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY*

The Plan Area is undeveloped grassland, and the surrounding areas in adjacent parcels are also vacant with the exception of the Independence at Mather, north of the project site. The Mather South Project would result in the development of a comprehensive mixed-use residential project and would not result in the division of an existing community. Impacts would be less than significant.

*CONFLICT WITH LAND USE PLANS, POLICIES, OR REGULATIONS*

The Mather South Project would require the amendment of the General Plan from the existing Urban Development Area (795 acres) land use designation to a combination of the following: Low Density Residential (622 acres), Medium Density Residential (17 acres), Natural Preserve (86 acres), and Commercial and Offices (70 acres). The project would also require an amendment to the Transportation Plan and the County's Bicycle Master Plan. However, the project implements the policies of the General Plan and the vision of the Cordova Community Plan and is consistent with the County's Board of Supervisors direction to realize the conversion of the former Mather AFB land to a thriving mixed-use community.

The project also requires the entire Plan Area to be rezoned. The Mather Field Specific Plan would be amended to redesignate the portion of the Mather Field Specific Plan that encompasses the Mather South Plan Area, which is called the South Base Area and is currently designated as Urban Development Area (795 acres). It would be rezoned to the Mather South Community Master Plan (795 acres) and would reflect the adoption of the project and all accompanying Design Guidelines and Development Standards contained in the Community Master Plan. The governing SPA Ordinance would also be amended to reflect adoption of the Mather South Community Master Plan, Design Guidelines, and Development Standards into the ordinance.

The project is also consistent with the Mather CLUP and APPA. Overall, the project impacts are less than significant related to consistency with plans, policies, and regulations.

## NOISE

### *OPERATIONAL TRAFFIC NOISE*

Using the Caltrans traffic noise analysis protocol, project generated traffic volumes were analyzed for increases in traffic noise levels which may impact sensitive receptors. Under the existing plus project conditions, project generated traffic volume increases would generate noise levels above the Sacramento County's transportation noise threshold of 65 dB along several roadway segments. Land uses along Jackson Road segments in Sacramento County that would experience increases in traffic noise are designated Agricultural and are not considered noise sensitive uses. Land uses along Zinfandel Drive segments in the City of Rancho Cordova are zoned as Office Professional Mixed Use (OPMU), Commercial/Main Street District (CM-S), Retail Commercial (RC), Business Professional (BP0), and Low-Density Residential (LD) zoning designations. Only LD is considered a noise sensitive land use, and the presence of a 10-foot high sound wall would alleviate any increases in traffic noise generated by the Mather South Project. Impacts would be less than significant.

### *EXPOSURE OF EXISTING SENSITIVE RECEPTORS TO NEW STATIONARY NOISE SOURCES*

This impact analysis evaluates non-transportation noise sources that would occur because of project operation, such as noise generated from mechanical equipment. The Mather South Project land uses that would be located adjacent to the existing Anatolia Village neighborhood within the City of Rancho Cordova would include residential, public, and a park. Typically, noise sources associated with residential land uses include heating, ventilating, and air conditioning (HVAC) units, lawn mowers and landscaping maintenance equipment. These types of mechanical equipment are typical of residential neighborhoods and would be compatible with Anatolia Village. Impacts would be less than significant.

## PUBLIC SERVICES

### *FIRE PROTECTION AND EMERGENCY SERVICES*

The Mather South Project would increase the demand for fire protection and emergency services provided by Metro Fire. The project includes 3,522 new dwelling units, commercial, retail, and civic uses. Utilizing the County's estimate of 2.64 persons per dwelling unit, the Mather South Project would increase the population of the Jackson Road corridor area by approximately 9,298 residents (i.e., 3,522 du x 2.64 persons). This increase in demand would require additional staff and fire facilities to maintain service levels and to ensure that adequate fire protection is provided. Metro Fire has indicated that the Mather South Project would trigger the need for a new fire station within the Plan Area. As a result, the project has included a new fire station site within the site plan, which is located along Gateway North Drive near Zinfandel Drive within a residential parcel (R1). The exact location and size of the parcel will be finalized when the land is dedicated; however, it would be required to meet Metro Fire location

requirements for new fire stations and be approved by the agency. Impacts would be less than significant.

#### *LAW ENFORCEMENT SERVICES*

The Mather South Project includes a maximum of 3,522 residential units which would provide housing for a residential population of approximately 9,298 residents, as well as associated non-residential uses, including commercial, retail, and civic uses which would increase the demand for law enforcement services to be provided by Sacramento County Sheriff's Department (SSD). SSD has substations located throughout the unincorporated county, including the closest one, Kilgore Station East Division located approximately 3.5 miles north in Rancho Cordova at 2897 Kilgore Road. SSD has indicated that the existing substation can accommodate new staffing and equipment that may be needed to serve the growth associated with the Mather South Project. The project would provide funding in the form of development impact fees and ongoing property taxes that would provide funding for additional staffing and equipment needed to maintain and improve service levels for law enforcement within the Mather South Plan Area and the surrounding areas. Impacts would be less than significant.

#### *SCHOOL SERVICES*

The Mather South Project is within the service area of the Elk Grove Unified School District. Development of the project would result in increases to the local student population. The project includes two elementary school sites within the Plan Area, each 10-12 acres in size, which would accommodate all of the potential elementary school students generated by the project, as well as students from other nearby areas. However, the project would increase demand for middle and high school capacity in a school district that is already considered over capacity. California Government Code Section 65995(h) states that the payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code is deemed to be full and complete mitigation of the impacts for the planning, use, development, or the provisions of adequate school facilities. Section 65996(b) finds that these provisions provide full and complete school facilities mitigation. The Mather South Project would pay all fees related to school facilities consistent with SB50 and Government Code. Impacts would be less than significant.

#### *PARKS AND RECREATION SERVICES*

The County Land Development Ordinance (Title 22 of Sacramento County Code) requires new residential developments to dedicate land, pay a fee in lieu thereof, or provide a combination of dedication and in-lieu fees for park facilities consistent with Quimby Act requirements. The Quimby Act and the Sacramento County General Plan require 3-5 acres of parkland per 1,000 residents. The Mather South Project includes four neighborhood parks and one community park which are distributed throughout the Plan Area. The total proposed acreage of neighborhood parks would be 21.55 acres, with each ranging in size from 4.55 acres to 7.03 acres. The project also includes the construction of a 22.28-acre community park. Therefore, the total proposed park acreage within the Plan Area would be 44.03 acres. This would result in a shortfall of 1.43 acres of active parkland which is addressed in the Mather South Community



Master Plan policy 5-7 and would be made up by adjusting Park 1 in Phase 1 or by dedicating in-lieu fees consistent with Title 22 of the Sacramento County Code. Impacts would be less than significant.

#### *LIBRARIES*

Residents of the Mather South Project would increase the demand for library services provided by the Sacramento Public Library Authority. The Mather South Plan Area is located within the Rancho Cordova/Sunrise Douglas Service Area. The Sacramento Public Library Authority Facility Master Plan 2007 – 2025 (Library Master Plan) addresses future library needs based upon an evaluation of anticipated growth by service area. The Library Plan calls for three to four new libraries within the vicinity of the Plan Area to accommodate projected growth, including the Mather South Project, by 2025. Impacts would be less than significant.

#### *PUBLIC UTILITIES*

##### *WASTEWATER TREATMENT AND DISPOSAL*

The project would require new infrastructure in order to provide wastewater service to the new land uses within the Plan Area. The project would connect to the planned sewer line extension along Zinfandel Drive and extend lines to Kiefer Boulevard. The backbone collection system within the Plan Area would include the construction of 8-inch, 10-inch, 12-inch, and 15-inch sanitary sewer collection lines within proposed street right-of-way. No offsite collection lines are proposed. Wastewater would be routed to the SRWTP which has capacity to treat the estimated 1.23 million gallons per day that the project would produce. A Level 1 sewer study for the Mather South project has been approved by Sacramento Area Sewer District, and a more detailed sewer study for the Plan Area would be prepared when subsequent tentative map applications are submitted for the project. Impacts would be less than significant.

##### *SOLID WASTE SERVICES AND CAPACITY*

The Mather South Project would allow for the construction of 3,522 residential units, approximately 800,000 square feet of commercial and office uses, and two elementary schools. Development of the project would result in an increased demand for solid waste services. The Mather South Plan area would be served by the Sacramento County Department of Waste Management and Recycling, which provides solid waste services to unincorporated areas of Sacramento County. Sacramento County owns and operates the Kiefer Landfill, located at Kiefer Boulevard and Grant Line Road, which is the primary municipal solid waste disposal facility in Sacramento County. The Kiefer Landfill facility would receive an estimated 9,855 tons of annual waste from the project's buildout. Cal Recycle's website indicates that the landfill's permitted capacity is approximately 117 million cubic yards and has a remaining capacity of approximately 113 million cubic yards. Therefore, impacts would be less than significant.

## TRAFFIC AND CIRCULATION

### *TRANSIT IMPACTS*

Public transit is not currently provided to, or in the vicinity of the Plan Area. As detailed in the Project Transportation Improvements section, a conceptual transit system to serve the Jackson Corridor Projects (including the Mather South Project) was developed by Sacramento County, SacRT, DKS Associates, and the applicants of the Jackson Corridor Projects as part of a joint transit planning process.

The proposed transit system is a condition of approval for the project and was assumed as an attribute of the Mather South Project and included in the traffic modeling and analysis in the Joint TIS. The assumed transit routes and service frequency would be required at full development of the Mather South Project. Impacts would be less than significant.

### *EMERGENCY ACCESS AND HAZARDOUS DESIGN FEATURE IMPACTS*

The Mather South Project would provide new roadway connections which would provide for improved emergency access and connections within the project area; and thus, would not interfere with emergency response. Additionally, the project would not modify the existing roadway network such that emergency access along existing roadways would be impaired. Adherence to design guidelines and County road standards, and coordination with Metro Fire would minimize inconsistencies. Impacts would be less than significant.

## WATER SUPPLY

### *WATER INFRASTRUCTURE*

The Mather South Project would result in the extension of 8-inch and 12-inch supply lines to the Plan Area from ~~the existing 30-inch diameter North Service Area (NSA) Pipeline Phase A water main transmission main in Kiefer Boulevard~~, the existing 16-inch diameter water line in Zinfandel Drive (south of Douglas Road) and the existing 16-inch diameter water line in Sunrise Boulevard. Additionally, a new ~~one~~ten-million-gallon water tank farm would be constructed in the northeastern portion of the Plan Area to serve the greater NSA. However, the need for the tank farm is related to the greater cumulative demand from anticipated storage needs within the NSA. The tank farm would be required when demands from new connections exceed the current storage capacity of the system. Depending on the timing of adjacent development and the water demands resulting from such development, the construction of the tank farm may not be required to serve the Plan Area. No new offsite water distribution or treatment infrastructure would be needed for the project as adequate supplies and treatment capacity is available to meet project demands. Therefore, project impacts as a result of construction of new water supply infrastructure would be less than significant.

### *WATER SUPPLY*

Sacramento County Water Agency (SCWA) is the service provider to the Mather South Project and would provide a mix of surface water in wet years, with a higher utilization of groundwater during dry years. SCWA would also supplement surface and groundwater with remediated and recycled water as available. The water demands associated with the Mather South Project were included in the latest Zone 41 Urban Water Management Plan which estimates total water consumption for the project at 1,483.61 ac-ft/yr (including 7.5 percent system losses). SCWA's existing supplies for normal and dry years would exceed the total projected buildout water demand for the entire NSA. SCWA determined that it has sufficient water supplies to meet the water demands of the Mather South Project over the next 20 years during normal, single-dry, and multiple-dry years. Therefore, project impacts would be less than significant.

### *GROUNDWATER USE*

SCWA is responsible for recognizing and implementing the sustainable long-term average annual yield for the Central Groundwater Basin of 273,000 acre feet. SCWA relies upon a conjunctive use supply program which alternates between surface and groundwater reliance in order to maintain the appropriate trajectory for groundwater basin sustainability. Additional protection against overdrafting of the groundwater resources within the Central Basin is provided by state legislation, and SCWA is responsible for complying with the Sustainable Groundwater Management Act. Therefore, because SCWA has determined that appropriate supplies for the Mather South Project are available without undermining the credibility of groundwater management, impacts would be less than significant.

### *GROUNDWATER RECHARGE*

Recharge of the aquifer system occurs along active river and stream channels where extensive sand and gravel deposits exist, and especially along the American, Cosumnes, and Sacramento rivers. Additional recharge occurs along the eastern boundary of Sacramento County at the transition point from the consolidated rocks of the Sierra Nevada to the alluvial-deposited basin sediments. Intensive groundwater use in the Central Basin over the past 60 years has resulted in a general lowering of groundwater elevations. The Mather South Project would introduce impervious surfaces that prevent or hinder groundwater recharge; however, most of the recharge and groundwater storage in the Central Basin occurs from subsurface flow, which would not be adversely affected by implementation of the project. Additionally, the Mather South Project includes approximately 210-acres of open space which is approximately 25 percent of the Plan Area, including 50.4-acres of stormwater management basins (~~nine~~ **ten** basins) which would allow for the percolation of stormwater. Impacts would be less than significant.

### RESOURCE AREAS THAT WERE SCOPED OUT OF THE EIR

CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CCR Sections 15126.2[a] and 15128). Based on a review of information prepared for the project and

comments received as part of the public scoping process (Appendix **APD-2**) as well as additional research and analysis of relevant project data during preparation of this Draft EIR, the following were identified as resources that would not experience any significant environmental impacts from the project. Accordingly, these resources are not addressed further in this Draft EIR but are identified below with a brief explanation as to why impacts to each resource are not anticipated, as required by CEQA.

- Agriculture and Forestry Resources
- Population and Housing

#### AGRICULTURE AND FORESTRY RESOURCES

The Plan Area is designated as an Urban Development Area and is within the Urban Services Boundary of the County's General Plan which designates the property for development. The Plan Area had been, until 1993, used for military purposes since the early 20<sup>th</sup> century. The California Department of Conservation's Farmland Mapping and Monitoring Program designates the Plan Area as approximately 95 percent Grazing land, which indicates the existing vegetation is suited to grazing, and about 5 percent as Urban and Built Up Land (CDC 2017). Additionally, the Plan Area does not contain suitable soils for agricultural, does not contain any Williamson Act contracts or agricultural zoning, and is not currently utilized for agriculture. The site consists of undeveloped grassland and is not used or zoned for forest land or timber harvest. While removal of some trees may be required for the project, no designated forest land exists on or near the Plan Area. For these reasons, no significant impacts related to agriculture and forestry resources would occur, and this issue is not discussed further in this EIR.

#### POPULATION AND HOUSING

The Mather South Project is designated as an Urban Development Area and is within the Urban Services Boundary of the County's General Plan which designates the property for development. The Plan Area is currently undeveloped and the project would not result in the removal of any existing housing, nor displace any current residents within the Plan Area or in the vicinity of the project. The project would result in the construction of approximately 3,522 residential dwelling units and would not induce growth or result in the elimination of any barriers to growth. Growth inducing effects are discussed in greater detail at the end of this chapter. For these reasons, the project would not have significant impacts related to population and housing, and the issue is not discussed further in this EIR.

#### IRREVERSIBLE ENVIRONMENTAL CHANGES

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CEQA requires that EIRs assess whether a project would result in significant irreversible changes to the physical environment. The State CEQA Guidelines discuss three categories of significant irreversible changes that should be considered. Each is addressed below. Although the project would require commitment of resources, these

environmental changes are not considered significant for the purposes of this analysis. The primary irreversible environmental change associated with the Mather South Project involves the permanent conversion of undeveloped rural land with associated habitat values to a mix of land uses including residential, commercial, retail, and civic uses.

#### CHANGES IN LAND USE WHICH COMMIT FUTURE GENERATIONS

Site preparation, construction, and operation of the project would irreversibly commit future generations to urban land uses on approximately 638 acres of the project site. The remaining 211 acres of the site would be maintained as a combination of natural preserve, drainage, utility easements, and landscape buffers.

#### IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

No significant environmental damage, such as accidental spills or explosion of a hazardous material, is anticipated with development of the proposed mixed-use residential project. The use of hazardous materials beyond standard construction supplies and household hazardous waste is not proposed. Remediation of previously contaminated sites within the Plan Area would be completed as part of the project, and materials would be properly disposed of in accordance with federal, State, and local regulations.

#### CONSUMPTION OF NONRENEWABLE RESOURCES

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. The presence of agricultural soils and mineral resources is not established for the Plan Area. As such, developing the property would not result in conversion of agricultural lands or loss of access to mineral resources.

Project construction would consume fossil fuels and other non-renewable or slowly renewable resources through the operation of vehicles and equipment for site grading and construction activities. Other resources, including materials such as wood products, metals, cement, asphalt, and other products, would be used or consumed during project construction or would be permanently committed as project materials. Operation of the project would also require additional electricity, water, and natural gas; however, the scale of such consumption would be typical for a mixed-use residential development of this size. For further discussion of energy use, refer to Chapter 11, Energy.

#### CUMULATIVE IMPACTS

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The State CEQA Guidelines Section 15355 defines a cumulative impact as “two or more individual effects which, when considered together, are considerable.” An individual effect need not itself be significant to result in significant cumulative effects; the impact is the result of the incremental effects of the project combined with the effects of “other closely related past, present, and reasonably foreseeable probable future projects.”

CEQA does not define “closely related,” but the Code of Federal Regulations (40 CFR 1508.25) indicates that a “closely related” project is one which is automatically triggered by the project; one which cannot proceed without the project first proceeding (mutual dependency); one which requires the project for justification or is an interdependent part of the same action; or one which is a similar action with common timing, geography, and other features.

The requirements for a cumulative analysis are described in CEQA Guidelines Section 15130. A cumulative analysis “need not provide as great detail as is provided for the effects attributable to the project alone.” The analysis should focus on analyzing the effects of the project to which other projects contribute, to the extent practical and reasonable. These other projects may be identified either through the provision of a list of cumulative projects, or via a summary of projections contained in an adopted General Plan or a certified EIR. This EIR uses a combination of the two methods, using projections contained in adopted General Plans and related planning documents, as well as known major reasonably foreseeable other projects.

The significance criteria used for analysis are the same as those used throughout the topical chapters of the EIR. Section 15130(a)(3) states that a project’s contribution to an impact is “less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.”

#### CUMULATIVE IMPACT ANALYSIS METHODOLOGY

State CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Section 15130(a)(3) of the State CEQA Guidelines states that an EIR may determine that a project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

For purposes of this EIR, the project would have a significant cumulative effect if it meets either one of the following criteria:

- The cumulative effects of related projects (past, current, and probable future projects) without the project are not significant but the project’s incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of related projects (past, current, and probable future projects) without the project are already significant and the project represents a considerable contribution to the already significant effect. The standards used



herein to determine “considerable contribution” are that the impact either must be substantial or must exceed an established threshold of significance.

The analysis herein evaluates whether, after adoption of project-specific mitigation, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects.

#### SCOPE OF THE CUMULATIVE ANALYSIS

The State CEQA Guidelines (Section 15130) identify two basic methods for establishing the cumulative environment in which the project is to be considered: (1) the use of a list of past, present, and probable future projects; or (2) the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. This analysis is based on the latter approach. The effects of past and present projects on the environment are reflected by the existing conditions in the project area. Probable future projects are those in the project vicinity that have the possibility of interacting with the project to generate a cumulative impact (based on proximity and construction schedule) and either:

- are partially occupied or under construction,
- have received final discretionary approvals,
- have applications accepted as complete by local agencies and are currently undergoing environmental review, or
- are proposed projects that have been discussed publicly by an applicant or that otherwise become known to a local agency and have provided sufficient information about the project to allow at least a general analysis of environmental impacts.

The cumulative environmental setting for all resource areas with the exception of traffic and noise, is based upon the development forecasts of the adopted Sacramento Area Council of Governments’ 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) development forecast. The MTP/SCS included development projections for Sacramento County and its incorporated cities, as well as for adjacent counties and cities, based on adopted and in-development General Plans, Specific Plans, and Community Plans in each jurisdiction. Reasonably foreseeable development areas already considered in the MTP/SCS include the 2030 Sacramento County General Plan, the Cordova Community Plan, Florin-Vineyard Community Plan, Mather Field Specific Plan, along with other planned development in Sacramento County and the City of Rancho Cordova.

The above baseline cumulative setting was then augmented with current data on approved and proposed projects in Sacramento County. These include several master plan proposals within the project area including: NewBridge Specific Plan (NOP dated January 8, 2013), Jackson Township Specific Plan (NOP dated August 5, 2013), and West Jackson Master Plan (Revised NOP dated April 26, 2017).

Project Number	Project Name	Location	Description	Status
<b>Unincorporated Sacramento County</b>				
1	Vineyard Springs Comprehensive Plan	South-central portion of Sacramento County	2,650 acres bounded by Gerber Road to the north, Calvine Road to the south, Excelsior Road on the east, and Bradshaw Road on the west	Approved 2000
2	North Vineyard Station Specific Plan	South-central portion of Sacramento County	1,594 acres bound by Florin Road to the north, Gerber Road to the south, Vineyard Road to the east, and Elder Creek on the west	Approved 1998
3	Florin Vineyard Gap Community Plan	Within the community plan areas of Vineyard and South Sacramento	3,872 acres bounded by Elder Creek Road on the north, Bradshaw Road on the east, Churchill Downs neighborhood to the south, and Union Pacific Railroad tracks on the west	Approved 2010
4	Mather Field Specific Plan	Eastern Sacramento County along the Jackson Road highway	5,700 acres located on the former Mather Field AFB	Amended 2016
5	Cordova Hills	Southeastern Sacramento County	2,669 acres east and adjacent to Rancho Cordova	Approved 2013
6	Easton Project, including Glenborough at Easton and Easton Place	Within Cordova Community Planning Area	1,391 acres south of Highway 50 and east of Rancho Cordova	Approved 2008
7	NewBridge Specific Plan	Eastern Sacramento County along the Jackson Road highway	1,095 acres south of the Mather South Plan area, along Kiefer Boulevard	In Process
8	Jackson Township Specific Plan	Eastern Sacramento County along the Jackson Road highway	1,391 acres south of Mather Field, west of the Mather South Plan Area	In Process
9	West Jackson Highway Master Plan	Eastern Sacramento County along the Jackson Road highway	5,900 acres east of South Watt Avenue, north of Elder Creek Road, south of Kiefer Boulevard, and west of Excelsior Road	In Process
<b>City of Rancho Cordova</b>				
10	Arboretum	Within the Grant Line North Planning	1,349 acres bounded by Highway 16 to the south, Grant Line Road to the east,	Currently Inactive

Project Number	Project Name	Location	Description	Status
		Area	Kiefer Boulevard to the north, and Sunrise Boulevard to the west	
11	Suncreek Specific Plan	Located in southern Rancho Cordova	1,265 acres located east of the Folsom Canal and due east from the Mather South Plan Area, north of Kiefer Boulevard	Approved 2013
12	Sunridge Ranch Specific Plan	Located in southern Rancho Cordova	2,606 acres south of Douglas Road, east of Sunrise Boulevard, and north of Grantline Road	Approved 2002
13	Rio del Oro Specific Plan	Located in central Rancho Cordova	3,828 acres south of White Rock Road, east of Sunrise Boulevard, and north of Douglas Road	Approved 2010
14	Westborough Specific Plan	Located in central Rancho Cordova	1,695 acres north of White Rock Road and including Rancho Cordova Parkway	In Progress
<b>City of Folsom</b>				
15	Folsom South of 50 Specific Plan	Eastern Sacramento County, south of U.S. 50 and west of Folsom city limits	3,510 acres south of U.S. 50, north of White Rock Road, east of Prairie City Road, and west of Sacramento/El Dorado County Line	Approved 2011
<b>City of Sacramento</b>				
16	Aspen 1/New Brighton	Eastern City of Sacramento at County line	232 acres at the corner of Jackson Road and Watt Avenue	Approved 2015

## CUMULATIVE ISSUE AREAS

Cumulative impacts for each technical area are discussed below. Significance criteria, unless otherwise specified, are the same for cumulative impacts as project impacts for each environmental topic area. When considered in relation to other probable future projects, cumulative impacts to some resources could be significant and more severe than those caused by the project alone.

### AESTHETICS

#### *CUMULATIVE SETTING*

A discussion of the cumulative aesthetics setting defines the viewshed as the Plan Area and vicinity and includes viewing groups which are mostly composed of people traveling

along arterial roadways which traverse the viewshed, such as Sunrise Boulevard, Zinfandel Drive, and Jackson Road. Most of eastern Sacramento in the unincorporated areas exhibit relatively flat topography which is either urbanized or dominated by crop farming interspersed with rural communities and open space areas. The Plan Area and vicinity is primarily dominated by a flat, undeveloped, and rural setting. No significant cumulative visual impacts exist within the vicinity of the Plan Area.

#### *CUMULATIVE IMPACTS EVALUATION*

The viewshed is within the Urban Services Boundary of the existing Sacramento County General Plan, and as such, is anticipated to develop with urban uses over the coming decades. In addition to the Plan Area, the projects listed above are in the general vicinity of the Jackson Road corridor and are currently being processed by the County. Therefore, they are considered within the cumulative evaluation. The West Jackson Highway Master Plan area is located approximately one-mile southwest of the Mather South Plan Area and includes approximately 5,913 acres on both the north and south sides of Jackson Highway. The New Bridge Specific Plan area is located adjacent to the southern border of the Plan Area and includes approximately 1,095 acres north of Jackson Highway. The Jackson Township Specific Plan area is located approximately 0.50 miles southwest of the Plan area and includes approximately 1,391 acres north of Jackson Highway. In total, the four master plans (including the Mather South Project) cover approximately 9,247 acres and, based on the most recent NOPs prepared for each as of May 2018, would provide for the development of more than 27,000 new housing units of varying densities, nearly 6.8 million square feet of commercial space, employment-generating uses, mixed use land uses, 12 schools, and approximately 322 acres of developed parkland.

As discussed in Chapter 1 Aesthetics, development of the Mather South Project would not result in significant impacts related to scenic resources or light or glare. However, the project would result in significant and unavoidable impacts to visual character because of the anticipated permanent conversion of undeveloped rural land to developed uses. While the Mather South Project would represent a small portion of the overall conversion of the area, each large-scale development contributes to the permanent change in visual character in a way that induces further change, and the project would have a considerable contribution to the overall significant and unavoidable impact. There is no available mitigation to reduce the impacts related to the change in visual character, and thus the Mather South Project would result in a considerable contribution to a new **significant and unavoidable** cumulative impact.

#### AIR QUALITY

##### *CUMULATIVE SETTING*

The project is within the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). The SMAQMD jurisdictional boundary is considered the cumulative project boundary. Sacramento County is currently in nonattainment for ozone, respirable particulate matter (PM<sub>10</sub>), and fine particulate matter (PM<sub>2.5</sub>) with respect to the California Ambient Air Quality Standards (CAAQS) and is in

nonattainment for ozone and PM<sub>2.5</sub> with respect to the National Ambient Air Quality Standards (NAAQS).

Ozone impacts are the result of cumulative emissions from numerous sources in the region and transport from outside the region. Ozone is formed in chemical reactions involving oxides of nitrogen (NO<sub>x</sub>), reactive organic gases (ROG), and sunlight. All but the largest individual sources emit NO<sub>x</sub> and ROG in amounts too small to have a measurable effect on ambient ozone concentrations by themselves. However, when all sources throughout the region are combined, they can result in severe ozone problems.

Particulate matter (PM), including PM<sub>10</sub> and PM<sub>2.5</sub> have a similar cumulative regional emphasis when they are entrained into the atmosphere and build to unhealthful levels over time. PM also has the potential to cause significant local problems during periods of dry conditions accompanied by high winds, and during periods of heavy earth disturbing activities. PM may have cumulative local impacts if, for example, several unrelated grading or earth moving activities are underway simultaneously at nearby sites. Operation-related PM is less likely to result in local cumulative impacts as operational PM sources tend to be spread throughout the region (i.e., vehicles traveling on roads), not affecting any one receptor. However, substantial increases in traffic on roadways already experiencing high traffic volumes may result in considerable contributions to nearby existing land uses.

Although carbon monoxide (CO) can accumulate with traffic at intersections, it is recommended to be evaluated locally, and not regionally because it disperses rapidly with distance from the source under normal meteorological conditions. Therefore, CO is not significant at a regional air-basin level.

Because of the existing nonattainment status of Sacramento County (as discussed above), there is an existing adverse cumulative condition regarding air quality. Therefore, NO<sub>x</sub>, ROG, and PM emissions from cumulative development (see Chapter 4 Air Quality Table AQ-2) are cumulatively significant in the air basin. The discussion below addresses whether the project's contribution is considerable.

#### *CUMULATIVE IMPACTS EVALUATION*

A cumulative impact analysis is provided for each of the air quality topics addressed in the project impact analysis follows.

#### **CONSTRUCTION EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS**

Sacramento County and the Sacramento Valley Air Basin (SVAB) are in state and federal nonattainment for ozone and PM air quality standards. Construction activities in the region would add additional ozone and PM emissions into the SVAB that may conflict with attainment efforts.

Project-related construction emissions of NO<sub>x</sub> would exceed the applicable mass emission threshold established by SMAQMD. The project developer would be required to pay a mitigation fee for every day that NO<sub>x</sub> emissions exceed the 85 lb/day threshold adopted by SMAQMD provided under Mitigation Measure AQ-1 in Chapter 4 Air Quality.

The mitigation fee program is designed to reduce emissions throughout the SMAQMD jurisdiction through various measures such as installing newer engines on construction equipment or installing U.S. Environmental Protection Agency (EPA)-certified woodstoves in the place of non-certified woodstoves in residential units. Incorporation of this mitigation would ensure that all additional NO<sub>x</sub> emissions would be offset through the SMAQMD program and, therefore; project construction would not result in a considerable contribution to the regional air quality condition and would not interfere with attainment of CAAQS or NAAQS.

Regarding PM<sub>10</sub> and PM<sub>2.5</sub>, project construction would not exceed SMAQMD thresholds (see Chapter 4 Air Quality Table AQ-4). Nonetheless, Mitigation Measure AQ-1 would reduce construction-related exhaust and fugitive dust emissions by requiring dust suppression and limiting equipment idle time. Thus, considering that worst-case scenario construction-related activities would not exceed SMAQMD-adopted thresholds for PM and mitigation is in place to further reduce these emissions, construction-related PM emissions would not result in substantial concentrations at nearby receptors. Given that construction-related emissions would be mitigated to the extent feasible, construction-related emissions would not exceed SMAQMD's cumulative thresholds for criteria air pollutants and ozone precursors. Therefore, the project's short-term project-generated construction emissions **would not result in considerable contribution** to the existing significant cumulative impact.

#### **LONG-TERM OPERATIONAL EMISSIONS OF CRITERIA AIR POLLUTANTS AND PRECURSORS**

Air districts in California develop air quality attainment plans designed to reduce emissions of ozone precursors enough to attain the federal ozone standard by the earliest practicable date. Air quality attainment plans include a multitude of air pollution control strategies. When developing air quality attainment plans, air districts account for the emissions from all present and future development in the region by relying on city and county general plans. Thus, projects that are consistent with adopted general plans and the most recent air quality attainment plans would not conflict with regional air quality planning efforts and the ability of the region to meet reduction targets set by the adopted plans. In cases where projects are proposed that were not included in the adopted general plan or accounted for in regional air quality projects, SMAQMD has developed guidance and determined the level of emissions reduction that would be considered feasible, thus not conflicting with regional air quality attainment status. Although the project was included in the most current State Implementation Plan, the air quality plan for the region, it is anticipated to have significant operational air quality impacts. Thus, SMAQMD has recommended that the project achieve a 15 percent reduction in mobile-source operational emissions.

As discussed in Chapter 4 Air Quality, operation-related emissions would exceed SMAQMD thresholds for NO<sub>x</sub>, ROG, and PM<sub>10</sub>, due primarily to increased vehicle miles traveled (VMT) associated with new land use development. Projects that exceed established SMAQMD thresholds of significance would also contribute to the regional, and thus cumulative, air quality conditions. Consistent with SMAQMD guidance, an Air Quality Mitigation Plan (AQMP) has been prepared for the project, which includes various measures to reduce project operational ozone precursor emissions (i.e., NO<sub>x</sub>



and ROG) by 15 percent. Measures would include traffic calming design features and a neighborhood electric vehicle network. Implementation of all available on-site reduction measures would reduce the project's operational emissions by 15 percent. Refer to Appendix AQ-1 for the AQMP and further details regarding incorporated emissions reduction measures.

Incorporation of all mitigation included in the AQMP would represent all available and feasible mitigation that the project could implement. However, long-term operational emissions associated with project implementation would continue to exceed applicable thresholds. Project operations may contribute to the nonattainment status of the region and may conflict with CAAQS and NAAQS. Thus, the project's contribution to cumulative operational air quality impacts is cumulatively considerable and **significant and unavoidable**.

### **MOBILE-SOURCE CO CONCENTRATIONS**

As described in Chapter 4 Air Quality, project implementation would result in less-than-significant local mobile-source CO-related air quality impacts from construction and operation. Like intersection operations in the existing-plus-project scenario, several intersections would downgrade to level of service (LOS) E or F (e.g., Power Inn Road/Howe Avenue and Folsom Boulevard, Watt Avenue and Folsom Boulevard) in the cumulative-plus-project scenario. For a full list of intersection LOS changes from cumulative development, refer to the traffic study prepared for the project in Appendix TR-1.

CO emission factors in future years are expected to be lower than current levels because of more stringent vehicle emissions standards and improvements in vehicle emissions technology. Ambient local CO concentrations under future, cumulative conditions would continue to decline. Therefore, 1- and 8-hour CO concentrations for the future cumulative conditions would not be anticipated to exceed the significance thresholds of 20 parts per million (ppm) and 9 ppm, respectively. Consequently, the project's contribution to cumulative CO impacts would not be cumulatively considerable and would result in a **less-than-significant** cumulative impact.

### **EXPOSURE OF SENSITIVE RECEPTORS TO TACs**

As discussed in Chapter 4, Air Quality, the project would not generate significant health risks associated with toxic air contaminants (TACs) because it would not expose any single receptor to a level of cancer risk that exceeds an incremental increase of 10 in one million, or to a noncarcinogenic hazard index of 1. The project may result in some new sources of TACs associated with commercial and educational land uses. However, TAC sources are considered local as pollutant concentrations dissipate rapidly from the source. Further, Mitigation Measure AQ-4 in Chapter 4, Air Quality, would reduce project-related TACs and protect sensitive receptors. Thus, given that the project-generated TAC emissions would not be considered substantial, mitigation would reduce project-generated TAC sources, and the localized nature of TACs, project-generated increases in TAC emissions would not result in a new significant cumulative TAC impact. The project's TAC impacts would not be cumulatively considerable and would result in a **less-than-significant** cumulative impact.

### **EXPOSURE OF SENSITIVE RECEPTORS TO ODORS**

As discussed in Chapter 4, Air Quality, the project would generate temporary odors during construction and new odor sources associated with the commercial and educational land uses (e.g., delivery truck idling at commercial loading zones, odors associated with certain land uses such as dry cleaners). Construction-related odors would be minimal, temporary, and would cease once construction is complete. Incorporation of on-site mitigation as described in Chapter 4, Mitigation Measure AQ-5 would reduce odor exposure to new receptors. Because of the localized character of odor-related impacts, as well as the site-specific design measures in place to reduce odor exposure, the project's contribution to odor issues would not be cumulatively considerable and would not result in a considerable contribution such that a new significant cumulative impact would occur. Cumulative odor impacts would be **less than significant**.

Construction emissions from the Mather South Project would be less than significant with the application of required best management practices (BMPs) during all years on construction. Operational emissions would be less than significant after implementation of an AQMP. However, with the area already in non-attainment for ozone and particulate matter air quality standards, any additions in air pollutant levels exacerbate the significant cumulative impact and make it more difficult to bring the region into attainment. Likewise, the project would contribute to a cumulatively significant and unavoidable impact related to conflict with implementation of the State Implementation Plan due to its potential to obstruct regional ozone attainment. Therefore, although the project meets its project-specific emissions reductions requirements, any addition of air pollutants make it more difficult for the region to eventually reach attainment status, so the project would have a cumulatively considerable contribution to this significant air quality impact and, and the cumulative impact would be **significant and unavoidable**.

### AIRPORT COMPATIBILITY

#### *CUMULATIVE SETTING*

The cumulative boundary for airport compatibility is generally the areas in the immediate vicinity near the jurisdictional boundary of the Airport Land Use Compatibility Plan (ALUCP) for Mather Airport. The Mather South Plan Area is located approximately one mile east of the Mather Airport, and a small portion of the Plan Area is located within the ALUCP boundary. Most of the airport operations occur north of the runway, which is centrally located within the airport boundary; however, the airport traffic control tower, as well as some hangar space and numerous installation restoration program sites are located south of the runway. The airport is 2,253 acres in size and is surrounded by a mix of residential, commercial, industrial, and open space land uses, including the Mather Preserve. Mather Airport includes two parallel runways that have a northeast/southwest orientation and receives between 230 to 280 landings per month with the majority of the landings attributed to cargo planes. Approximately 88 percent of all aircraft operations occur on the southern runway, which is the longer one of the two. Through the ALUCP, land use is regulated to ensure that potential incompatibilities from

new development do not occur. No existing airport compatibility issues are present within the project site and cumulative impacts would be less than significant.

#### *CUMULATIVE IMPACTS EVALUATION*

Development of the Mather South Project would result in the construction of 3,522 residential dwelling units of various densities (multi-family, detached, and attached single-family), a 28-acre environmental education campus including 200 multi-family dwelling units, a 21-acre research and development park, two elementary schools, a 6-acre community center, 21 acres of commercial-retail with up to 225,000 square feet of retail space, 44 acres of parkland including 26 acres of neighborhood parks and a 17-acre community park. The project would bring new sensitive receptors to within one mile of the airport. Development of the NewBridge, Jackson Township, and West Jackson projects would also result in new development which would bring additional new residents to the vicinity. However, the project would implement Mitigation Measures AC-1, AC-2, and AC-3 which would ensure that the project is developed in compliance with the ALUCP, and would ensure that hazards related to building heights, noise, and safety zones are reduced to a less-than-significant level. All other projects, including those listed above, would also be developed in compliance with the ALUP, and, therefore, would not result in significant impacts. The project would not result in a considerable contribution such that a new significant cumulative impact would occur. Therefore, cumulative airport compatibility impacts would be **less than significant**.

#### BIOLOGICAL RESOURCES

##### *CUMULATIVE SETTING*

Generally, the geographic extent of cumulative impacts on biological resources consists of Sacramento County and the Central Valley region of California that supports similar biological resource values and functions to those of the Plan Area.

Past and present actions by humans have substantially altered biological resources in the Central Valley region of California, including Sacramento County, specifically, compared to historical conditions. Among the most important of these past actions have been conversion of natural vegetation and habitats to agricultural and developed land uses; fill and alteration of aquatic habitats; flood control and water supply projects; and the introduction of invasive species, which in many cases have competed with, preyed upon, and degraded habitat for native species. More recently, the large-scale conversion of agricultural habitats to urban land uses has resulted in substantial loss of habitat for species such as state-listed Swainson's hawk that have adapted to use agricultural habitats in response to loss of their natural habitats.

Past, present, and foreseeable future urbanization in Sacramento County has contributed, and continues to contribute substantially to the loss of grassland, wetland, and agricultural habitats that are important to many species in the region, including state and federally listed species like Swainson's hawk, vernal pool fairy shrimp, and vernal pool tadpole shrimp. The continued conversion of natural habitats would contribute to

the ongoing decline of these habitats in the region and in the state. This is a significant cumulative impact.

Because the project would have no contribution to impacts on riparian habitats, wildlife movement corridors, wildlife nursery sites, or adopted conservation plans, these issues are not discussed further.

#### *CUMULATIVE IMPACTS EVALUATION*

A cumulative impact analysis is provided for each of the other biological resources topics addressed in the project impact analysis follows.

#### **WETLANDS, VERNAL POOL INVERTEBRATES, AND WESTERN SPADEFOOT**

Vernal pools are one of California's most threatened habitats. Historic losses of vernal pool habitat in combination with projected losses from existing, proposed, planned, and approved projects constitute a cumulatively substantial reduction in vernal pool habitat in the region and the state. Habitat losses of this magnitude have a substantial adverse effect on species that rely on this habitat type, including vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot on a statewide and regional scale. Vernal pool fairy shrimp has a more widespread distribution than vernal pool tadpole shrimp, with occurrences in southern California, the coast ranges of California, and southern Oregon, but it is mostly found in the Central Valley. It is uncommon throughout its range and rarely abundant where it is found (USFWS 2005). The greatest concentration of vernal pool fairy shrimp occurs in the Southeastern Sacramento Vernal Pool Region, which includes eastern Sacramento County (USFWS 2005). Therefore, the occupied habitat in Sacramento County represents a substantial proportion of the statewide population of vernal pool fairy shrimp. Vernal pool tadpole shrimp is restricted to the Central Valley and San Francisco Bay and has its largest concentration in the Southeastern Sacramento Vernal Pool Region in Sacramento County (USFWS 2005). Vernal pool tadpole shrimp is uncommon throughout its range. Western spadefoot has been extirpated throughout the lowlands of southern California and from many historical locations in the Central Valley, including serious declines in the Sacramento Valley (Jennings and Hayes 1994, USFWS 2005). Loss of vernal pool habitat has resulted in substantial declines in vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot statewide and in the region. Because of this habitat loss, 33 species of vernal pool-dependent plants and animals have been listed under the state or federal ESA or are candidates for listing (USFWS 2005). Loss of vernal pool wetlands has also had an adverse effect on general watershed functions in the region, such as flood attenuation and water quality improvement. This represents an existing significant cumulative impact.

As described in Chapter 6, Biological Resources, implementation of the Mather South Project would result in the loss of approximately 14.53 acres of vernal pool invertebrate habitat and western spadefoot breeding habitat, as well as approximately 691 acres of upland habitat for western spadefoot and that also supports vernal pool habitat function. Vernal pool habitats in the Plan Area are known to support vernal pool tadpole shrimp and western spadefoot, and potentially support vernal pool fairy shrimp. The *Recovery*

*Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) states that the loss of any habitat occupied by vernal pool branchiopods is counterproductive to their recovery, because the major threat to Federally listed vernal pool branchiopod species is habitat loss and fragmentation. In addition, maintaining genetic diversity of populations of these species is of concern. Take of vernal pool branchiopods can also eliminate a portion of the genetic pool available to that species, thereby eliminating the overall genetic diversity of the species. This is of concern because over time, if the genetic diversity of a species is severely reduced, the chances of the species persisting through unpredictable future environmental conditions are reduced. Implementation of the project, in combination with other existing and planned development projects in the area including New Bridge, Jackson Township, and West Jackson, would result in the loss of 17,688 acres, or 17 percent, of the 103,210 acres of vernal pool grassland habitat existing in the SSHCP Plan Area, of which 597 acres are wetland habitats suitable for vernal pool branchiopods. The project would contribute only about 2 percent to this wetland loss; however, because of the rarity of the vernal pool habitat and the special-status species associated with it, particularly the federally listed invertebrates, this contribution is considered cumulatively considerable because it contributes to the ongoing decline of these species in the region and statewide and the loss of wetland function.

Creating compensatory wetlands cannot be guaranteed to fully replace the functions and values of habitat lost and temporal losses would occur unless all impacts could be mitigated through purchase of fully functioning, established, in-kind habitats from a USFWS-approved mitigation bank. It is unclear at this time if sufficient mitigation credits would be available from an approved mitigation bank to compensate for the loss wetlands from the Plan Area. An overall loss of habitat from the Southeastern Sacramento Vernal Pool Region could reduce the potential for recovery of vernal pool fairy shrimp and vernal pool tadpole shrimp and contribute to the ongoing decline of these species in the region and statewide. This loss and degradation of habitat could also contribute to a trend toward state or federal listing for western spadefoot even after mitigation. Therefore, the project would make a considerable contribution to a significant cumulative impact.

Implementation of Mitigation Measures BR-1 through BR-5, BR-8, and BR-9 listed in Chapter 6, Biological Resources, would reduce significant direct and indirect project effects on vernal pool invertebrates and western spadefoot to a less-than-significant level. However, creation and preservation of wetlands within smaller and more fragmented areas surrounded by urban development cannot fully compensate for the whole suite of ecological services provided by larger expanses of interconnected wetland complexes surrounded by open space and there is no feasible mitigation available to reduce all potential indirect impacts to a less-than-significant level. Therefore, the project would result in **a cumulatively considerable contribution** to a significant cumulative impact and this cumulative impact would be **significant and unavoidable**.

### **SPECIAL-STATUS PLANTS**

Special-status plants known or with potential to occur in the Plan Area are associated with vernal pools. As noted previously, vernal pools are one of California's most threatened habitats. Historic losses of vernal pool habitat in combination with projected losses from existing, proposed, planned, and approved projects constitute a cumulatively substantial reduction in vernal pool habitat in the region and the state. Habitat losses of this magnitude have a substantial adverse effect on plant species that rely on this habitat type, including Ahart's dwarf rush and legenera. Vernal pools and vernal pool plant species have been threatened by widespread conversion to agricultural uses and urban development. Loss of vernal pool habitat has resulted in substantial declines in vernal pool-dependent special-status plant species statewide and in the region. This represents an existing significant cumulative impact.

The Plan Area is known to support two vernal pool-dependent special-status plant species, Ahart's dwarf rush and legenera, and could support three additional vernal pool dependent special-status plant species including two federally listed vernal pool grasses. Implementing the project would result the conversion of approximately 14.53 acres of vernal pool type wetlands to developed land uses, including wetlands known to be occupied Ahart's dwarf rush and legenera. Implementation of Mitigation Measures BR-6 and BR-7 described in Chapter 6, "Biological Resources," would reduce impacts on known and potentially-occurring special-status plant species because future project applicants would be required to identify and avoid special-status plant populations to the extent feasible and provide compensation for the unavoidable loss of special-status plants through establishment of new populations, conservation easements, or other appropriate measures. Occurrences of Ahart's dwarf rush, legenera, and Bogg's Lake hedge-hyssop have been preserved in the Mather Preserve as has designated critical habitat for the federally listed vernal pool grasses (Sacramento Orcutt grass and slender Orcutt grass). Therefore, implementing the project **would not result in a considerable contribution** to a significant cumulative impact.

### **SWAINSON'S HAWK**

The Sacramento County area supports one of the largest concentrations of breeding pairs of Swainson's hawks remaining. Therefore, the area is very important to the survival and recovery of the species. Swainson's hawks are typically found in California only during the breeding season (March through September) and winter in Mexico and South America. Historically, as many as 17,000 Swainson's hawk pairs may have nested throughout lowland California (Bloom 1980). As of 2005, there were estimated to be approximately 2,080 breeding pairs in California, approximately 1,950 of which are in the Central Valley (Estep 2009). The largest concentration of breeding pairs occurs in the counties of Sacramento, San Joaquin, Solano, and Yolo (Estep 2009a). The California population of breeding Swainson's hawks declined by approximately 90% from the 1940s to 1980, presumably because of habitat loss; however, other factors, such as mortality in wintering areas in Central America, may have also played a role (Bloom 1980). This represents an existing significant cumulative impact on the species.



Although the most important foraging habitat for Swainson's hawks lies within a 1-mile radius of each nest (City of Sacramento et. al 2003), Swainson's hawks have been recorded foraging up to 18.6 miles from nest sites (Estep 1989). Any habitat within the foraging distance may provide food at some time in the breeding season that is necessary for reproductive success. Because of the substantial decline in the number of Swainson's hawk breeding pairs in California, the contraction of its range in the state, and the past and ongoing loss of suitable habitat for Swainson's hawk due urbanization and agricultural conversion to unsuitable crop types (e.g., vineyards), adverse effects on Swainson's hawk are considered cumulatively significant.

Development of the Mather South Project would result in a permanent loss of approximately 592 acres of annual grassland that currently provides foraging habitat for Swainson's hawk. This constitutes a substantial loss of habitat acreage for the local and regional population of Swainson's hawk and could result in reduced reproductive success for local pairs and permanent displacement of individuals from the area. In addition, the project would remove suitable nest trees, including one that was observed to have a nesting pair in 2014. Nesting habitat in proximity to abundant forage habitat is crucial to reproductive success of Swainson's hawks. Implementation of Mitigation Measure BR-12 described in Chapter 6, Biological Resources, in addition to the preservation of 1,272 acres of in-kind foraging in the Mather Preserve would reduce project-level impacts on Swainson's hawk foraging habitat, but not necessarily to a less-than-significant level because there is a finite amount of land available within the foraging range of the local nesting population and development of the Plan Area would result in an overall net loss of foraging habitat available to the local nesting population within at least 10 miles. This net loss would contribute to the decline of Swainson's hawk populations in the region and to the diminished value of the region as it relates to the long-term viability of this species. This would be a **cumulatively considerable contribution** to a significant cumulative impact and this cumulative impact would be **significant and unavoidable**.

#### **SPECIAL-STATUS REPTILE, BIRD (OTHER THAN SWAINSON'S HAWK), AND MAMMAL SPECIES; AND VALLEY ELDERBERRY LONGHORN BEETLE**

Past development and land conversion in Sacramento County and the Central Valley, ranging from conversion of native habitats to agricultural production more than a hundred years ago to recent expansion of urban development, has resulted in a substantial loss of native habitat to other uses, fragmentation of remaining natural habitats, and associated population declines for many native insect, reptile, bird, and mammal species. This land conversion locally and statewide has benefited a few species, such as those adapted to agricultural uses, but the overall effects on native habitats and associated wildlife have been adverse. Habitat losses of this magnitude have a substantial adverse effect on species that require native habitats and contribute to population declines. Several wildlife species native to Sacramento County have received legal or regulatory protections, in response to population declines that have occurred because of habitat loss and degradation. The widespread conversion, fragmentation, and degradation of habitats, and associated population declines, for these special-status wildlife species in Sacramento County and the broader Central Valley is an existing significant cumulative impact.

The Plan Area is bordered by agricultural lands to the west and south; however, over the past 10 to 20 years, intensive urban and suburban development have been initiated or completed near the Plan Area in the City of Rancho Cordova and the unincorporated area of Sacramento County, and many other projects are in various stages of planning and entitlement (including those projects currently being processed in the immediate vicinity, i.e., New Bridge, Jackson Township, and West Jackson). Some projects have already resulted in adverse impacts on special-status wildlife species. Although many future projects proposed near the Plan Area would be required to mitigate significant impacts on biological resources, in compliance with CEQA, ESA, CESA, and other state, local, and federal statutes, many types of habitats and species are provided no legal protection. Therefore, it can be expected that the net loss or degradation of native terrestrial and aquatic habitats for special-status wildlife, agricultural lands, and open space areas that support important biological resources in Sacramento County will continue.

Project development would result in removal of habitat known to support foraging of tricolored blackbird, loggerhead shrike, white-tailed kite, and northern harrier. All these species except tricolored blackbird may also nest in the Plan Area and project implementation would remove nesting habitat and possibly active nest sites. Other special-status species could be present in suitable habitat in the Plan Area and could be disturbed or lost through habitat removal or modification, including valley elderberry longhorn beetle, western pond turtle, short-eared owl, burrowing owl, grasshopper sparrow, and American badger. Future development and construction activities such as ground disturbance and vegetation removal, as well as overall conversion of habitat to urban and commercial uses, could result in the disturbance or loss of habitats, individuals, and reduced breeding productivity of these species.

Implementation of Mitigation Measures BR-10, BR-11, BR-13, BR-14, BR-15, BR-16, and BR-17 listed in Chapter 6, Biological Resources, would avoid the loss of individuals, nests, or other active breeding sites of special-status insect, reptile, bird, and mammal species (valley elderberry longhorn beetle, western pond turtle, burrowing owl, loggerhead shrike, white-tailed kite, northern harrier, short-eared owl, tricolored blackbird, song sparrow, grasshopper sparrow, and American badger), and compensate for any unavoidable loss of occupied burrowing owl habitat and elderberry shrubs. In addition, equivalent value foraging habitat for special-status bird species, known occupied burrowing owl habitat, potential wetland and upland habitat for western pond turtle, and denning and foraging habitat for American badger have been permanently protected in the Mather Preserve. Therefore, implementation the project would not result in a considerable contribution to a significant cumulative impact. Therefore, cumulative project impacts would be **less than significant**.

### **OFFSITE IMPROVEMENTS**

As described in Chapter 6, the Mather South Project would result in unknown offsite impacts to biological resources as a result of implementing roadway infrastructure and energy infrastructure. However, because specific site plans for these projects are not available, it is speculative to identify the types of biological resources that could be present at the various locations. All improvements would go forward with a detailed site

plan and additional environmental review, and potential impacts would be mitigated with the same program of mitigation recommended for the project, and therefore, would not result in a considerable contribution to a cumulative impact. Therefore, cumulative project impacts would be **less than significant**.

## CLIMATE CHANGE

### *CUMULATIVE SETTING*

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. Climate change is a global problem caused by global pollutants and is inherently cumulative. Therefore, the cumulative setting for climate change is global, which is experiencing an existing adverse cumulative condition.

### *CUMULATIVE IMPACTS EVALUATION*

Sacramento County has established draft GHG thresholds for 2030. The project's build out year is 2032, for which the 2030 GHG thresholds were extrapolated in alignment with State GHG reduction targets. The 2032 GHG thresholds used in Chapter 7, "Climate Change" are 0.73 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>) per capita per year for residential energy, 4.28 MTCO<sub>2e</sub> per 1,000 square feet of nonresidential building area, and 1.47 MTCO<sub>2e</sub> per capita for transportation-related emissions. Development of the project would result in the production of GHG emissions during construction activities and throughout the operational period of the project, attributed to vehicle use, energy use, waste generation, water treatment and distribution, and other area sources. With the implementation of Mitigation Measures CC-1 and CC-2, the Mather South Project would reduce GHG emissions generated on-site. Through implementation of Mitigation Measure CC-3, the remaining GHG emissions exceeding applicable thresholds would be offset through the purchase of carbon credits.

It is important to note that the development of the Mather South in conjunction with surrounding future planned development would provide regional VMT reductions compared to the cumulative scenario with Mather South alone. The four large-scale development projects in unincorporated Sacramento County (i.e., Mather South, NewBridge Specific Plan, Jackson Township Specific Plan, and West Jackson Highway Master Plan) would provide additional community amenities (e.g., shopping, jobs, entertainment) and transportation networks that would support land uses development associated with the project, resulting in a decrease in VMT associated with Mather South. Based on the traffic study conducted for Mather South, the development of all four projects would result in a decrease in overall VMT associated with Mather South of 17 percent, in the future cumulative scenario when all projects are built out. Considering incorporated mitigation measures, future anticipated reductions in project-generated

VMT, and the continuation of GHG reducing State regulations, long-term operational GHG emissions are anticipated to be lower than those estimated in Chapter 7.

Incorporation of available mitigation measures would reduce project emissions to a less than significant level. Although an existing cumulative adverse condition exists, the project **would not result in a cumulatively considerable** contribution to an **existing adverse cumulative condition** and this impact would be **less than significant**.

## CULTURAL AND TRIBAL CULTURAL RESOURCES

### *CUMULATIVE SETTING*

The geographic scope of potential cumulative impacts related to cultural resources is the Plan Area and the immediate geographic area, including Sacramento County. Because all significant archaeological resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one archaeological site affects all others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. Therefore, because of past and current projects, cumulative impacts to cultural resources in Sacramento County are significant.

### *CUMULATIVE IMPACTS EVALUATION*

The Mather South Project would result in ground disturbing activities during project construction and has the potential to unearth previously unidentified cultural resources. However, Mitigation Measure CR-1 listed in Chapter 8, Cultural Resources, includes procedures to limit the effects of the project on unanticipated resource discoveries. With this mitigation the project would not result in a considerable contribution to a significant cumulative impact related to cultural resources. The project's cumulative impact would be **less than significant**.

## GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

### *CUMULATIVE SETTING*

Impacts on geology and soils are generally localized and do not result in regionally cumulative impacts. Unless a project would alter the soils and rock underlying other adjacent projects or affect surrounding land due to landslides, impacts related to geology, soils, and seismic hazards would be limited to the project site. The geographic scope of cumulative impacts related to geology, soils, or seismic hazards, therefore, includes only projects immediately adjacent to the project site. No significant cumulative geology or soils impacts are present in the project area.

The geographic scope of potential cumulative impacts related to paleontological resources is the Plan Area and the immediate geographic area, including Sacramento County. Because all significant paleontological resources are unique and nonrenewable

members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one paleontological site affects all others in a region because these resources are best understood in the context of the entirety of the system of which they are a part. The system is represented by the total inventory of all sites and other paleontological remains in the region. Therefore, because of past and current projects, cumulative impacts to paleontological resources in Sacramento County are significant.

#### *CUMULATIVE IMPACTS EVALUATION*

The Mather South Plan Area is not located within an active seismic fault area, nor is there topographical variation on the site that would make the Plan Area vulnerable to landslides. The Plan Area proposes land development over land containing valuable mineral resources which could be considered significant in a cumulative setting. However, the Mather Field Specific Plan allows for the continued access and use of mining resources. Additionally, the project would not result in the closure of adjacent mining resources. The Mather South Project would be constructed in accordance with the most recent version of the California Building Code, which includes construction and seismic safety requirements and recommendations contained in project-specific geotechnical reports. The project would also implement Chapter 10, Geology, Soils, and Paleontological Resources, Mitigation Measure GS-1 which would require protection for any discovered paleontological resources, thereby reducing cumulative impacts to less than significant.

It is anticipated, therefore, that any potential impacts associated with geologic, soil conditions, and paleontological resources could be mitigated within the Plan Area and other nearby project sites. The project would not result in a considerable contribution to the significant cumulative paleontological resources impact or such that a new significant cumulative geology and soils impacts would occur. Therefore, project impacts would be **less than significant**.

#### HAZARDS AND HAZARDOUS MATERIALS

##### *CUMULATIVE SETTING*

The general vicinity of Mather Airport was utilized for military operations for most of the 20<sup>th</sup> century and contains contaminated soils and groundwater from these past uses. Several studies analyzing the existing conditions at the former Mather AFB and Mather Field have been conducted since the 1980s and contaminated sites have been identified, with restrictions and measures developed, to address hazardous materials. Since 1982, approximately 89 contaminated sites have been identified within Mather Field as a result of aircraft fueling and maintenance activity, fire protection training, corrosion control, past disposal activities, and landfilling. Main contaminants include solvents, petroleum products, and various solid wastes. In addition, pesticides, herbicides, asbestos, polychlorinated biphenyls (PCBs), radon, ordnance, metals (including lead), low-level radioactive waste, landfill gases, and medical waste, which were used, stored, or generated as part of base operations have been identified as potential sources of contamination. Since Mather Field was operated as a federal

military installation, EPA, U.S. Department of Defense, U.S. Air Force, Cal EPA, and DTSC oversee hazardous substances investigations and remediation. While a majority of the contamination onsite has been identified and remediated, it is possible that pre-construction surveys could determine that new sources of contamination are present. Therefore, the existing cumulative setting is significant.

The Mather South Plan Area is located within an area where there are known regional cumulative groundwater impacts associated with offsite portions of the Mather AFB and the Aerojet facility. It is not expected that sites located within the Plan Area are responsible for contamination.

#### *CUMULATIVE IMPACTS EVALUATION*

The Mather South Project could exacerbate the existing soil and groundwater impacts within the Plan Area if it were to result in additional contamination on-site or increase the risk of hazardous materials exposure during the transport, use, and disposal of hazardous materials. However, the project would be required to comply with federal, state, and local hazardous materials regulations and codes monitored by the state and/or local jurisdictions and would implement Mitigation Measures HM-1, HM-2, HM-3, and HM-4 which would require the preparation of a site-specific Health and Safety Plan, conducting of soil sampling before construction activities begin, preparation of a contaminated soil contingency plan, and notification of future landowners of the potential for hazardous materials.

Similarly, other development projects considered in the cumulative analysis would each be required to implement similar regulations to mitigate project-level impacts. Therefore, the project would not result in a considerable contribution to a significant cumulative impact related to hazards. Cumulative impacts related to hazards and hazardous materials would be **less than significant**.

#### HYDROLOGY, DRAINAGE, WATER QUALITY

##### *CUMULATIVE SETTING*

The Mather South Project is in the eastern portion of the Morrison Creek Stream Group which ultimately feeds into the Beach Stone Lakes watershed and covers approximately 123,536 acres (Plate HY-7). The Beach Stone Lakes watershed is the cumulative watershed boundary for the evaluation of cumulative effects. Modeling for the Mather South Project indicates that an increase in runoff volume from the pre- to post-development condition is a result of the overall increase in the impervious cover that results from the change in grassland to developed site (i.e., pavement, roof and hardscape areas replacing grass and open space areas). The increased volume of runoff would be conveyed downstream by the Morrison Creek systems to the Beach Stone Lakes watershed, which experiences mild flooding in the existing pre-development condition. When considered in a cumulative condition, nearby projects including the New Bridge, Jackson Township, and West Jackson projects would also exacerbate the existing flooding within the Beach Stone Lakes watershed (MacKay &

Somps, 2018) through the conveyance of addition volume of runoff. This is an existing significant cumulative impact.

#### *CUMULATIVE IMPACTS EVALUATION*

The Mather South Project would result in an increase in runoff volume from existing conditions by approximately 123.3 acre-feet in a 100-year/10-day design event. Modeling for the New Bridge and Mather South Project indicates that the resulting increase in downstream flooding would result in approximately ¼ inch increase during flood events (MacKay & Somps 2018). It can also be assumed that all new development in the upstream watershed would result in incremental runoff above existing conditions and would contribute to increases in flooding in the Beach Stone Lakes area, exacerbating the existing flood conditions in the area. Sacramento County has adopted a long-range plan to mitigate for the effects of additional flooding in the area. The County adopted Resolution WA-2898 to update the fees associated with development in several watersheds that are known to have flooding issues. It resulted in an increase in fees within the Morrison Creek Stream Group to mitigate cumulative downstream flooding issues within the Beach Stone Lakes Area. The County collects and manages the mitigation fees which will be used to construct appropriate drainage and retention facilities to help mitigate the current cumulative flooding condition. Mather South and other nearby cumulative projects would be required to implement Mitigation Measure HY-2 in Chapter 12, Hydrology and Water Quality (payment of the fees), which would over time reduce the severity of the impact. However, the timing of completion of flood protection projects in the Beach Stone Lakes/Point Pleasant area or implementation of regional flood volume storage solutions is unknown. Therefore, the project would result in a considerable contribution to this significant cumulative impact. Cumulative impacts would be **significant and unavoidable**.

#### LAND USE

##### *CUMULATIVE SETTING*

The Mather South Project is in an undeveloped area within eastern Sacramento County and is surrounded by rural and undeveloped property that is currently being planned for development. The Plan Area is within a general plan designation, community plan, and zoning designation that indicates it is planned for future development (i.e., Urban Development Area, Cordova Community Plan, and Special Planning Area). The Mather South Project is consistent with the existing land use designation, community plan policies, and zoning district, and would amend the Mather Field Specific Plan to align the future land uses of the Plan Area with the specific plan.

##### *CUMULATIVE IMPACTS EVALUATION*

Land use policy is set at the local level and is guided by general plans and other policies and regulations. Although the project would result in changes to the zoning and use of the site that would increase development density, such changes would be generally consistent with the Mather Field Specific Plan which currently guides development on the site. Because the Plan Area is in an area designated for development (i.e.,



designated Urban Development Area), implementation of the project would not result in a significant cumulative impact related to land use. Further, the Plan Area is within an area of Sacramento County that is planned for growth but would not physically divide any existing communities. Therefore, the project would not result in a considerable contribution such that a new significant cumulative impact would occur. Cumulative project impacts are **less than significant**.

## NOISE

### *CUMULATIVE SETTING*

The geographic area considered for cumulative impacts regarding noise levels is Sacramento County, including several incorporated cities within Sacramento County that are in the vicinity. Rancho Cordova is directly east of the Plan Area, across the Folsom Canal. The City of Sacramento is approximately 6 miles west of the Plan Area. The City of Folsom is approximately 14 miles north of the Plan Area. The cumulative evaluation also includes the New Bridge, West Jackson, and Jackson Township projects. The projects and their associated traffic volume impacts were taken into consideration for the Traffic Impact Analysis conducted for this EIR and have been included in this cumulative noise analysis. Consistent with the TIA analysis, the cumulative noise analysis also takes into consideration development forecasts for the County included in SACOG's 2012 Metropolitan Transportation Plan (MTP) including anticipated development projects within incorporated cities in the County.

Based on information in the 2013 Mather Airport Master Plan, airport activity is anticipated to increase over the buildout period of the project. However, because Mather Airport serves as a commercial and cargo carrier airport, project implementation would not cumulatively contribute to future airport activity. Therefore, the primary factors analyzed in the cumulative impact analysis are cumulative traffic noise levels and potential noise and vibration impacts from cumulative construction activity.

### *CUMULATIVE IMPACTS EVALUATION*

#### **CONSTRUCTION NOISE AND VIBRATION**

In addition to the Mather South Project, the New Bridge, Jackson Township, and West Jackson projects are being processed by the County and are, therefore, reasonably foreseeable projects to be included in this evaluation. All three master and specific plans are in close proximity to the project site; however, only the New Bridge Specific Plan is located adjacent to the project boundary and is anticipated to result in potential cumulative noise impacts from construction activity. The New Bridge Specific Plan is located directly south of the project site, along the south side of Kiefer Boulevard. Considering the long-term implementation period of both the Mather South Project and the New Bridge development, the exact timing of when land uses would be developed is unknown. It is assumed that the development of land uses related to the New Bridge project could be under development during the same time or after buildout of the Plan Area. Noise sensitive land uses (residential) are planned for areas of the Plan Area directly north of the New Bridge Specific Plan area. Given the proximity of the New

Bridge Specific Plan to the Plan Area, cumulative impacts from construction-generated noise could result if construction activities generated by both projects were to take place within close proximity and simultaneously. Implementation of MM NOI-1 would serve to reduce day and nighttime construction noise levels by ensuring proper equipment use; locating equipment away from sensitive land uses; and requiring the use of enclosures, shields, and noise curtains (noise curtains typically can reduce noise by up to 10 dB [EPA 1971]). However, as allowed under the Sacramento County Noise Ordinance, circumstances may occur when construction activity in the Plan Area would occur during nighttime hours when people are easily disturbed and would result in substantial increases in noise. Therefore, even with the mitigation measure in place, construction activity could expose people to noise levels which would cause disturbance and a significant impact would occur.

Vibration associated with construction activities is of primary concern within proximity of sensitive land uses. At increasing distances from the source, vibration levels dissipate rapidly and have less potential to cause disturbance to people or damage to structures. Vibration generated from construction is typically associated with pile-driving activities. These activities only occur during discrete phases of construction with pile-driving activities occurring for brief and intermittent periods of time. In consideration of other large development projects and plans anticipated for future development, vibration impacts would remain local and would not combine with vibration source from other construction activities even if construction activities at other future development were to occur simultaneously with project construction activities.

In consideration of the other large development projects which may occur simultaneously to development of the Mather South Project, cumulative construction activities associated with the projects could result in a substantial temporary or periodic noise increases and further contribute to the substantial increase in construction noise. The combined level of construction activity associated with the Mather South Project and other projects would add to the overall disruptive nature of construction noise over a period lasting many years, regardless of whether the noise is exempt by the Sacramento County Noise Ordinance. Although the Mather South Project would include mitigation to reduce construction noise, the anticipation of construction activity associated with the various master and specific plans near the Plan Area, would result in a cumulatively considerable contribution to a new significant cumulative impact. Additionally, because no additional mitigation is available to reduce construction activity associated with the other plans discussed above, the project's cumulative impact would be **considerable and significant and unavoidable**.

### **STATIONARY NOISE SOURCES**

The Mather South Project would result in land uses that include stationary noise sources such as noise from HVAC units, electrical generators, parking lots, commercial loading docks. The project would also include the development of one new electrical substation within the Plan Area and associated transmission lines. The southern boundary of the Mather South Project is Kiefer Boulevard. The New Bridge Specific Plan project is located directly south of the Plan Area and is considered in this cumulative analysis because of the proximity. Land uses in the Newbridge Specific Plan

development would be developed along the south side of Kiefer Boulevard, and would include medium- to high-density residential, public/quasi-public, and commercial land uses. Although detailed site plans are not available at this time, this analysis assumes that stationary noise sources such as noise from HVAC units, electrical generators, parking lots, commercial loading docks would be included. Implementation of Chapter 14, "Noise," Mitigation Measure NO-4 would reduce impacts related to stationary noise sources through the implementation of site design and avoidance features. However, the specific location of new stationary equipment is unknown, so impacts could still exceed the County's non-transportation noise standard for outdoor noise sensitive areas. As a result, implementation of the Mather South Project in the cumulative condition could result in a cumulatively considerable contribution to a new significant cumulative impact near Kiefer Boulevard. Therefore, the Mather South Project's contribution to this new impact would be **considerable and significant and unavoidable**.

### TRAFFIC NOISE

The projects listed in the Cumulative Settings section above are anticipated to contribute to cumulative traffic volume increases within Sacramento County and would result in subsequent increases in traffic noise levels along affected roadways. Specifically, the New Bridge, Jackson Township and Jackson Highway master and specific plans are anticipated to be developed near the Plan Area. Because of the buildout of these plans as well as other cumulative development in the County, vehicular traffic volumes would increase and result in a cumulative increase in traffic noise levels along affected roadways.

The cumulative development of the plans and projects, excluding the Mather South Project, would result in increases in traffic-related noise levels along roadways which experience traffic volume increases. Under the cumulative conditions, which includes the Mather South Project, traffic noise levels would be furthered increased by traffic volume increases generated by the development of the Mather South Project. Under these conditions, the traffic contributions from the Mather South Project would increase noise levels above the applicable incremental increase thresholds established in Chapter 14, "Noise."

For a scenario in which all cumulative projects aside from the Mather South Project were developed and noise sensitive land uses were built along Kiefer Boulevard between Douglas Road and Sunrise Boulevard as part of the New Bridge Specific Plan and Jackson Highway Specific Plan, development of the Mather South Project's cumulative contribution to traffic volumes would increase traffic noise levels above applicable incremental increase threshold of 1.5 dB established in Table NO-2. Thus, a cumulative impact regarding long-term traffic exists and the cumulative plus project would result in additional substantial (i.e., 1.5 dB) increases in traffic noise levels. Implementation of Chapter 4, "Air Quality," Mitigation Measure AQ-2 would result in the implementation of an air quality management plan which would incorporate traffic calming measures, resulting in less traffic noise by reducing the amount of vehicle miles traveled. Use of the neighborhood electric vehicle (NEV) network by project residents would serve shorter trips within the Plan Area, reducing traffic volumes on roadways

outside the Plan Area. The traffic calming measures would encourage alternative modes of transportation such as biking and walking for shorter trips and would also serve to reduce traffic volumes on roadways outside the Plan Area. The County would also require that each project implement the following Mitigation Measure in order to further reduce traffic noise associated with the development of the Jackson Corridor projects.

### **MITIGATION MEASURES**

**CU-NOI-1.** Use rubberized hot-mix asphalt for all offsite road widening projects implemented as part of the Mather South, NewBridge, Jackson Township or West Jackson plans.

- Projects are required to pave offsite segments of roadway with rubberized hot-mix asphalt (RHMA) or equivalent surface treatment with known noise-reducing properties on top of the roadway surface. The RHMA overlay shall be designed with appropriate thickness and rubber component quantity (typically 15 percent by weight of the total blend), such that traffic noise levels are reduced by an average of 4 to 6 dB (noise levels vary depending on travel speeds, meteorological conditions, and pavement quality) as compared to noise levels generated by vehicle traffic traveling on standard asphalt. RHMA has been found to achieve this level of noise reduction in other parts of California (Sacramento County 1999). Pavement will require more frequent than normal maintenance and repair to maintain its noise attenuation effectiveness.

Given the long buildout period of the Mather South Project and other projects in the cumulative condition, the unknown traffic reductions credited to Mitigation Measure AQ-2 and the noise reductions associated with CU-NOI-1, timing of development for future development projects and specific building location and orientation of new receptors (and thus noise exposure levels), and the extent of future traffic-noise increases, the project would result in a cumulatively considerable contribution to a new significant cumulative impact. The cumulative impact would be **considerable and significant and unavoidable**.

## PUBLIC SERVICES

### *CUMULATIVE SETTING*

The Mather South Project is in eastern Sacramento County, in a largely undeveloped and rural area. Law enforcement services are provided by Sacramento County Sheriff's Department; Fire protection services are provided by Sacramento Metropolitan Fire Department; School services are provided by Elk Grove Unified School District; Parks and recreation services are provided by Cordova Recreation and Parks District; and Library services are provided by Sacramento Public Libraries. Potential impacts to public services are generally regulated by policies in the general plan, such that the cumulative contribution of the project to local demand for public services is considered. Payment of school facility mitigation fees would address impacts on the provision of adequate school facilities, and specific school facility developments would be subject to

environmental review on a project-by-project basis. Because the projects identified in Table 19-1 would be subject to standards similar to those described for the project, no cumulative adverse impact to public services is expected.

#### *CUMULATIVE IMPACTS EVALUATION*

The Mather South Project would construct adequate public services facilities and infrastructure consistent with anticipated demand of new residents and employees. Payment of fees for schools and construction of a fire station would mitigate any impacts to those services, while payment of property taxes would fund additional law enforcement service, and libraries as needed. The project would construct approximately 44 acres of parks and recreational uses. The project also includes an infrastructure financing plan to fund the construction of all required facilities. The Mather South Project has been reviewed by service providers and concluded to be mitigated appropriately as described in Chapter 15, Public Services. The project-level analysis concludes that the project can be adequately served, and the project does not contribute to any cumulative degradation of service. Therefore, the project's cumulative contribution would not be considerable and impacts would be **less than significant**.

#### PUBLIC UTILITIES

##### *CUMULATIVE SETTING*

The Mather South Project is in the service area of Sacramento Area Sewer District and the Sacramento Regional County Sanitation District. Wastewater is routed to the Sacramento Regional Wastewater Treatment Plant (SRWTP) before it is treated and discharged into the Sacramento River. There is currently capacity within the regional wastewater infrastructure and additional capacity will come online by 2023 with the addition of the Echowater Project, as described in Chapter 16, Public Utilities. Solid waste processing services are provided by the Sacramento County Department of Waste Management and Recycling. Kiefer Landfill would serve the solid waste disposal needs of the project residents, and the permitted landfill capacity is anticipated to serve the County's needs through 2064, including future growth. There is not an existing cumulative impact related to public utilities.

##### *CUMULATIVE IMPACTS EVALUATION*

The on-site and off-site sewer infrastructure described in the Mather South Community Master Plan for the project are designed to handle cumulative conditions, and the analysis concludes that capacity would be sufficient. The project would connect to the recently approved trunk extension which would provide access to the SRWTP, which has existing capacity to serve the project's wastewater needs. On a cumulative basis, there is immediately available wastewater capacity to serve the project and reasonably foreseeable development. Direct project impacts would be less than significant and the project would not result in a cumulatively considerable contribution to a new significant cumulative impact. Therefore, project-related cumulative impacts would be less than significant.

Similarly, solid waste disposal would be provided by Kiefer Landfill, and it has a remaining permitted capacity of 113 million cubic feet of landfill space. The project would generate approximately 9,855 tons per year. Therefore, the Mather South Project would not result in a considerable contribution to a new significant cumulative impact. Therefore, project-related cumulative impacts would be **less than significant** for public utilities.

## TRANSPORTATION AND TRAFFIC

### *CUMULATIVE SETTING*

This cumulative impact assessment relies on existing and future land development projections, reasonably foreseeable transportation improvements that are contained in adopted local general plans and regional transportation plans, and reasonably foreseeable development projects. Specifically, this analysis addresses the combined potential effects of the development of Mather South, New Bridge, Jackson Township, and West Jackson projects (referred to collectively as the Jackson Corridor Projects) and the portion of those impacts attributed to the Mather South Project on cumulative transportation and circulation conditions.

As was described in Chapter 17, "Traffic and Circulation," the Jackson Corridor Projects are located adjacent to each other along the Jackson Road corridor. Because of this proximity and the relatively concurrent entitlement process, County staff and the applicants collaborated to conduct traffic analysis that would evaluate the transportation related impacts of each individual project as stand-alone projects, as well as the transportation impacts of all four projects combined. Substantial coordination with the applicants and adjacent jurisdictions, including the cities of Sacramento, Rancho Cordova, Elk Grove, and Folsom in addition to Caltrans and the Capital Southeast Connector Joint Powers Authority, led to agreement on the area to be studied for transportation impacts. The resulting study area includes 261 roadway segments and 164 intersections within an area bounded by US 50 on the north, Calvine Road on the south, Power Inn Road on the west, and Grant Line Road on the east.

Utilizing a joint analysis methodology provides a better understanding of the travel demand associated with all Jackson Corridor Projects combined and determines the number of vehicles each project contributes towards the total traffic flow as a fair share percentage on each study roadway segment and intersection. The transportation impact report (Appendix TR-1) prepared to support Chapter 17, "Traffic and Circulation," provides additional information related to trip generation and traffic flow with implementation of the Jackson Corridor Projects.

The following describes each of the three cumulative scenarios that were evaluated.

### **CUMULATIVE NO PROJECT SCENARIO**

This scenario analyzes conditions for a cumulative scenario in year 2035, which includes reasonably foreseeable land uses and planned transportation improvement projects near the Plan Area, without implementation of the Jackson Corridor Projects.

The horizon year of the cumulative scenario (2035) is consistent with the horizon year of the 2012 Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), which considers population and employment forecasts, adopted land use plans (i.e., general plans), and funded transportation projects that are anticipated to occur within the stated time frame. The 2012 MTP/SCS was used for consistency among the Jackson Corridor Projects' transportation impact analysis because it was the adopted MTP/SCS at the time the Joint Traffic Study began in April 2013. The MTP/SCS is updated every four years and is currently being updated.

SACOG's 2035 development forecasts (the amount and location of housing and employment) for the adopted 2012 MTP/SCS were used to prepare travel demand forecasts for the Cumulative No Project scenario. In addition, full build out of all reasonably foreseeable development projects was assumed within the study area. Appendix TR-1 provides a comprehensive list of the major developments in the area assumed to be build-out in the Cumulative No Project scenario.

### ***TRANSPORTATION NETWORK***

**Plate CU-1** illustrates the transportation network associated with the Cumulative No Project scenario. Outside of the Jackson Corridor Projects area, the transportation network for this scenario consists of the identified 2035 improvements in the adopted 2012 MTP/SCS. **Plate CU-2** illustrates the resultant traffic operating conditions associated with the Cumulative No Project scenario.

### **CUMULATIVE PLUS JACKSON CORRIDOR PROJECTS SCENARIO**

The Cumulative plus Jackson Corridor Projects scenario is the cumulative scenario upon which the Cumulative plus Mather South Project is based. The Cumulative plus Jackson Corridor Projects scenario evaluates the travel demand of the Jackson Corridor Projects combined and added to Cumulative No Project conditions. Thus, the Cumulative plus Jackson Corridor Projects scenario identifies impacts of the Jackson Corridor Projects, for which the Mather South Project contributes. This scenario analyzes cumulative conditions (year 2035) with implementation of the Jackson Corridor Projects, which includes the Mather South Project, and includes forecasted land uses and transportation improvement projects within the overall Jackson Corridor Projects study area that would occur by year 2035. The 20-year horizon was selected in accordance with the horizon year of the 2012 MTP/SCS.

The Jackson Corridor Projects are located adjacent to each other along the Jackson Road corridor (**Plate CU-3**). Utilizing a joint traffic analysis in this case results in a common baseline for existing conditions between all four Jackson Corridor Projects, provides a better understanding of the travel demand associated with all Jackson Corridor Projects combined, and allows the County to determine the number of vehicles each project contributes towards the total traffic flow as a fair share percentage on each study roadway segment and intersection. Although a joint traffic analysis was conducted, a project-specific report was prepared for each master plan project to identify project-specific impacts and mitigation measures.



**TRANSPORTATION NETWORK**

**Plate CU-4** illustrates the transportation network associated with the Cumulative plus Jackson Corridor Projects scenario. As described in Chapter 17, Traffic and Circulation, The Jackson Corridor Projects would construct new roadways within the individual project sites and widen many existing roadways within or on the borders of the individual project sites.

Within the Jackson Corridor Projects study area, roadway improvements beyond those in the MTP/SCS are included, which would be fully funded by the developments assumed in this scenario or by other committed funding sources. The identified roadway improvements and the number of roadway lanes for the Cumulative Plus Jackson Corridor Projects scenario was developed in coordination with Sacramento County.

The Jackson Corridor Projects include substantial amounts of higher density and mixed uses to help support transit use; however, transit service within walking distances of those uses is required to achieve a significant transit ridership. An accurate estimation of transit use requires the identification of specific transit routes and frequency of service on those routes. As described in Chapter 17, Traffic and Circulation, a separate planning effort, involving staff from Sacramento County and SacRT, was conducted to define an appropriate transit system for the transportation analysis.

**Plate CU-5** shows the assumed transit routes for the Cumulative Plus Jackson Corridor Projects scenario. The assumed transit routes, service frequency, and supporting infrastructure (i.e., queue jumps) would be required at full development of the Jackson Corridor Projects. Additionally, to provide adequate transit service during the early stages of development, the transit system is required to be phased with development of the Jackson Corridor Projects.

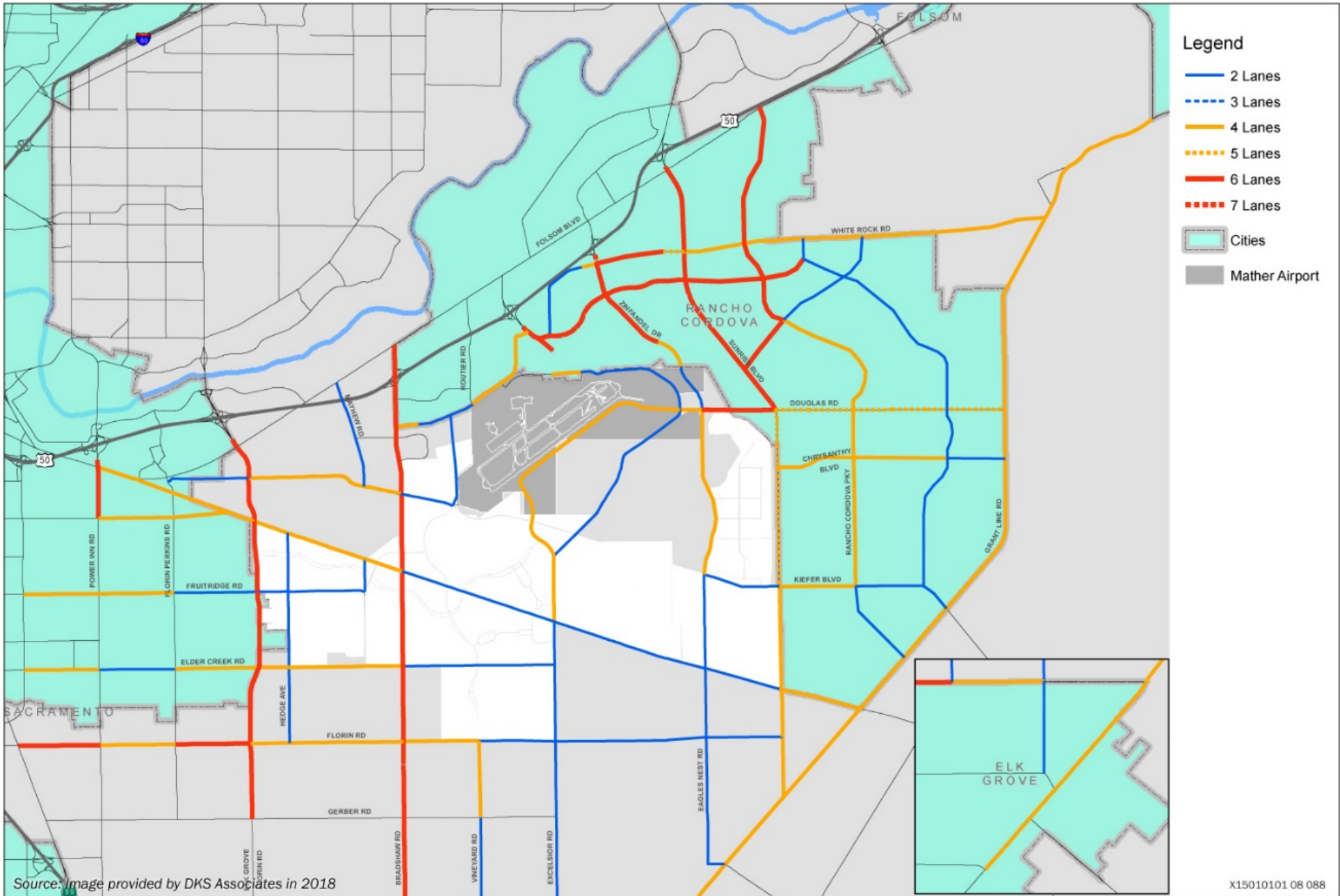


Plate CU-1: CEQA Cumulative No Project Roadway Network



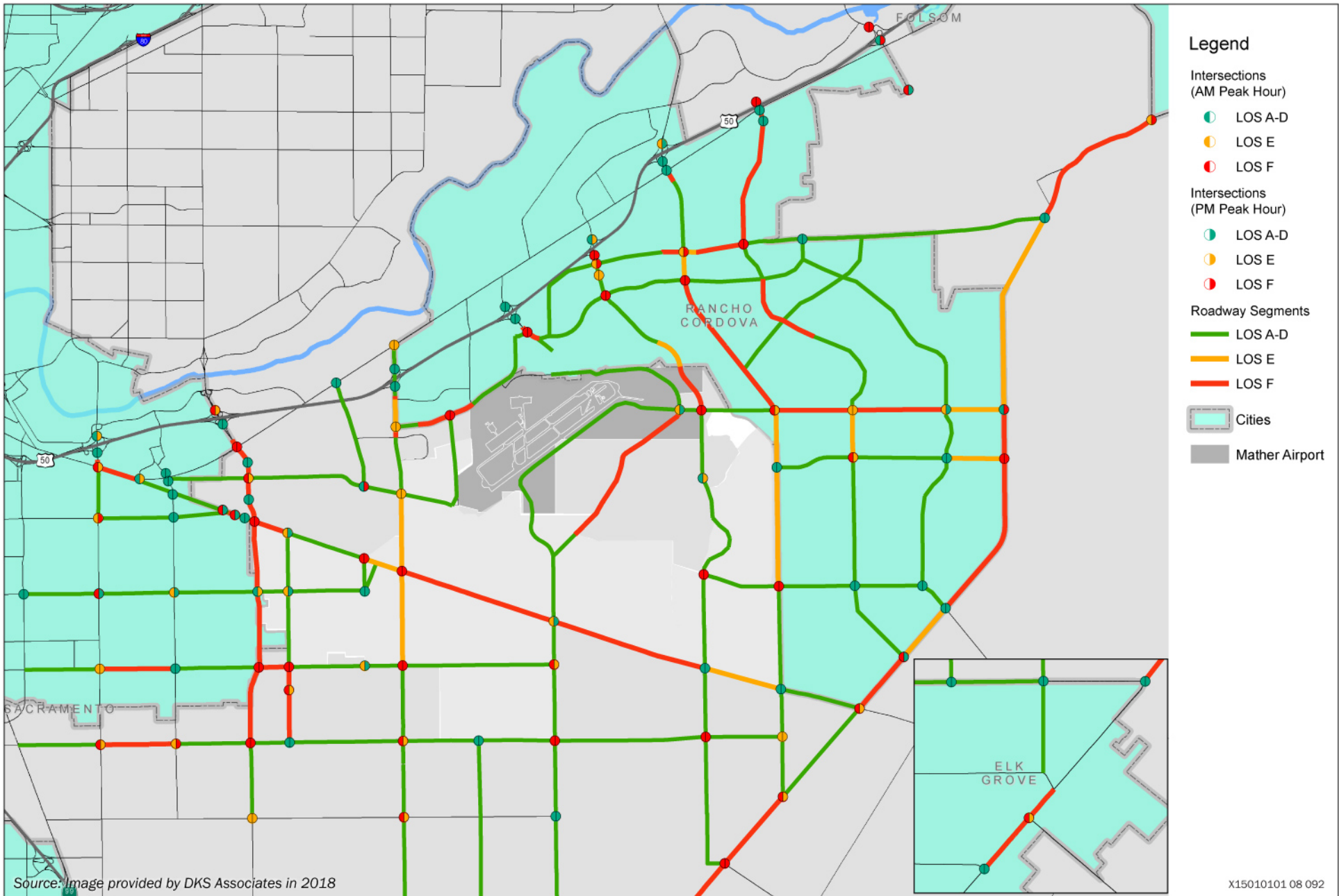
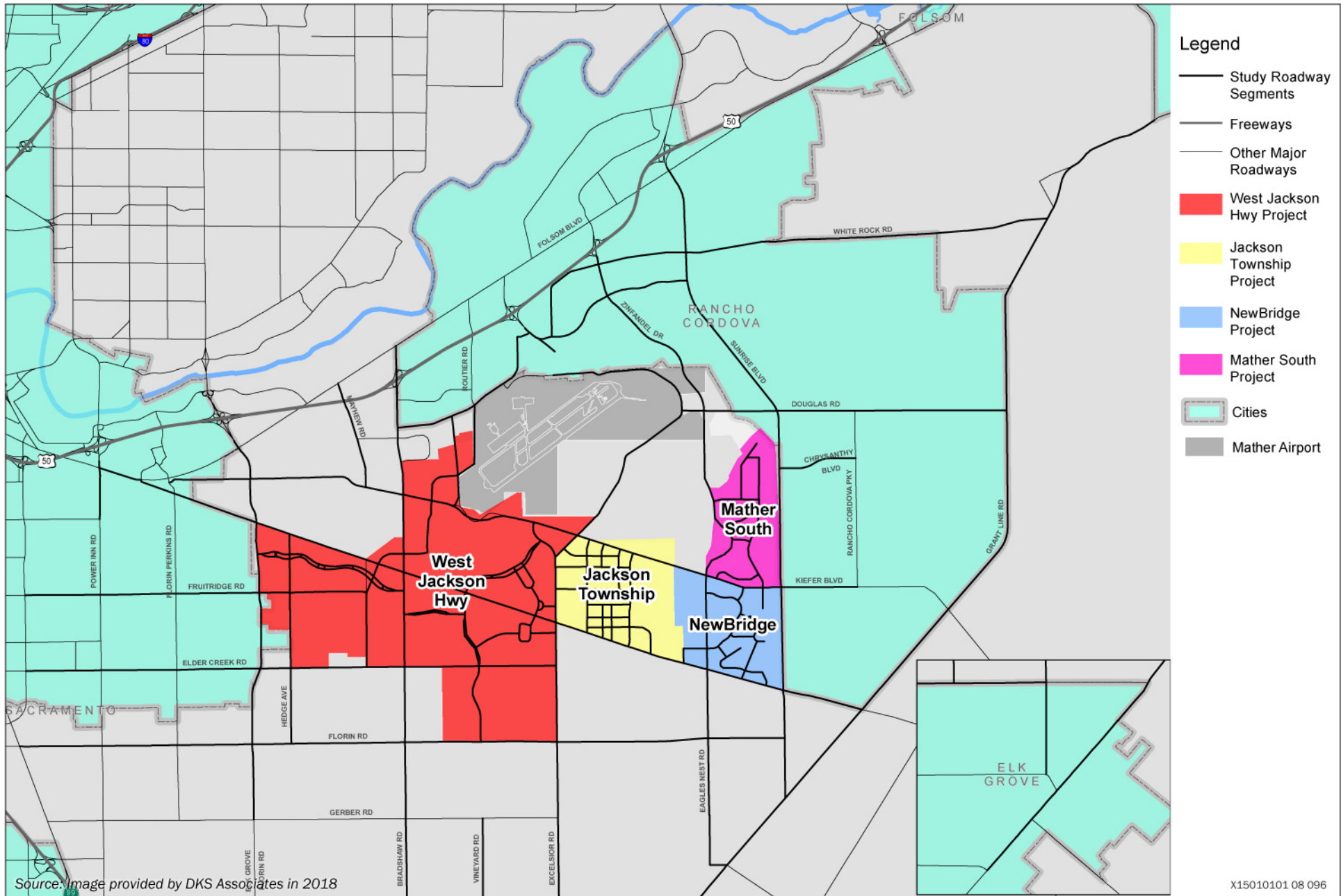


Plate CU-2: CEQA Cumulative No Project – Roadway Segment and Intersection LOS

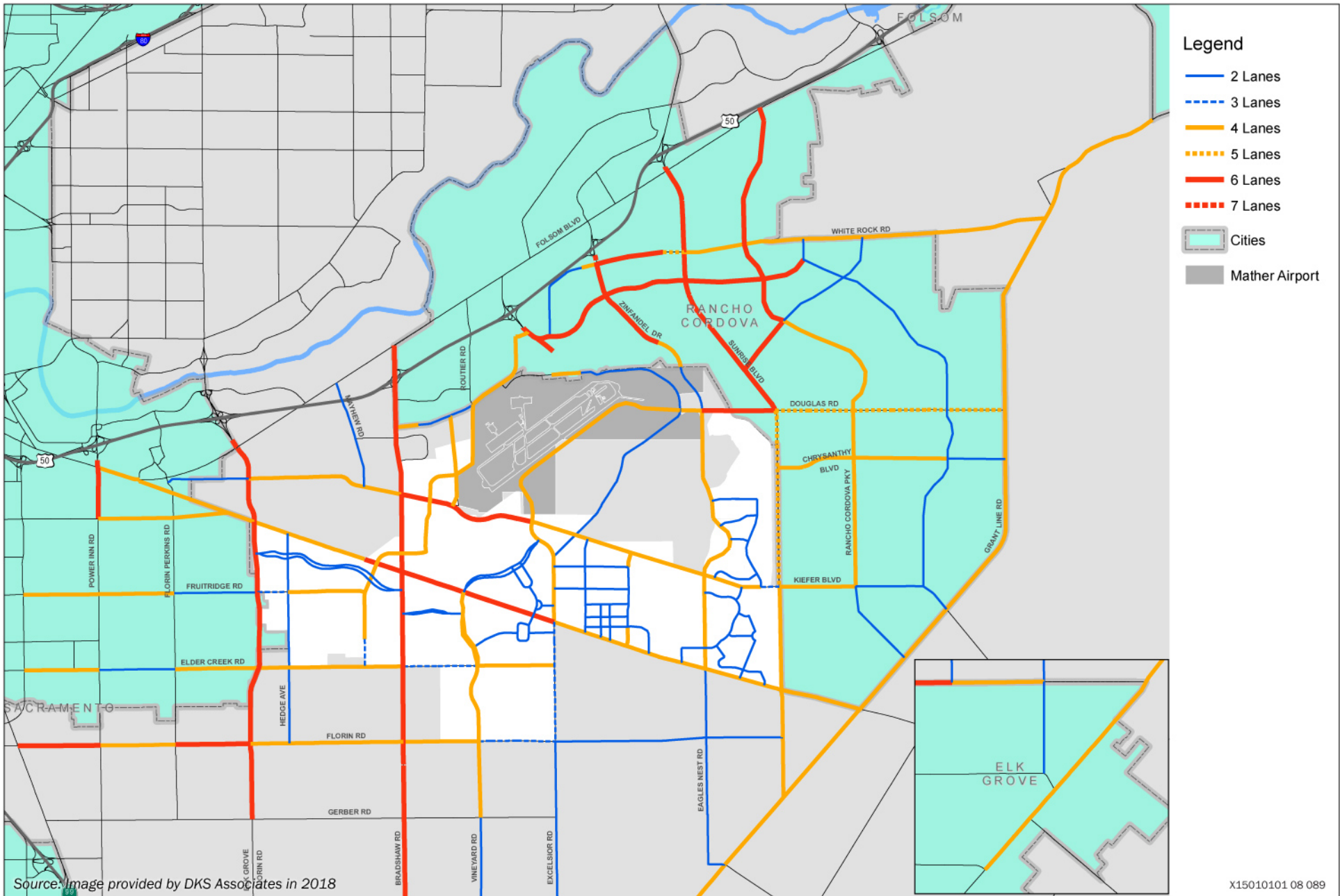




**Plate CU-3: Jackson Corridor Projects Project Location**

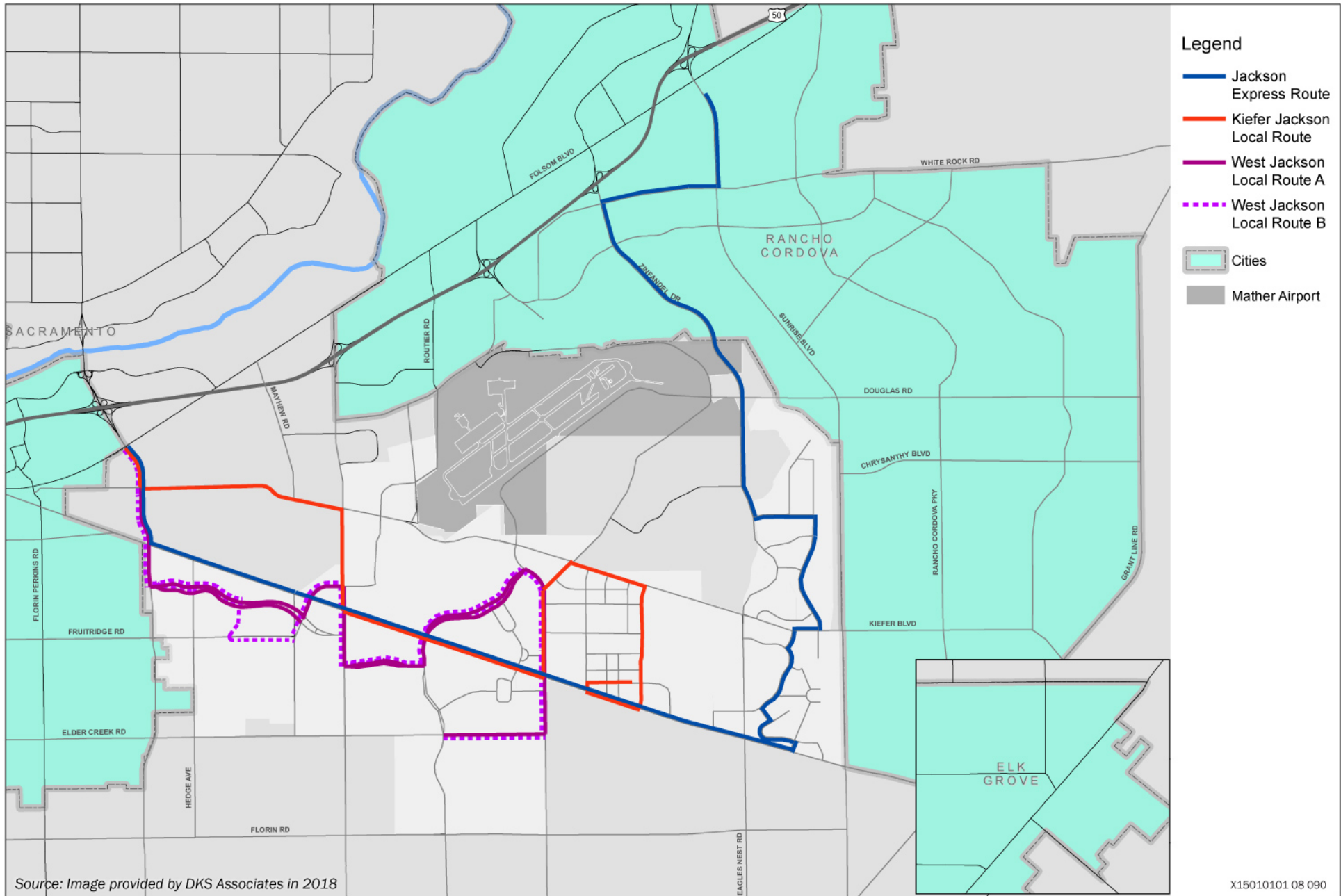






**Plate CU-4: Cumulative Plus Jackson Corridor Projects Roadway Network**





Source: Image provided by DKS Associates in 2018

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**Plate CU-5: Cumulative Plus Jackson Corridor Projects – Project Transit Network**



**TRIP GENERATION**

The SACSIM model was utilized to estimate trip generation of the Jackson Corridor Projects. **Table CU-1** summarizes the person trip generation. The Jackson Corridor Projects would generate over 86,000 daily work person trip ends, and over 730,000 daily person trip ends for all trip purposes.

**Table CU-1: Estimated Daily Person Trip Generation  
(Cumulative plus Jackson Corridor Projects Scenario)**

Project	Trip Purpose	Daily Person Trip Ends
Jackson Corridor Projects	Work Trips	86,484
	Non-Work Trips	643,573
	All Trip Purposes	730,057
Source: DKS Associates 2018		

**Table CU-2** summarizes the estimated mode choice for the Cumulative Plus Jackson Corridor Projects scenario. Over 90 percent of all person trips are expected to be accommodated by automobile. Transit would serve about 1.9 percent of all trips, while walk and bike modes would accommodate about 6.9 percent of all trips. The mode choice assumes full implementation of the project's pedestrian and bicycle systems.

**Table CU-3** summarizes the vehicular trip generation of the Jackson Corridor Projects. The Jackson Corridor Projects are estimated to generate nearly 498,000 daily vehicle trip ends. Over 62,700 of the daily vehicle trip ends would be associated with trips with both an origin and destination within the individual projects, about 12.6 percent of the trip ends. The internal trip ends represent over 31,000 daily vehicle trips (one-half the number of internal trip ends). The Jackson Corridor Projects would generate about 435,000 external vehicle trips that have an origin or destination inside one of the Jackson Corridor Projects but the other end of the trip would occur outside of the project from which it originated. **Table CU-3** also shows the vehicle trips generated during the a.m. and p.m. peak hours.

**Table CU-2: Mode Split (Cumulative plus Jackson Corridor Projects Scenario)**

Project	Mode	Percentage of Person Trips by Trip Purpose		
		Work Trips	Non-Work Trips	All Trip Purposes
Jackson Corridor Projects	Auto - SOV	83.4%	48.2%	52.4%
	Auto - HOV	10.3%	42.6%	38.8%
	Transit	4.1%	1.6%	1.9%
	Walk	1.2%	6.7%	6.0%
	Bike	0.9%	0.9%	0.9%
Source: DKS Associates 2018				



**Table CU-3: Estimated Daily Vehicle Trip Generation  
(Cumulative plus Jackson Corridor Projects Scenario)**

Trip Type		A.M. Peak Hour	P.M. Peak Hour	Daily
Total Vehicle Trip Ends		42,469	68,316	497,930
Percent Internal Trip Ends <sup>1</sup>		15.9%	22.5%	19.2%
Vehicle trips	Internal to Project	3,384	7,673	47,725
	External to Project	35,700	52,970	402,480
	Total	39,084	60,643	450,205
<sup>1</sup> Both trip ends within the project. Source: DKS Associates 2018.				

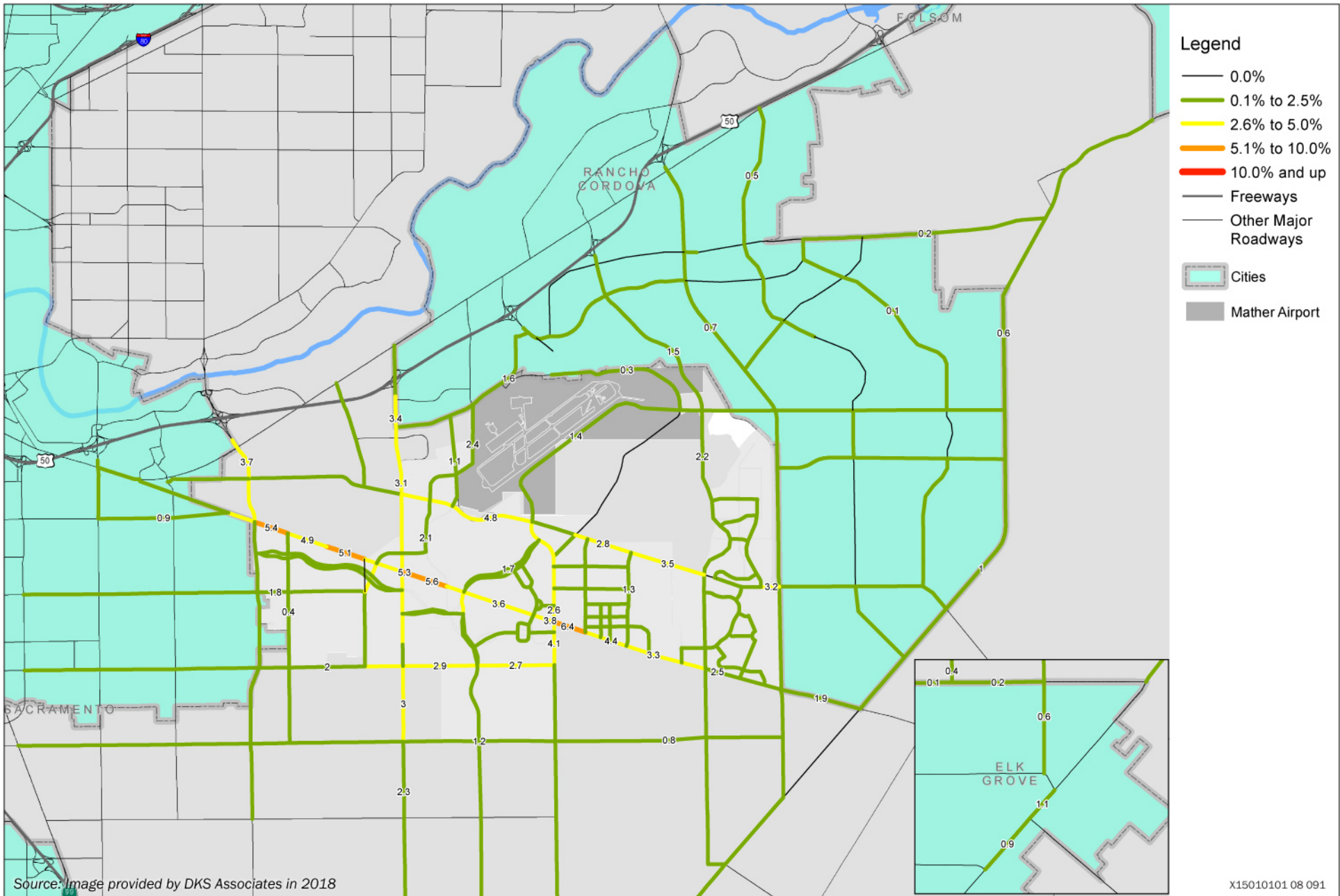
### **TRIP DISTRIBUTION**

The distribution of trips associated with development of the Jackson Corridor Projects was derived utilizing SACSIM and incorporating the proposed land use and access locations associated with the Jackson Corridor Projects. Trip distribution varies by land use and time period. **Plate CU-6** illustrates the overall trip distribution of daily Jackson Corridor Projects trips in the Cumulative Plus Jackson Corridor Projects scenario. The highest percentage of Jackson Corridor Projects traffic would travel along Jackson Road, Bradshaw Road, Kiefer Boulevard, and Vineyard Road.

### **CUMULATIVE PLUS MATHER SOUTH PROJECT SCENARIO**

The analysis of the Cumulative Plus Mather South Project scenario assumes that the other three projects that make up the Jackson Corridor Projects would be developed and analyzes cumulative conditions (year 2035) with implementation and buildout of the Mather South Project based upon the analysis of the Cumulative Plus Jackson Corridor Projects scenario. This scenario includes a detailed transportation and traffic analysis to understand the cumulative effects directly attributed to the Mather South Project.

The SACSIM travel model was utilized to estimate the portion of the Jackson Corridor Projects traffic that is attributed to the Mather South Project. With this information, the significant impacts triggered by the Mather South Project were identified. It should be noted that, even at locations where the Mather South Project on its own would not trigger a significant impact, the Mather South Project contributes to the cumulative impacts associated with the Cumulative Plus Jackson Corridor Projects scenario.



**Plate CU-6: Cumulative Plus Jackson Corridor Projects - Trip Distribution**



**TRIP GENERATION**

The trip generation of the Mather South Project was estimated using the SACSIM model. **Table CU-4** summarizes the person trip generation. The Mather South Project would generate over 7,000 daily work person trip ends, and nearly 80,000 daily person trip ends for all trip purposes.

**Table CU-4: Estimated Daily Person Trip Generation  
(Cumulative Plus Mather South Project Scenario)**

Project	Trip Purpose	Daily Person Trip Ends
Mather South	Work Trips	7,045
	Non-Work Trips	72,934
	All Trip Purposes	79,979

Source: DKS Associates 2018

**Table CU-5** summarizes the estimated mode choice for the Mather South Project. Almost 90 percent of all person trips would be expected to be accommodated by automobile. Transit would serve about 2.0 percent of all trips, while walk and bike modes would accommodate about 8.4 percent of all trips.

**Table CU-5: Mode Split (Cumulative Plus Mather South Project Scenario)**

Project	Mode	Percentage of Person Trips by Trip Purpose		
		Work Trips	Non-Work Trips	All Trip Purposes
Mather South	Auto - SOV	83.7%	50.5%	53.4%
	Auto - HOV	11.3%	38.7%	36.3%
	Transit	2.7%	1.9%	2.0%
	Walk	1.5%	7.5%	7.0%
	Bike	0.9%	1.4%	1.4%

Source: DKS Associates 2018

**Table CU-6** summarizes the vehicular (auto) trip generation of the Mather South Project. The Mather South Project is estimated to generate over 54,000 daily vehicle trip ends. About 3,500 of the daily vehicle trip ends would be associated with trips with both an origin and destination within the Mather South Project, about 13 percent of the trip ends. Those internal trip ends represent about 1,750 daily vehicle trips (one-half the number of internal trip ends). The Mather South Project would generate over 47,000 external vehicle trips that have an origin or destination inside the Mather South Project but the other end of the trip is outside the Mather South Project. **Table CU-6** also shows the vehicle trips generated during the a.m. and p.m. peak hours.

**Table CU-6: Estimated Daily Vehicle Trip Generation  
(Cumulative Plus Mather South Project Scenario)**

Mather South Project Trip Type		A.M. Peak Hour	P.M. Peak Hour	Daily
Total Vehicle Trip Ends		5,225	7,170	54,222
Percent Internal Trip Ends <sup>1</sup>		14.4%	13.8%	13.0%
Vehicle trips	Internal to Project	377	497	3,524
	External to Project	4,471	6,177	47,175
	Total	4,848	6,673	50,698
<sup>1</sup> Both trip ends within the project. Source: DKS Associates 2018				

***TRIP DISTRIBUTION***

The distribution of trips associated with development on the Mather South Project site was derived utilizing SACSIM, incorporating the proposed land use and access locations associated with the Mather South Project site. Trip distribution varies by land use and time period. **Plate CU-7** illustrates the overall trip distribution of daily Mather South Project trips.

***DYNAMIC IMPLEMENTATION TOOL***

As described in Chapter 17, Traffic and Circulation, the County has developed and will use the Dynamic Implementation Tool to select appropriate, fair-share mitigation requirements for each project within the Jackson Corridor. Please refer to Chapter 17 for additional details.

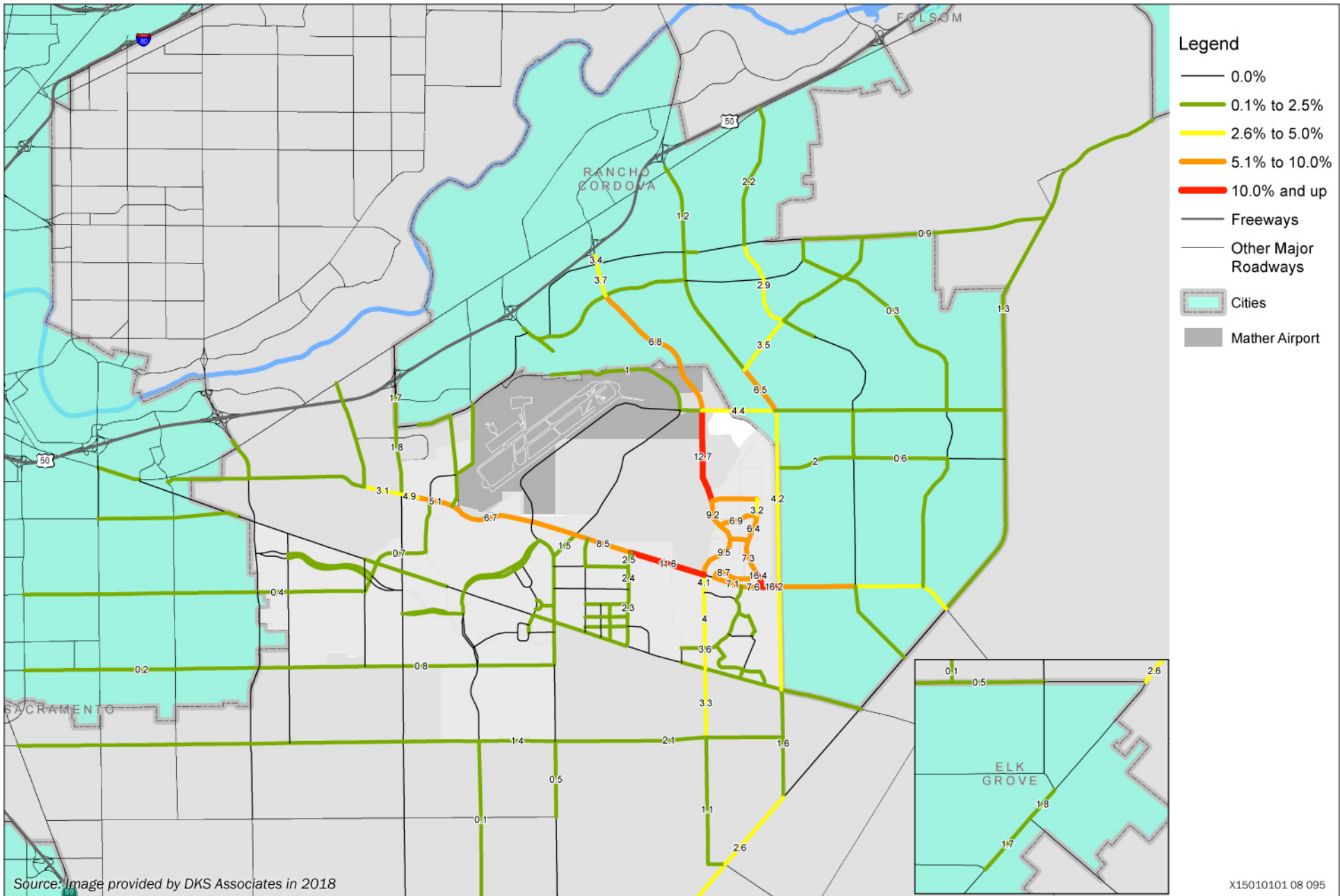
CUMULATIVE IMPACTS EVALUATION

CUMULATIVE PLUS FOUR PROJECTS

*CUMULATIVE ROADWAY SEGMENT OPERATIONS*

**Table CU-7** shows the operations analysis for the traffic study area roadway segments which would experience significant impacts under the Cumulative Plus Jackson Corridor Projects scenario. The table includes the new roadways and/or widened roadways, the project(s) responsible for the roadway improvements, and the roadway segments where a LOS impact occurs. **Plate CU-8** illustrates the resultant traffic operating conditions associated with the Cumulative Plus Jackson Corridor Projects scenario. Detailed roadway segment operations calculations and the full list of study area roadway segment operating conditions are included in Appendix TR-1.

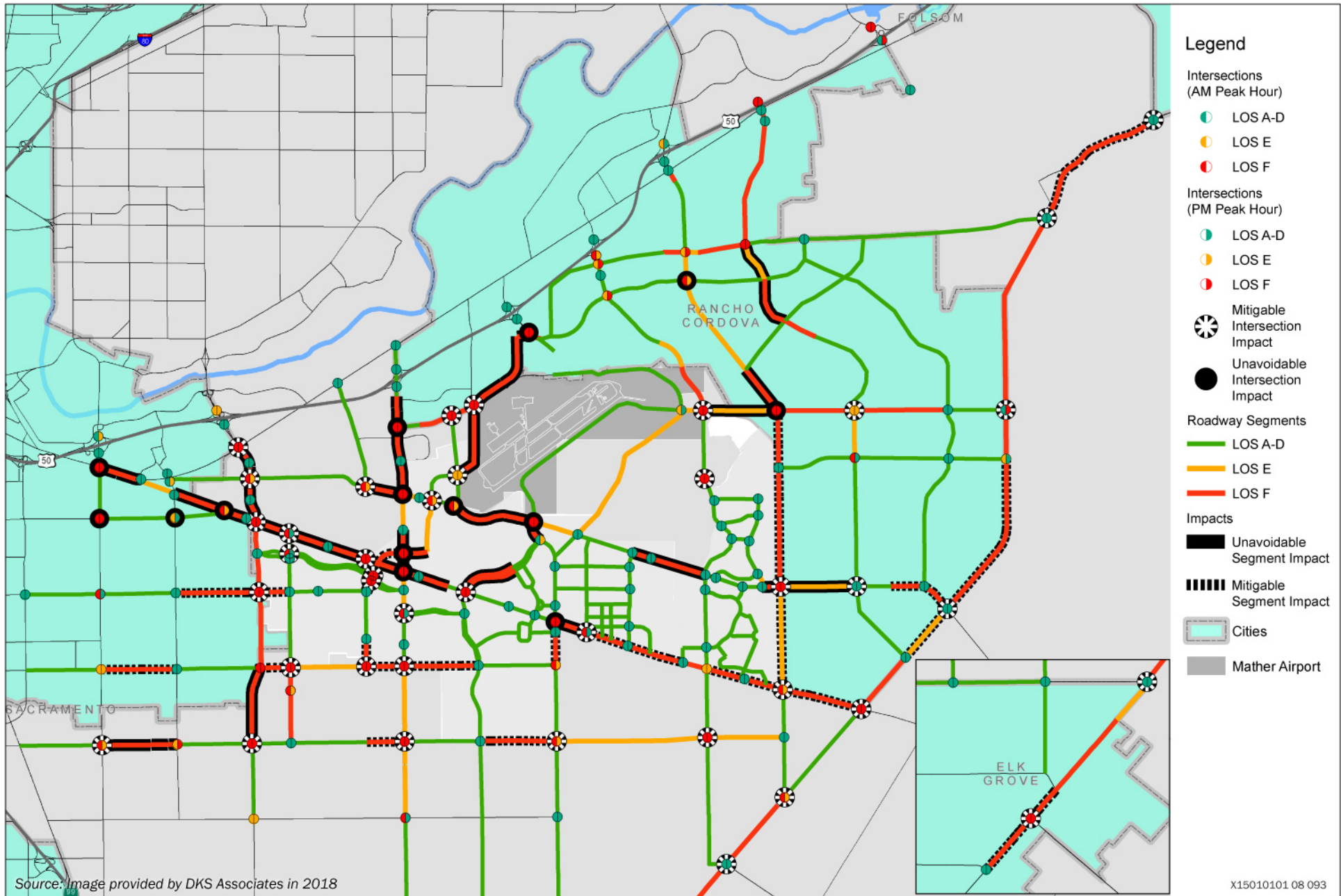
As shown in Table CU-7, the addition of vehicle trips generated by the Jackson Corridor Projects would result in the exceedance of applicable LOS and V/C thresholds along 69 roadway segments in the study area. Thus, the project would have a cumulatively considerable contribution to a significant cumulative impact.



**Plate CU-7: Cumulative Plus Mather South Project – Trip Distribution**







Source: Image provided by DKS Associates in 2018

X15010101 08 093

**Plate CU-8: Cumulative Plus Jackson Corridor Projects –Roadway Segment and Intersection LOS and Impacts**



**Table CU-7: Cumulative No Project and Cumulative Plus Jackson Corridor Projects Roadway Segment Levels of Service**

ID	Roadway	Segment		Cumulative No Project					Cumulative Plus Jackson Corridor Projects					Project(s) Responsible for Change in Lanes
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	
2	Bradshaw Rd	US 50	Lincoln Village Dr	6	Arterial M	66,770	1.24	F	6	Arterial M	84,620	1.57	F	
3	Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	6	Arterial M	52,940	0.98	E	6	Arterial M	76,770	1.42	F	
4	Bradshaw Rd	Old Placerville Rd	Goethe Rd	6	Arterial M	62,600	1.16	F	6	Arterial M	73,340	1.36	F	
5.1	Bradshaw Rd	Goethe Rd	Collector WJ-8	6	Arterial M	47,100	0.87	D	6	Arterial M	62,160	1.15	F	
5.2	Bradshaw Rd	Collector WJ-8	Kiefer Blvd	6	Arterial M	45,320	0.84	D	6	Arterial M	58,600	1.09	F	
6.2	Bradshaw Rd	Collector WJ-9	Mayhew Rd	6	Arterial M	52,070	0.96	E	6	Arterial M	54,090	1.00	F	
6.3	Bradshaw Rd	Mayhew Rd	Jackson Rd	6	Arterial M	52,020	0.96	E	6	Arterial M	57,490	1.06	F	
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	6	Arterial M	37,550	0.70	B	6	Arterial M	50,360	0.93	E	
19.1	Eagles Nest Rd	Kiefer Blvd	N Bridgewater Dr	2	Arterial M	4,620	0.26	A	4	Arterial M	11,220	0.31	A	NewBridge
19.2	Eagles Nest Rd	N Bridgewater Dr	S Bridgewater Dr	2	Arterial M	4,620	0.26	A	4	Arterial M	11,620	0.32	A	NewBridge
19.3	Eagles Nest Rd	S Bridgewater Dr	Jackson Rd	2	Arterial M	4,710	0.26	A	4	Arterial M	13,130	0.36	A	NewBridge
23	Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	2	Arterial M	25,170	1.40	F	2	Arterial M	28,360	1.58	F	
25	Elder Creek Rd	South Watt Ave	Hedge Ave	4	Arterial M	40,860	1.14	F	4	Arterial M	52,900	1.47	F	
27	Elder Creek Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	17,980	0.50	A	4	Arterial M	40,490	1.12	F	
28.1	Elder Creek Rd	Bradshaw Rd	Vineyard Rd	2	Arterial M	9,230	0.51	A	3	Arterial M	30,740	1.71	F	West Jackson
28.2	Elder Creek Rd	Vineyard Rd	Excelsior Rd	2	Arterial M	9,430	0.52	A	4	Arterial M	25,360	0.70	C	West Jackson
31.1	Excelsior Rd	Jackson Rd	Collector WJ-6	2	Arterial M	11,960	0.66	B	3	Arterial M	36,910	2.05	F	West Jackson
31.2	Excelsior Rd	Collector WJ-6	Elder Creek Rd	2	Arterial M	11,960	0.66	B	3	Arterial M	36,220	2.01	F	West Jackson
32	Excelsior Rd	Elder Creek Rd	Florin Rd	2	Arterial M	4,670	0.26	A	3	Arterial M	12,520	0.70	B	West Jackson
37	Florin Rd	Power Inn Rd	Florin-Perkins Rd	4	Arterial M	37,240	1.03	F	4	Arterial M	43,690	1.21	F	
41	Florin Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	30,290	0.84	D	4	Arterial M	40,200	1.12	F	
42.2	Florin Rd	Vineyard Rd	Excelsior Rd	2	Arterial M	11,650	0.65	B	3	Arterial M	19,920	1.11	F	West Jackson
44	Folsom Blvd	Howe Ave	Jackson Rd	4	Arterial M	50,520	1.40	F	4	Arterial M	56,000	1.56	F	
47	Fruitridge Rd	Florin Perkins Rd	South Watt Ave	2	Arterial M	13,770	0.77	C	2	Arterial M	27,770	1.54	F	
48	Fruitridge Rd	South Watt Ave	Hedge Ave	2	Arterial M	5,770	0.32	A	3	Arterial M	24,240	1.35	F	West Jackson
49.1	Fruitridge Rd	Hedge Ave	Collector WJ-12	2	Arterial M	2,140	0.12	A	4	Arterial M	24,260	0.67	B	West Jackson
49.2	Fruitridge Rd	Collector WJ-12	Mayhew Rd	2	Arterial M	2,110	0.12	A	4	Arterial M	21,800	0.61	B	West Jackson
51.2	Grant Line Rd	Chrysanthy Blvd	Kiefer Blvd	4	Arterial H	44,930	1.12	F	4	Arterial H	47,640	1.19	F	
52.1	Grant Line Rd	Kiefer Blvd	Rancho Cordova Pkwy	4	Arterial H	34,170	0.85	D	4	Arterial H	37,030	0.93	E	
56	Grant Line Rd	Sheldon Rd	Wilton Rd	4	Arterial M	40,570	1.13	F	4	Arterial M	45,430	1.26	F	
57	Grant Line Rd	Wilton Rd	Bond Rd	4	Arterial M	36,110	1.00	F	4	Arterial M	40,370	1.12	F	
58.2	Happy Lane	Routier Ext	Kiefer Boulevard	2	Arterial M	4,970	0.28	A	2	Arterial M	20,580	1.14	F	West Jackson
62	Howe Ave	US 50	Folsom Blvd	6	Arterial M	67,180	1.24	F	6	Arterial M	71,420	1.32	F	
66.1	Jackson Rd	Florin Perkins Rd	14th Ave	4	Arterial M	30,980	0.86	D	4	Arterial M	44,100	1.23	F	
66.2	Jackson Rd	14th Ave	Rock Creek Pkwy	4	Arterial M	40,320	1.12	F	4	Arterial M	61,980	1.72	F	
66.3	Jackson Rd	Rock Creek Pkwy	Aspen 1 Dwy	4	Arterial M	34,630	0.96	E	4	Arterial M	57,690	1.60	F	
66.4	Jackson Rd	Aspen 1 Dwy	South Watt Ave	4	Arterial M	32,480	0.90	E	4	Arterial M	55,370	1.54	F	
67	Jackson Rd	South Watt Ave	Hedge Ave	4	Arterial M	38,240	1.06	F	4	Arterial M	66,380	1.84	F	
68.1	Jackson Rd	Hedge Ave	Collector WJ-3	4	Arterial M	31,080	0.86	D	4	Arterial M	56,540	1.57	F	
68.2	Jackson Rd	Collector WJ-3	Mayhew Rd	4	Arterial M	31,040	0.86	D	4	Arterial M	57,880	1.61	F	
69	Jackson Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	33,920	0.94	E	6	Arterial M	56,220	1.04	F	West Jackson
70.1	Jackson Rd	Bradshaw Rd	Collector WJ-4	2	Rural Hwy	23,120	1.01	F	6	Arterial M	59,380	1.10	F	West Jackson



ID	Roadway	Segment		Cumulative No Project					Cumulative Plus Jackson Corridor Projects					Project(s) Responsible for Change in Lanes
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	
70.2	Jackson Rd	Collector WJ-4	Rock Creek Pkwy	2	Rural Hwy	23,190	1.01	F	6	Arterial M	59,660	1.10	F	West Jackson
70.3	Jackson Rd	Happy Ln	Rock Creek Pkwy	2	Rural Hwy	23,000	1.00	F	6	Arterial M	41,550	0.77	C	West Jackson
70.4	Jackson Rd	Rock Creek Pkwy	Collector WJ-5	2	Rural Hwy	23,000	1.00	F	6	Arterial M	41,200	0.76	C	West Jackson
70.5	Jackson Rd	Collector WJ-5	Collector WJ-6	2	Rural Hwy	23,010	1.00	F	6	Arterial M	38,910	0.72	C	West Jackson
70.6	Jackson Rd	Collector WJ-6	Excelsior Rd	2	Rural Hwy	23,010	1.00	F	6	Arterial M	39,330	0.73	C	West Jackson
71.1	Jackson Rd	Excelsior Rd	Collector JT-3	2	Rural Hwy	23,020	1.01	F	4	Arterial M	62,220	1.73	F	Jackson Township
71.2	Jackson Rd	Collector JT-3	Tree View Ln	2	Rural Hwy	23,020	1.01	F	4	Arterial M	46,480	1.29	F	Jackson Township
71.3	Jackson Rd	Tree View Ln	Collector JT-4	2	Rural Hwy	22,990	1.00	F	4	Arterial M	41,360	1.15	F	Jackson Township
71.4	Jackson Rd	Collector JT-4	Eagles Nest Rd	2	Rural Hwy	23,020	1.01	F	4	Arterial M	37,600	1.04	F	Jackson Township
72.1	Jackson Rd	Eagles Nest Rd	Rockbridge Dr	2	Rural Hwy	21,910	0.96	E	4	Arterial M	37,120	1.03	F	NewBridge
72.2	Jackson Rd	Rockbridge Dr	Sunrise Blvd	2	Rural Hwy	22,630	0.99	E	4	Arterial M	37,910	1.05	F	NewBridge
73	Jackson Rd	Sunrise Blvd	Grant Line Rd	4	Arterial M	31,730	0.88	D	4	Arterial M	45,290	1.26	F	
76	Kiefer Blvd	Mayhew Rd	Bradshaw Rd	4	Arterial M	13,290	0.37	A	4	Arterial M	42,310	1.18	F	
77.1	Kiefer Blvd	Bradshaw Road	Collector WJ-14	2	Arterial M	5,940	0.33	A	6	Arterial M	50,960	0.94	E	West Jackson
77.2	Kiefer Blvd	Collector WJ-14	Routier Ext	2	Arterial M	6,100	0.34	A	6	Arterial M	47,140	0.87	D	West Jackson
77.3	Kiefer Blvd	Routier Ext	Happy Lane	2	Arterial M	6,100	0.34	A	6	Arterial M	49,820	0.92	E	West Jackson
78.1	Kiefer Blvd	Eagles Nest Rd	W Collector MS-1	2	Arterial M	10,210	0.57	A	4	Arterial M	31,900	0.89	D	NewBridge; Mather South
78.2	Kiefer Blvd	W Collector MS-1	Northbridge Dr	2	Arterial M	10,210	0.57	A	4	Arterial M	29,740	0.83	D	NewBridge; Mather South
78.3	Kiefer Blvd	Northbridge Dr	E Collector MS-1	2	Arterial M	10,210	0.57	A	4	Arterial M	31,570	0.88	D	NewBridge; Mather South
78.4	Kiefer Blvd	E Collector MS-1	Sunrise Blvd	2	Arterial M	10,150	0.56	A	3	Arterial M	39,820	2.21	F	NewBridge
79	Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	4	Arterial M	20,760	0.58	A	4	Arterial M	33,580	0.93	E	
89.1	Mayhew Rd	Jackson Rd	Rock Creek Pkwy	2	Arterial L	1,930	0.13	A	4	Arterial M	47,790	1.33	F	West Jackson
89.2	Mayhew Rd	Rock Creek Pkwy	Fruitridge Rd	2	Arterial L	1,930	0.13	A	4	Arterial M	46,860	1.30	F	West Jackson
93	Old Placerville Rd	Routier Rd	Rockingham Dr	4	Arterial M	24,070	0.67	B	4	Arterial M	36,350	1.01	F	
95	Rockingham Dr	Old Placerville Rd	Mather Field Rd	4	Arterial M	31,970	0.89	D	4	Arterial M	40,280	1.12	F	
96	South Watt Ave	Folsom Blvd	Kiefer Blvd	6	Arterial M	68,980	1.28	F	6	Arterial M	81,880	1.52	F	
97	South Watt Ave	Kiefer Blvd	Jackson Rd	6	Arterial M	67,470	1.25	F	6	Arterial M	70,930	1.31	F	
100	South Watt Ave	Elder Creek Rd	Florin Rd	6	Arterial M	55,580	1.03	F	6	Arterial M	59,670	1.11	F	
104.3	Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	6	Arterial M	54,110	1.00	F	6	Arterial M	63,690	1.18	F	
105	Sunrise Blvd	Douglas Rd	Kiefer Blvd	5	Arterial M	34,760	0.97	E	5	Arterial M	43,880	1.22	F	
106	Sunrise Blvd	Kiefer Blvd	Jackson Rd	4	Arterial M	30,000	0.83	D	4	Arterial M	33,930	0.94	E	
110	Watt Ave	US 50	Folsom Blvd	6	Arterial H	98,040	1.63	F	6	Arterial H	106,480	1.77	F	
117	White Rock Rd	Grant Line Rd	Prairie City Rd	4	Arterial H	53,780	1.34	F	4	Arterial H	56,000	1.40	F	
132	Kiefer Blvd	Americanos Blvd	Grant Line Rd	2	Arterial M	10,250	0.57	A	2	Arterial M	19,200	1.07	F	
135	Rancho Cordova Pkwy	White Rock Rd	International Dr	6	Arterial M	46,590	0.86	D	6	Arterial M	49,960	0.93	E	
136	Rancho Cordova Pkwy	International Dr	Rio Del Oro Pkwy	6	Arterial M	55,520	1.03	F	6	Arterial M	59,540	1.10	F	
200	Kiefer Blvd	Tree View Ln	Eagles Nest Rd						4	Arterial M	37,180	1.03	F	Jackson Township; NewBridge
301	Douglas Rd	Rock Creek Pkwy	Kiefer Blvd	4	Arterial M	7,380	0.21	A	4	Arterial M	36,990	1.03	F	
302	Kiefer Blvd	Happy Ln	Douglas Rd						6	Arterial M	63,170	1.17	F	West Jackson
303	Kiefer Blvd	Douglas Rd	Excelsior Rd						4	Arterial M	33,150	0.92	E	West Jackson

ID	Roadway	Segment		Cumulative No Project					Cumulative Plus Jackson Corridor Projects					Project(s) Responsible for Change in Lanes
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	
304	Mayhew Rd	Routier Ext	Bradshaw Rd						4	Arterial M	39,470	1.10	F	West Jackson
305	Mayhew Rd	Bradshaw Rd	Jackson Rd						4	Arterial M	40,970	1.14	F	West Jackson
306	Mayhew Rd	Fruitridge Rd	Collector WJ-13						4	Arterial M	30,030	0.83	D	West Jackson
307	Mayhew Rd	Collector WJ-13	Elder Creek Rd						3	Arterial M	32,580	1.81	F	West Jackson
308	Rock Creek Pkwy	South Watt Ave	Hedge Ave						2	Arterial M	7,450	0.41	A	West Jackson
309	Rock Creek Pkwy	Hedge Ave	Mayhew Rd						2	Arterial M	10,940	0.61	B	West Jackson
310	Rock Creek Pkwy	Mayhew Rd	Bradshaw Rd						2	Arterial M	4,730	0.26	A	West Jackson
311	Rock Creek Pkwy East	Excelsior Road	Collector WJ-16						2	Arterial M	13,510	0.75	C	West Jackson
312	Rock Creek Pkwy East	Collector WJ-16	Jackson Road						2	Arterial M	19,230	1.07	F	West Jackson
313	Vineyard Rd	Jackson Road	New Collector						4	Arterial M	31,060	0.86	D	West Jackson
314	Vineyard Rd	New Collector	Collector WJ-18						4	Arterial M	26,270	0.73	C	West Jackson
315	Vineyard Rd	Collector WJ-18	Elder Creek Road						4	Arterial M	25,590	0.71	C	West Jackson
316	Vineyard Rd	Elder Creek Road	Florin Road						4	Arterial M	14,340	0.40	A	West Jackson
317	Routier Ext	Old Placerville Road	Happy Lane						4	Arterial H	41,410	1.04	F	West Jackson
318	Routier Ext	Happy Lane	Kiefer Boulevard						4	Arterial H	34,670	0.87	D	West Jackson
319	Routier Ext	Kiefer Boulevard	Mayhew Road						4	Arterial H	39,110	0.98	E	West Jackson
320	Collector WJ-16	Rock Creek Pkwy	Collector WJ-6						2	Res Collector F	950	0.12	A	West Jackson
321	Collector WJ-17	Rock Creek Pkwy	Collector WJ-6						2	Res Collector F	850	0.11	A	West Jackson
322	Collector WJ-6	Collector WJ-16/WJ-17	Jackson Road						2	Res Collector F	2,730	0.34	B	West Jackson
323	Collector WJ-6	Jackson Road	Collector WJ-18						2	Res Collector F	3,640	0.46	C	West Jackson
324	Collector WJ-2	Excelsior Road	Collector WJ-6						2	Res Collector F	2,860	0.36	B	West Jackson
325	Collector WJ-18	Vineyard Rd	Collector WJ-6						2	Res Collector F	3,360	0.42	C	West Jackson
326	Collector WJ-18	Collector WJ-6	Excelsior Road						2	Res Collector F	3,270	0.41	C	West Jackson
327	Collector WJ-19	Bradshaw Road	Vineyard Road						2	Arterial M	7,820	0.43	A	West Jackson
400	Collector JT-1	Excelsior Rd	Collector JT-3						2	Res Collector F	4,570	0.57	C	Jackson Township
401	Collector JT-1	Collector JT-3	Tree View Ln						2	Res Collector F	1,550	0.19	A	Jackson Township
402	Collector JT-3	Kiefer Blvd	Collector JT-1						2	Res Collector F	1,840	0.23	B	Jackson Township
403	Collector JT-3	Collector JT-1	Collector JT-6						2	Res Collector F	1,290	0.16	A	Jackson Township
404	Collector JT-3	Collector JT-6	Collector JT-5						2	Res Collector F	2,630	0.33	B	Jackson Township
405	Collector JT-3	Collector JT-5	Jackson Rd						2	Arterial M	20,070	1.12	F	Jackson Township
406	Collector JT-4	Jackson Rd	Bridgewater Dr						2	Arterial M	4,440	0.25	A	Jackson Township
407	Collector JT-5	Collector JT-3	Tree View Ln						2	Arterial M	10,100	0.56	A	Jackson Township
408	Collector JT-6	Excelsior Rd	Collector JT-3						2	Res Collector F	4,370	0.55	C	Jackson Township
409	Collector JT-6	Collector JT-3	Tree View Ln						2	Res Collector F	850	0.11	A	Jackson Township
410	Kiefer Blvd	Excelsior Rd	Tree View Ln						4	Arterial M	31,510	0.88	D	Jackson Township
411	Tree View Ln	Kiefer Blvd	Collector JT-1						4	Arterial M	10,660	0.30	A	Jackson Township
412	Tree View Ln	Collector JT-1	Collector JT-6						2	Arterial M	10,340	0.57	A	Jackson Township
413	Tree View Ln	Collector JT-6	Collector JT-5						2	Arterial M	10,250	0.57	A	Jackson Township
414	Tree View Ln	Collector JT-5	Jackson Rd						4	Arterial M	7,370	0.20	A	Jackson Township
415	Collector JT-7	Collector JT-3	Tree View Ln						2	Arterial M	1,590	0.09	A	Jackson Township
416	Collector JT-8	Collector JT-3	Tree View Ln						2	Arterial M	1,740	0.10	A	Jackson Township
417	Collector JT-9	Jackson Rd	Collector JT-8						2	Arterial M	3,600	0.20	A	Jackson Township
418	Collector JT-10	Jackson Rd	Collector JT-8						2	Arterial M	1,570	0.09	A	Jackson Township

ID	Roadway	Segment		Cumulative No Project					Cumulative Plus Jackson Corridor Projects					Project(s) Responsible for Change in Lanes
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	
419	Collector JT-6	Tree View Ln	Jackson Rd						2	Res Collector F	1,770	0.22	B	Jackson Township
500	S Bridgewater Dr	Collector JT-4	Eagles Nest Rd						2	Res Collector F	5,220	0.65	D	NewBridge
501	S Bridgewater Dr	Eagles Nest Rd	Northbridge Dr						2	Res Collector F	4,620	0.58	C	NewBridge
502	N Bridgewater Dr	Northbridge Dr	Eagles Nest Rd						2	Res Collector F	1,240	0.16	A	NewBridge
503	Northbridge Dr	Kiefer Blvd	Bridgewater Dr						2	Arterial M	4,320	0.24	A	NewBridge
504	Street A	S Bridgewater Dr	Street B						2	Res Collector F	1,800	0.23	B	NewBridge
505	Street B	S Bridgewater Dr	Street A						2	Res Collector F	1,440	0.18	A	NewBridge
506	Rockbridge Dr	Street B	Stonebridge Dr						2	Res Collector F	1,850	0.23	B	NewBridge
507	Rockbridge Dr	Stonebridge Dr	Jackson Rd						2	Arterial M	7,640	0.42	A	NewBridge
508	Stonebridge Dr	S Bridgewater Dr	Rockbridge Dr						2	Arterial M	2,480	0.14	A	NewBridge
509	Stonebridge Dr	Rockbridge Dr	Jackson Rd						2	Res Collector F	4,440	0.56	C	NewBridge
600	Collector MS-1	Kiefer Boulevard	Collector MS-5						2	Arterial M	16,870	0.94	E	Mather South
601	Collector MS-1	Collector MS-5	Collector MS-4						2	Arterial M	7,670	0.43	A	Mather South
602	Collector MS-1	Collector MS-4	Collector MS-3						2	Res Collector F	6,350	0.79	D	Mather South
603	Collector MS-1	Collector MS-3	Collector MS-2						2	Arterial M	3,140	0.17	A	Mather South
604	Collector MS-2	Eagles Nest Road	Collector MS-5						2	Arterial M	8,910	0.50	A	Mather South
605	Collector MS-3	Eagles Nest Road	Collector MS-5						2	Arterial M	6,860	0.38	A	Mather South
606	Collector MS-4	Eagles Nest Road	Collector MS-5						2	Arterial M	7,130	0.40	A	Mather South
607	Collector MS-5	Kiefer Boulevard	Collector MS-1						2	Arterial M	8,770	0.49	A	Mather South

Notes: V/C = Volume to Capacity, LOS = Level of Service

Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide.

Bold values do not meet LOS policy. Red values with light gray shading indicate project impacts.

<sup>1</sup> The following classifications are used to determine daily roadway capacity: Arterial L - Arterial, Low Access Control

Arterial M - Arterial, Moderate Access Control Arterial H - Arterial, High Access Control Rural Hwy - Rural 2-lane Highway

Rural S - Rural 2-lane Road, 24'-36' of pavement, Paved Shoulders Rural NS - Rural 2-lane Road, 24'-36' of pavement, No Shoulders Res Collector F - Residential Collector with Frontage

Res Collector NF - Residential Collector with No Frontage

Source: DKS Associate 2018

**MITIGATION MEASURES****CU-TR-1. Cumulative Roadway Segment Operations.**

The project applicant shall implement Mitigation Measures TR-1 and TR-2. The project applicant shall implement the set of improvements assigned to the project by the Tool (Mitigation Measure TR-1) as identified in Table CU-8. Detailed intersection operations calculations and the full list of study area intersection operating conditions are included in Appendix TR-1. Where feasible, the number of roadway lanes was increased to mitigate the impact. However, the roadways cannot be widened such that they exceed the maximum General Plan standards and designations of the appropriate jurisdictions. The shaded table cells under the “Travel Lanes” and “Facility Type” headings illustrate roadways widened as part of mitigation, which would be the responsibility of the Mather South project to implement. The shaded table cells under the “Level of Service” heading indicate those locations that would continue to operate unacceptably after mitigation. The table also includes the constraint that precluded full mitigation of the LOS impact. In several locations where the improvements allowed under the general plan would not mitigate an LOS impact, the County has proposed alternative mitigation measures, which are shown in the “Alternative Mitigation” column. These alternative mitigation measures would either fully mitigate the impact or substantially reduce the level of impact. The shaded table cells under the “Level of Service” heading indicate those locations that would continue exceed applicable LOS standards after mitigation. The “LOS Impact with Mitigation” column shows whether a mitigation measure successfully mitigates the impact or not. A total of 45 of the 69 roadway segments would remain significant and unavoidable with implementation of mitigation.

Implementation of mitigation TR-1, TR-2, and CU-TR-1 would result in fair share payments toward improvements that would reduce the cumulative roadway segment impacts of the Mather South Project. Several segments would operate acceptably with implementation of mitigation. Mitigation would generally involve improvements within the alignment or widening of the roadway. The programmatic impacts of constructing these improvements have been evaluated within the scope of the technical sections of this Draft EIR. However, as shown in Table CU-8, because many roadway segments have reached the maximum number of lanes allowed under the General Plan, alternative mitigation was recommended. But, even with implementation of this alternative mitigation, some segments would continue to operate unacceptably.

Further, while implementation of Mitigation Measure TR-1, TR-2, and CU-TR-1 would result in fair share payment toward improvements that would reduce impacts to a less-than-significant level for some segments, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. Because the timing of implementation of all required improvements cannot be guaranteed and their implementation is not subject to the responsibility of just Mather South applicants and the County, it cannot be guaranteed that cumulative significant impacts to roadway segments would be reduced to a less-than-significant level at the time of phased development. Therefore, the project would have a substantial contribution to a significant cumulative impact. This impact would be considerable and **significant and unavoidable**.

*CUMULATIVE INTERSECTION OPERATIONS*

**Table CU-9** and **Table CU-10** summarize the results of the operations analysis for the study area intersections under the Cumulative Plus Jackson Corridor Project scenario. The tables include the implementation of intersection changes associated with the Jackson Corridor Projects. **Table CU-10** illustrates the type of traffic control and number of lanes by type on each study area intersection approach. Shaded table cells indicate those locations where changes in traffic control and / or number of approach lanes by type would be fully funded by the project(s) shown in the last column. Shaded table cells in **Table CU-9** illustrate those locations with a LOS impact. **Plate CU-8** illustrates the resultant traffic operating conditions associated with the Cumulative Plus Jackson Corridor Projects scenario. Detailed intersection operations calculations and the full list of study area intersection operating conditions are included in Appendix TR-1.

A signal warrant analysis was conducted for all unsignalized intersections along Jackson Road, and other unsignalized intersections in close proximity to the project. Detailed signal warrant calculation sheets are included in Appendix TR-1. The following unsignalized intersections would operate at unacceptable levels and meet one or more traffic signal warrant under the Cumulative Plus Jackson Corridor Projects conditions:

- Happy Lane and Old Placerville Road
- Eagles Nest Road and Florin Road

As shown in **Table CU-9**, the addition of vehicle trips generated by Jackson Corridor Projects would result in the exceedance of applicable LOS and delay thresholds under Cumulative Plus Jackson Corridor Project conditions. Thus, the project would have a considerable contribution to a significant cumulative impact.

**Table CU-8: Cumulative Plus Jackson Corridor Projects Roadway Segment Mitigations**

ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects					Mitigated Cumulative Plus Jackson Corridor Projects						
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	V/C Ratio	LOS	LOS Impact with Mitigation?	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
2	Bradshaw Rd	US 50	Lincoln Village Dr	6	Arterial M	84,620	1.57	F	6	Arterial M	1.57	F	Yes		Maximum General Plan lanes
3	Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	6	Arterial M	76,770	1.42	F	6	Arterial M	1.42	F	Yes		Maximum General Plan lanes
4	Bradshaw Rd	Old Placerville Rd	Goethe Rd	6	Arterial M	73,340	1.36	F	6	Arterial M	1.36	F	Yes		Maximum General Plan lanes
5.1	Bradshaw Rd	Goethe Rd	Collector WJ-8	6	Arterial M	62,160	1.15	F	6	Arterial M	1.15	F	Yes		Maximum General Plan lanes
5.2	Bradshaw Rd	Collector WJ-8	Kiefer Blvd	6	Arterial M	58,600	1.09	F	6	Arterial M	1.09	F	Yes		Maximum General Plan lanes
6.2	Bradshaw Rd	Collector WJ-9	Mayhew Rd	6	Arterial M	54,090	1.00	F	6	Arterial M	1.00	F	Yes		Maximum General Plan lanes
6.3	Bradshaw Rd	Mayhew Rd	Jackson Rd	6	Arterial M	57,490	1.06	F	6	Arterial M	1.06	F	Yes		Maximum General Plan lanes
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	6	Arterial M	50,360	0.93	E	6	Arterial M	0.93	E	Yes		Maximum General Plan lanes
23	Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	2	Arterial M	28,360	1.58	F	4	Arterial M	0.79	C	No		
25	Elder Creek Rd	South Watt Ave	Hedge Ave	4	Arterial M	52,900	1.47	F	6	Arterial M	0.98	E	No		
27	Elder Creek Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	40,490	1.12	F	6	Arterial M	0.75	C	No		
28.1	Elder Creek Rd	Bradshaw Rd	Vineyard Rd	3	Arterial M	30,740	1.71	F	4	Arterial M	0.85	D	No		
31.1	Excelsior Rd	Jackson Rd	Collector WJ-6	3	Arterial M	36,910	2.05	F	6	Arterial M	0.68	B	No		
31.2	Excelsior Rd	Collector WJ-6	Elder Creek Rd	3	Arterial M	36,220	2.01	F	6	Arterial M	0.67	B	No		
37	Florin Rd	Power Inn Rd	Florin-Perkins Rd	4	Arterial M	43,690	1.21	F	4	Arterial M	1.21	F	Yes	Construct 2-lane Alta Florin Road	Maximum General Plan lanes
41	Florin Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	40,200	1.12	F	6	Arterial M	0.74	C	No		
42.2	Florin Rd	Vineyard Rd	Excelsior Rd	3	Arterial M	19,920	1.11	F	4	Arterial M	0.55	A	No		
44	Folsom Blvd	Howe Ave	Jackson Rd	4	Arterial M	56,000	1.56	F	4	Arterial M	1.56	F	Yes		Maximum General Plan lanes
47	Fruitridge Rd	Florin Perkins Rd	South Watt Ave	2	Arterial M	27,770	1.54	F	4	Arterial M	0.77	C	No		
48	Fruitridge Rd	South Watt Ave	Hedge Ave	3	Arterial M	24,240	1.35	F	4	Arterial M	0.67	B	No		
51.2	Grant Line Rd	Chrysanthy Blvd	Kiefer Blvd	4	Arterial H	47,640	1.19	F	4	Arterial H	1.19	F	Yes		Maximum General Plan lanes
52.1	Grant Line Rd	Kiefer Blvd	Rancho Cordova Pkwy	4	Arterial H	37,030	0.93	E	4	Arterial H	0.93	E	Yes		Maximum General Plan lanes
56	Grant Line Rd	Sheldon Rd	Wilton Rd	4	Arterial M	45,430	1.26	F	4	Arterial M	1.26	F	Yes		Maximum General Plan lanes
57	Grant Line Rd	Wilton Rd	Bond Rd	4	Arterial M	40,370	1.12	F	4	Arterial M	1.12	F	Yes		Maximum General Plan lanes
58.2	Happy Ln	Routier Ext	Kiefer Blvd	2	Arterial M	20,580	1.14	F	2	Arterial M	1.14	F	Yes		Maximum General Plan lanes
62	Howe Ave	US 50	Folsom Blvd	6	Arterial M	71,420	1.32	F	6	Arterial M	1.32	F	Yes		Maximum General Plan lanes
66.1	Jackson Rd	Florin Perkins Rd	14th Ave	4	Arterial M	44,100	1.23	F	4	Arterial M	1.23	F	Yes		Maximum General Plan lanes
66.2	Jackson Rd	14th Ave	Rock Creek Pkwy	4	Arterial M	61,980	1.72	F	4	Arterial M	1.72	F	Yes		Maximum General Plan lanes
66.3	Jackson Rd	Rock Creek Pkwy	Aspen 1 Dwy	4	Arterial M	57,690	1.60	F	4	Arterial M	1.60	F	Yes		Maximum General Plan lanes
66.4	Jackson Rd	Aspen 1 Dwy	South Watt Ave	4	Arterial M	55,370	1.54	F	4	Arterial M	1.54	F	Yes		Maximum General Plan lanes
67	Jackson Rd	South Watt Ave	Hedge Ave	4	Arterial M	66,380	1.84	F	6	Arterial M	1.23	F	Yes		Maximum General Plan lanes



ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects					Mitigated Cumulative Plus Jackson Corridor Projects						
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	V/C Ratio	LOS	LOS Impact with Mitigation?	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
68.1	Jackson Rd	Hedge Ave	Collector WJ-3	4	Arterial M	56,540	1.57	F	6	Arterial M	1.05	F	Yes		Maximum General Plan lanes
68.2	Jackson Rd	Collector WJ-3	Mayhew Rd	4	Arterial M	57,880	1.61	F	6	Arterial M	1.07	F	Yes		Maximum General Plan lanes
69	Jackson Rd	Mayhew Rd	Bradshaw Rd	6	Arterial M	56,220	1.04	F	6	Arterial M	1.04	F	Yes		Maximum General Plan lanes
70.1	Jackson Rd	Bradshaw Rd	Collector WJ-4	6	Arterial M	59,380	1.10	F	6	Arterial M	1.10	F	Yes		Maximum General Plan lanes
70.2	Jackson Rd	Collector WJ-4	Happy Ln	6	Arterial M	59,660	1.10	F	6	Arterial M	1.10	F	Yes		Maximum General Plan lanes
71.1	Jackson Rd	Excelsior Rd	Collector JT-3	4	Arterial M	62,220	1.73	F	6	Arterial M	1.15	F	Yes		Maximum General Plan lanes
71.2	Jackson Rd	Collector JT-3	Tree View Ln	4	Arterial M	46,480	1.29	F	6	Arterial M	0.86	D	No		
71.3	Jackson Rd	Tree View Ln	Collector JT-4	4	Arterial M	41,360	1.15	F	6	Arterial M	0.77	C	No		
72.1	Jackson Rd	Eagles Nest Rd	Rockbridge Dr	4	Arterial M	37,120	1.03	F	6	Arterial M	0.69	B	No		
72.2	Jackson Rd	Rockbridge Dr	Sunrise Blvd	4	Arterial M	37,910	1.05	F	6	Arterial M	0.70	C	No		
73	Jackson Rd	Sunrise Blvd	Grant Line Rd	4	Arterial M	45,290	1.26	F	6	Arterial M	0.84	D	No		
76	Kiefer Blvd	Mayhew Rd	Bradshaw Rd	4	Arterial M	42,310	1.18	F	4	Arterial M	1.18	F	Yes		Maximum General Plan lanes
78.4	Kiefer Blvd	E Collector MS-1	Sunrise Blvd	3	Arterial M	39,820	2.21	F	4	Arterial M	1.11	F	Yes		Maximum General Plan lanes
79	Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	4	Arterial M	33,580	0.93	E	4	Arterial M	0.93	E	Yes		Maximum General Plan lanes
89.1	Mayhew Rd	Jackson Rd	Rock Creek Pkwy	4	Arterial M	47,790	1.33	F	6	Arterial M	0.89	D	No		
89.2	Mayhew Rd	Rock Creek Pkwy	Fruitridge Rd	4	Arterial M	46,860	1.30	F	6	Arterial M	0.87	D	No		
93	Old Placerville Rd	Routier Rd	Rockingham Dr	4	Arterial M	36,350	1.01	F	4	Arterial M	1.01	F	Yes		Maximum General Plan lanes
95	Rockingham Dr	Old Placerville Rd	Mather Field Rd	4	Arterial M	40,280	1.12	F	4	Arterial M	1.12	F	Yes		Maximum General Plan lanes
96	South Watt Ave	Folsom Blvd	Kiefer Blvd	6	Arterial M	81,880	1.52	F	6	Arterial M	1.52	F	Yes		Maximum General Plan lanes
97	South Watt Ave	Kiefer Blvd	Jackson Rd	6	Arterial M	70,930	1.31	F	6	Arterial M	1.31	F	Yes		Maximum General Plan lanes
100	South Watt Ave	Elder Creek Rd	Florin Rd	6	Arterial M	59,670	1.11	F	6	Arterial M	1.11	F	Yes		Maximum General Plan lanes
104.3	Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	6	Arterial M	63,690	1.18	F	6	Arterial M	1.18	F	Yes		Maximum General Plan lanes
105	Sunrise Blvd	Douglas Rd	Kiefer Blvd	5	Arterial M	43,880	1.22	F	6	Arterial M	0.81	D	No		
106	Sunrise Blvd	Kiefer Blvd	Jackson Rd	4	Arterial M	33,930	0.94	E	6	Arterial M	0.63	B	No		
110	Watt Ave	US 50	Folsom Blvd	6	Arterial H	106,480	1.77	F	6	Arterial H	1.77	F	Yes		Maximum General Plan lanes
117	White Rock Rd	Grant Line Rd	Prairie City Rd	4	Arterial H	56,000	1.40	F	4	Arterial H	1.40	F	Yes		Maximum General Plan lanes
132	Kiefer Blvd	Americanos Blvd	Grant Line Rd	2	Arterial M	19,200	1.07	F	4	Arterial M	0.53	A	No		
135	Rancho Cordova Pkwy	White Rock Rd	International Dr	6	Arterial M	49,960	0.93	E	6	Arterial M	0.93	E	Yes		Maximum General Plan lanes
136	Rancho Cordova Pkwy	International Dr	Rio Del Oro Pkwy	6	Arterial M	59,540	1.10	F	6	Arterial M	1.10	F	Yes		Maximum General Plan lanes
200	Kiefer Blvd	Tree View Ln	Eagles Nest Rd	4	Arterial M	37,180	1.03	F	4	Arterial M	1.03	F	Yes		Maximum General Plan lanes
301	Douglas Rd	Rock Creek Pkwy	Kiefer Blvd	4	Arterial M	36,990	1.03	F	4	Arterial M	1.03	F	Yes		Maximum General Plan lanes
302	Kiefer Blvd	Happy Ln	Douglas Rd	6	Arterial M	63,170	1.17	F	6	Arterial M	1.17	F	Yes		Maximum General Plan lanes
304	Mayhew Rd	Routier Ext	Bradshaw Rd	4	Arterial M	39,470	1.10	F	6	Arterial M	0.73	C	No		



ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects					Mitigated Cumulative Plus Jackson Corridor Projects						
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	V/C Ratio	LOS	LOS Impact with Mitigation?	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
305	Mayhew Rd	Bradshaw Rd	Jackson Rd	4	Arterial M	40,970	1.14	F	6	Arterial M	0.76	C	No		
307	Mayhew Rd	Collector WJ-13	Elder Creek Rd	3	Arterial M	32,580	1.81	F	4	Arterial M	0.91	E	No		
312	Rock Creek Pkwy East	Collector WJ-16	Jackson Road	2	Arterial M	19,230	1.07	F	2	Arterial M	1.07	F	Yes		Maximum General Plan lanes
317	Routier Ext	Old Placerville Road	Happy Lane	4	Arterial H	41,410	1.04	F	4	Arterial H	1.04	F	Yes		Maximum General Plan lanes
405	Collector JT-3	Collector JT-5	Jackson Rd	2	Arterial M	20,070	1.12	F	4	Arterial M	0.56	A	No		

Notes: LOS = Level of Service, V/C = Volume to Capacity

Gray shading represents changes in travel lanes or facility type that the project is responsible to provide.

**Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.

<sup>1</sup> The following classifications are used to determine daily roadway capacity:

Arterial L - Arterial, Low Access Control Arterial M - Arterial, Moderate Access Control Arterial H - Arterial, High Access Control Rural Hwy - Rural 2-lane Highway

Rural S - Rural 2-lane Road, 24'-36' of pavement, Paved Shoulders Rural NS - Rural 2-lane Road, 24'-36' of pavement, No Shoulders Res Collector F - Residential Collector with Frontage

Res Collector NF - Residential Collector with No Frontage

<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan, as proposed by the County of Sacramento.

Source: DKS Associates 2018

**Table CU-9: Cumulative Plus Jackson Corridor Projects Intersection Levels of Service**

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
1	Howe Avenue & College Town Drive/US 50 WB Ramps	Signal	D	45.6	Signal	D	34.3	No	Signal	E	77.0	Signal	E	73.6	No
2	Howe Avenue & US 50 EB Ramps	Signal	C	34.6	Signal	D	50.5	No	Signal	B	16.5	Signal	C	23.6	No
3	Power Inn Road/Howe Avenue & Folsom Blvd	Signal	F	88.0	Signal	F	108.2	Yes	Signal	E	66.5	Signal	F	88.4	Yes
4	Power Inn Road & 14th Avenue	Signal	E	61.0	Signal	F	166.0	Yes	Signal	E	72.6	Signal	F	123.7	Yes
5	Power Inn Road & Fruitridge Road	Signal	F	114.5	Signal	F	112.7	No	Signal	D	47.4	Signal	D	48.7	No
6	Jackson Road/Notre Dame Dr. & Folsom Blvd.	Signal	C	27.7	Signal	C	27.8	No	Signal	C	24.1	Signal	D	38.6	No
7	Florin Perkins Road/Julliard Dr. & Folsom Boulevard	Signal	C	20.8	Signal	C	29.6	No	Signal	D	41.2	Signal	C	31.2	No
8	Florin Perkins Road & Kiefer Blvd.	Two-way stop			Two-way stop			No	Two-way stop			Two-way stop			No
	Westbound Left Turn		C	16.4		C	21.3			C	20.7		E	35.1	
	Westbound Right Turn		C	10.9		B	12.2			B	11.2		B	13.6	
	Southbound Left Turn		A	9.3		B	10.1			B	10.4		B	13.4	
9	Florin Perkins Road & Jackson Road	Signal	C	25.1	Signal	D	46.3	No	Signal	D	38.5	Signal	D	49.0	No
10	Florin Perkins Road & Fruitridge Road	Signal	C	26.7	Signal	D	40.4	No	Signal	D	50.3	Signal	D	41.7	No
11	Florin Perkins Road & Elder Creek Road	Signal	C	31.7	Signal	C	29.4	No	Signal	C	30.0	Signal	C	33.4	No
12	Watt Avenue & Folsom Blvd.	Signal	F	169.1	Signal	F	182.3	Yes	Signal	F	140.0	Signal	F	199.9	Yes
13	S. Watt Ave. & Reith Ct/Manlove Road	Signal	B	15.7	Signal	B	13.5	No	Signal	A	9.8	Signal	B	10.9	No
14	S. Watt Avenue & Kiefer Blvd.	Signal	E	62.2	Signal	F	91.8	Yes	Signal	D	41.7	Signal	E	73.3	No
15	S. Watt Avenue & Canberra Dr.	Signal	B	13.4	Signal	B	13.6	No	Signal	A	9.1	Signal	A	9.2	No
16	S. Watt Avenue & Jackson Road	Signal	F	135.9	Signal	F	237.3	Yes	Signal	F	98.2	Signal	F	185.0	Yes
17	S. Watt Avenue & Fruitridge Road	Signal	D	44.4	Signal	F	93.1	Yes	Signal	E	79.3	Signal	F	114.3	Yes
18	S. Watt Avenue & Elder Creek Road	Signal	F	222.9	Signal	F	160.8	No	Signal	F	177.7	Signal	F	116.5	No
20	Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	F	199.7	Signal	F	>300	Yes	Signal	F	137.1	Signal	F	238.2	Yes
21	Elk Grove Florin Road & Gerber Road	Signal	E	56.7	Signal	E	59.3	No	Signal	E	74.9	Signal	E	78.2	No
23	Hedge Avenue & Jackson Road	Signal	C	34.7	Signal	F	123.1	Yes	Signal	B	16.3	Signal	D	41.8	No
24	Hedge Avenue & Fruitridge Road	All-way stop	E	44.2	All-way stop	C	34.3	No	All-way stop	D	30.7	All-way stop	D	36.5	No
25	Hedge Avenue & Elder Creek Road	Signal	F	103.7	Signal	F	138.8	Yes	Signal	F	103.2	Signal	F	135.0	Yes
26	Hedge Avenue & Tokay Lane	Two-way stop			Two-way stop			No	Two-way stop			Two-way stop			No
	Northbound Left Turn		A	0.0		A	0.0			A	0.0		A	0.0	
	Southbound Left Turn		B	10.9		B	10.9			A	9.3		A	9.3	
	Eastbound		F	99.5		F	102.1			E	47.3		E	49.9	

Intersection	A.M. Peak Hour							P.M. Peak Hour							
	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	
	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		
	<i>Westbound</i>		<b>F</b>	<b>52.9</b>		<b>F</b>	<b>52.9</b>			<i>E</i>	38.3		<i>E</i>	38.0	
27	Hedge Avenue & Florin Road	All-way stop	B	15.8	Signal	A	9.9	No	All-way stop	B	12.6	Signal	A	6.1	No
28	Mayhew Road & Kiefer Boulevard	Signal	C	27.7	Signal	<b>F</b>	<b>91.2</b>	Yes	Signal	D	44.9	Signal	E	74.2	No
29	Mayhew Road & Jackson Road	Two-way stop			Signal	<b>F</b>	<b>117.9</b>	Yes	Two-way stop			Signal	<b>F</b>	<b>107.2</b>	Yes
	<i>Northbound Through - Left Turn</i>		<b>F</b>	<b>114.1</b>						<b>F</b>	<b>&gt;300</b>				
	<i>Northbound Right Turn</i>		<i>C</i>	16.1						<i>C</i>	18.5				
	<i>Southbound</i>		<b>F</b>	<b>99.2</b>						<b>F</b>	<b>&gt;300</b>				
	<i>Eastbound Left Turn</i>		<i>B</i>	13.5						<i>B</i>	11.0				
	<i>Westbound Left Turn</i>		<i>B</i>	11.2						<i>C</i>	17.6				
30	Mayhew Road & Fruitridge Road	Two-way stop			Signal	B	18.5	No	Two-way stop			Signal	B	18.8	No
	<i>Northbound Left Turn</i>		<i>A</i>	0.0						<i>A</i>	7.5				
	<i>Eastbound</i>		<i>A</i>	9.8						<i>A</i>	9.3				
31	Mayhew Road & Elder Creek Road	Signal	A	7.0	Signal	<b>F</b>	<b>&gt;300</b>	Yes	Signal	A	6.0	Signal	<b>F</b>	<b>&lt;300</b>	Yes
32	Woodring Drive & Zinfandel Drive	Two-way stop			Two-way stop			Yes	Two-way stop			Two-way stop			Yes
	<i>Eastbound</i>		<i>C</i>	20.1		<b>F</b>	<b>85.0</b>			<i>A</i>	9.0		<b>F</b>	<b>223.4</b>	
	<i>Northbound Left Turn</i>		<i>A</i>	8.0		<i>B</i>	10.6			<i>A</i>	0.0		<i>B</i>	12.4	
33	Bradshaw Road & Folsom Blvd.	Signal	C	31.9	Signal	C	25.5	No	Signal	C	25.3	Signal	C	22.4	No
34	Bradshaw Road & US 50 WB Ramps	Signal	A	7.8	Signal	B	11.1	No	Signal	A	8.9	Signal	B	12.2	No
35	Bradshaw Road & US 50 EB Ramps	Signal	C	24.5	Signal	D	54.7	No	Signal	B	15.1	Signal	D	39.5	No
36	Bradshaw Road & Old Placerville Road	Signal	<b>F</b>	<b>81.9</b>	Signal	<b>F</b>	<b>101.6</b>	Yes	Signal	<b>E</b>	<b>68.1</b>	Signal	<b>F</b>	<b>82.4</b>	Yes
37	Bradshaw Road & Kiefer Boulevard	Signal	C	27.6	Signal	<b>F</b>	<b>144.2</b>	Yes	Signal	D	54.1	Signal	<b>F</b>	<b>137.6</b>	Yes
38	Bradshaw Road & Jackson Road	Signal	<b>F</b>	<b>186.0</b>	Signal	<b>F</b>	<b>172.2</b>	No	Signal	<b>F</b>	<b>118.2</b>	Signal	<b>F</b>	<b>161.0</b>	Yes
39	Bradshaw Road & Elder Creek Road	Signal	<b>F</b>	<b>122.6</b>	Signal	<b>F</b>	<b>173.1</b>	Yes	Signal	<b>F</b>	<b>98.8</b>	Signal	<b>F</b>	<b>201.7</b>	Yes
40	Bradshaw Road & Florin Road	Signal	<b>F</b>	<b>129.5</b>	Signal	<b>F</b>	<b>125.3</b>	No	Signal	<i>E</i>	59.7	Signal	<b>F</b>	<b>89.9</b>	Yes
41	Bradshaw Road & Gerber Road	Signal	<b>F</b>	<b>83.1</b>	Signal	<b>F</b>	<b>80.6</b>	No	Signal	D	43.0	Signal	D	49.7	No
42	Happy Lane & Old Placerville Road	Two-way stop			Two-way stop			Yes	Two-way stop			Two-way stop			Yes
	<i>Northbound Left Turn</i>		<b>F</b>	<b>&gt;300</b>		<b>F</b>	<b>&gt;300</b>			<i>F</i>	294.1		<b>F</b>	<b>&gt;300</b>	
	<i>Northbound Right Turn</i>		<b>E</b>	<b>40.9</b>		<b>F</b>	<b>236.0</b>			<i>C</i>	16.9		<i>C</i>	19.2	
	<i>Westbound Left Turn</i>		<i>C</i>	16.0		<i>C</i>	23.4			<i>C</i>	15.3		<b>F</b>	<b>53.3</b>	
43	Happy Lane & Kiefer Boulevard	Free Turn			Signal	<b>F</b>	<b>139.2</b>	Yes	Free Turn			Signal	<i>E</i>	67.8	No
44	Excelsior Road & Kiefer Boulevard	Two-way stop	A	0.0	Signal	A	9.9	No	Two-way stop	A	0.0	Signal	B	14.0	No

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
45	Excelsior Road & Jackson Road	Signal	E	59.9	Signal	F	330.8	Yes	Signal	D	39.0	Signal	F	269.1	Yes
46	Excelsior Road & Elder Creek Road	Two-way stop			Signal	F	81.2	No	Two-way stop			Signal	E	58.8	No
	<i>Northbound Left Turn</i>		A	7.9						A	7.9				
	<i>Eastbound</i>		F	>300						D	30.0				
47	Excelsior Road & Florin Road	All-way stop	F	62.4	Signal	F	111.2	Yes	All-way stop	F	67.3	Signal	E	74.2	No
48	Excelsior Road & Gerber Road/Birch Ranch Drive	All-way stop	B	13.6	Signal	B	11.7	No	All-way stop	B	14.3	Signal	B	11.7	No
49	Mather Field Road & US 50 WB Ramps	Signal	B	14.4	Signal	B	18.1	No	Signal	A	8.6	Signal	B	10.1	No
50	Mather Field Road & US 50 EB Ramps	Signal	B	19.2	Signal	B	17.9	No	Signal	C	21.1	Signal	B	14.6	No
51	Mather Field Road & Rockingham Drive	Signal	F	156.5	Signal	F	>300	Yes	Signal	F	119.4	Signal	F	170.3	Yes
52	Mather Boulevard & Douglas Road	All-way stop	E	55.6	Signal	E	55.8	No	All-way stop	C	27.2	Signal	D	36.5	No
53	Zinfandel Drive & US 50 WB Ramps	Signal	C	20.9	Signal	B	10.6	No	Signal	E	65.0	Signal	D	49.1	No
54	Zinfandel Drive & US 50 EB Ramps/Gold Center Drive	Signal	F	120.8	Signal	F	116.8	No	Signal	F	95.0	Signal	E	79.3	No
55	Zinfandel Drive & White Rock Road	Signal	E	76.3	Signal	E	68.2	No	Signal	F	117.3	Signal	F	111.6	No
56	Zinfandel Drive & Data Drive	Signal	B	18.9	Signal	B	19.1	No	Signal	C	25.6	Signal	C	26.7	No
57	Zinfandel Drive & International Dr	Signal	E	77.2	Signal	E	77.5	No	Signal	F	97.3	Signal	F	81.8	No
58	Zinfandel Drive & Douglas Road	Signal	F	156.8	Signal	F	216.8	Yes	Signal	E	73.1	Signal	F	220.1	Yes
59	Eagles Nest Road/Zinfandel Drive & Kiefer Boulevard	Two-way stop			Signal	D	42.5	No	Two-way stop			Signal	D	39.2	No
	<i>Southbound Left Turn</i>		A	8.1						A	9.2				
	<i>Westbound</i>		F	85.8						F	208.0				
60	Eagles Nest Road & Jackson Road	Signal	C	23.0	Signal	E	69.6	No	Signal	C	23.3	Signal	E	63.7	No
61	Eagles Nest Road & Florin Road	Two-way stop			Two-way stop			Yes	Two-way stop			Two-way stop			Yes
	<i>Northbound</i>		F	>300		F	>300			F	>300		F	>300	
	<i>Southbound</i>		F	>300		F	>300			F	>300		F	>300	
	<i>Eastbound Left Turn</i>		B	10.2		B	11.3			A	8.5		A	9.3	
	<i>Westbound Left Turn</i>		A	0.0		A	0.0			A	9.4		A	8.7	
62	Sunrise Boulevard & US 50 WB Ramps	Signal	E	68.1	Signal	E	71.2	No	Signal	C	22.7	Signal	C	21.5	No
63	Sunrise Boulevard & US 50 EB Ramps	Signal	B	10.2	Signal	B	10.1	No	Signal	B	12.7	Signal	B	13.2	No
64	Sunrise Boulevard & Folsom Boulevard	Signal	D	43.5	Signal	D	47.3	No	Signal	D	40.5	Signal	D	43.1	No
65	Sunrise Boulevard & White Rock Road	Signal	E	69.3	Signal	E	69.5	No	Signal	F	127.3	Signal	F	126.9	No
66	Sunrise Boulevard & International Drive/Monier Circle	Signal	F	109.1	Signal	F	118.6	Yes	Signal	F	81.3	Signal	E	76.7	No
67	Sunrise Boulevard & Douglas Road	Signal	F	140.5	Signal	F	190.0	Yes	Signal	E	73.5	Signal	F	105.4	Yes

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
68	Sunrise Boulevard & Chrysanthy Boulevard	Signal	C	21.4	Signal	B	18.8	No	Signal	A	9.4	Signal	B	10.2	No
69	Sunrise Boulevard & Kiefer Boulevard	Signal	F	151.0	Signal	F	>300	Yes	Signal	F	138.0	Signal	F	261.4	Yes
70	Sunrise Boulevard & Jackson Road	Signal	D	39.6	Signal	F	90.0	Yes	Signal	D	45.4	Signal	E	79.3	Yes
71	Sunrise Boulevard & Florin Road	Signal	D	50.3	Signal	C	22.9	No	Signal	E	57.4	Signal	D	45.9	No
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	F	91.2	Signal	F	120.4	Yes	Signal	C	33.1	Signal	E	71.0	Yes
73	Hazel Avenue & Tributary Point Drive/US 50 WB Off-ramp	Signal	F	148.3	Signal	F	149.4	No	Signal	F	103.3	Signal	F	105.3	No
74	Hazel Avenue & US 50 EB Ramps	Signal	B	16.4	Signal	B	17.6	No	Signal	F	83.6	Signal	F	81.4	No
76	Prairie City Road & White Rock Road	Signal	C	32.8	Signal	D	37.6	No	Signal	D	35.2	Signal	D	36.1	No
77	Grant Line Road & White Rock Road	Signal	C	26.1	Signal	B	16.2	No	Signal	C	29.8	Signal	C	33.4	No
78	Grant Line Road & Douglas Road	Signal	D	44.8	Signal	D	39.0	No	Signal	F	107.9	Signal	F	92.2	No
79	Grant Line Road & Kiefer Boulevard	Signal	B	12.5	Signal	B	14.7	No	Signal	B	10.6	Signal	B	16.8	No
80	Grant Line Road & Jackson Road	Signal	F	88.9	Signal	F	119.0	Yes	Signal	E	67.4	Signal	F	101.1	Yes
81	Watt Avenue & US-50 EB Ramps	Signal	C	23.3	Signal	C	33.1	No	Signal	B	15.6	Signal	B	18.8	No
82	Watt Avenue & US-50 WB Ramps	Signal	F	82.8	Signal	E	67.2	No	Signal	E	57.1	Signal	E	61.2	No
83	Mayhew Rd & Folsom Blvd.	Signal	B	12.8	Signal	B	19.8	No	Signal	B	15.8	Signal	C	20.4	No
84	65th Street Expy & Fruitridge Road	Signal	D	44.3	Signal	D	46.0	No	Signal	D	41.1	Signal	D	46.2	No
85	Power Inn Road & Elder Creek Road	Signal	E	67.3	Signal	E	79.0	No	Signal	D	45.0	Signal	E	61.6	No
86	Power Inn Road & Florin Rd	Signal	F	97.4	Signal	F	119.3	Yes	Signal	E	65.8	Signal	E	73.9	No
87	Florin Perkins Road & Florin Rd	Signal	D	44.2	Signal	E	60.6	No	Signal	F	107.4	Signal	F	111.6	No
88	Bradshaw Rd & Calvine Rd	Signal	C	26.4	Signal	D	37.0	No	Signal	C	20.9	Signal	C	25.0	No
89	Vineyard Rd & Calvine Rd	Signal	B	18.5	Signal	B	18.6	No	Signal	B	17.6	Signal	B	19.5	No
90	Excelsior Road & Calvine Rd	All-way stop	B	12.8	All-way stop	C	21.0	No	All-way stop	B	12.9	All-way stop	B	17.9	No
91	Grant Line Rd & Eagles Nest Rd/Sloughhouse Rd	Signal	C	34.4	Signal	D	43.2	Yes	Signal	D	44.8	Signal	D	52.0	Yes
92	Grant Line Rd & Calvine Rd	Signal	C	32.4	Signal	D	36.5	Yes	Signal	C	33.3	Signal	C	30.9	No
93	Grant Line Rd & Dwy/Wilton Rd	Signal	E	78.8	Signal	F	83.4	Yes	Signal	E	69.8	Signal	F	95.2	Yes
94	Grant Line Rd & Bond Rd/Wrangler Dr	Signal	B	14.8	Signal	B	17.6	No	Signal	B	15.5	Signal	B	17.3	No
95	Florin Perkins Road & 14th Avenue	Signal	D	44.1	Signal	E	67.8	Yes	Signal	C	30.9	Signal	D	46.9	No
96	Jackson Road & 14th Avenue	Signal	F	91.0	Signal	F	119.3	Yes	Signal	B	15.3	Signal	E	57.0	Yes
98	Aspen 1 Access Road & Jackson Road	Signal	A	0.0	Signal	A	0.0	No	Signal	A	6.6	Signal	A	0.0	No
99	Rancho Cordova Pkwy & US-50 WB Ramps	Signal	F	147.0	Signal	F	147.6	No	Signal	F	117.9	Signal	F	104.1	No
100	Rancho Cordova Pkwy & US-50 EB Ramps	Signal	C	24.0	Signal	B	16.9	No	Signal	C	28.3	Signal	C	30.1	No



Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
101	Rancho Cordova Pkwy & Easton Valley Pkwy	Signal	C	24.2	Signal	C	24.7	No	Signal	B	11.2	Signal	B	14.5	No
102	Rancho Cordova Pkwy & White Rock Road	Signal	F	221.3	Signal	F	200.8	No	Signal	F	135.5	Signal	F	128.0	No
103	Rancho Cordova Pkwy & Douglas Road	Signal	E	67.2	Signal	E	57.2	No	Signal	E	58.0	Signal	E	76.1	Yes
104	Rancho Cordova Pkwy & Chrysanthy Boulevard/ Chrysanthy Blvd	Signal	F	105.7	Signal	F	93.5	No	Signal	D	54.9	Signal	D	54.9	No
105	Rancho Cordova Pkwy & Kiefer Blvd	Signal	B	17.9	Signal	C	20.9	No	Signal	B	16.1	Signal	B	19.4	No
106	Rancho Cordova Pkwy & Grant Line Road	Signal	E	78.8	Signal	D	38.4	No	Signal	C	28.8	Signal	B	14.8	No
107	Americanos Blvd & White Rock Road	Signal	A	9.5	Signal	A	8.9	No	Signal	A	9.5	Signal	A	8.4	No
108	Americanos Blvd & Douglas Road	Signal	C	34.9	Signal	D	47.0	No	Signal	C	22.4	Signal	C	23.5	No
109	Americanos Blvd & Chrysanthy Blvd	Signal	C	24.7	Signal	C	22.2	No	Signal	C	22.2	Signal	C	25.4	No
110	Americanos Blvd & Kiefer Blvd	Signal	A	7.6	Signal	A	8.7	No	Signal	A	7.3	Signal	A	9.8	No
111	Grant Line Road & Chrysanthy Blvd	Signal	E	72.0	Signal	E	71.1	No	Signal	E	57.5	Signal	D	54.9	No
112	Hazel Avenue & Easton Valley Pkwy	Signal	B	10.3	Signal	B	10.2	No	Signal	A	6.0	Signal	A	6.1	No
200	Excelsior Road & Collector WJ-1/Collector JT-1	West Jackson/Jackson Township Project Int.			Signal	C	22.4	No	West Jackson/Jackson Township Project Int.			Signal	B	19.6	No
201	Excelsior Road & Collector WJ-2/Collector JT-2	West Jackson/Jackson Township Project Int.			Signal	B	15.2	No	West Jackson/Jackson Township Project Int.			Signal	B	19.8	No
202	W Collector MS-1 & Kiefer Boulevard	Mather South Project Int.			Signal	B	17.3	No	Mather South Project Int.			Signal	B	12.6	No
203	Northbridge Dr & Kiefer Boulevard	NewBridge Project Int.			Signal	A	7.3	No	NewBridge Project Int.			Signal	A	6.8	No
204	E Collector MS-5 & Kiefer Boulevard	Mather South Project Int.			Signal	B	19.1	No	Mather South Project Int.			Signal	C	29.9	No
300	Collector WJ-3 & Jackson Road	West Jackson Project Int.			Signal	B	13.7	No	West Jackson Project Int.			Signal	A	9.2	No
301	Collector WJ-4 & Jackson Road	West Jackson Project Int.			Signal	C	23.3	No	West Jackson Project Int.			Signal	C	22.5	No
303	Rock Creek Pkwy & Jackson Road	West Jackson Project Int.			Signal	F	128.3	Yes	West Jackson Project Int.			Signal	F	96.4	Yes
304	Collector WJ-5 & Jackson Road	West Jackson Project Int.			Signal	B	13.6	No	West Jackson Project Int.			Signal	B	14.7	No
305	Collector WJ-6 & Jackson Road	West Jackson Project Int.			Signal	B	17.7	No	West Jackson Project Int.			Signal	B	15.7	No
306	Excelsior Road & Collector WJ-6	West Jackson Project Int.			Signal	D	38.3	No	West Jackson Project Int.			Signal	B	14.5	No
307	S. Watt Avenue & Rock Creek Pkwy	West Jackson Project Int.			Signal	B	18.2	No	West Jackson Project Int.			Signal	B	18.4	No
308	Hedge Avenue & Rock Creek Pkwy Westbound	West Jackson Project Int.			Round	F	60.5	Yes	West Jackson Project Int.			Round	B	11.2	No
309	Hedge Avenue & Rock Creek Pkwy Eastbound	West Jackson Project Int.			Round	C	24.0	No	West Jackson Project Int.			Round	B	11.2	No
310	Mayhew Road & Rock Creek Pkwy Westbound	West Jackson Project Int.			Round	F	181.2	Yes	West Jackson Project Int.			Round	F	106.4	Yes
311	Mayhew Road & Rock Creek Pkwy Eastbound	West Jackson Project Int.			Round	F	126.7	Yes	West Jackson Project Int.			Round	F	126.5	Yes
312	Bradshaw Road & Rock Creek Pkwy	West Jackson Project Int.			Signal	B	11.0	No	West Jackson Project Int.			Signal	D	47.7	No

Intersection		A.M. Peak Hour					P.M. Peak Hour					LOS Impact			
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project				Cumulative Plus Jackson Corridor Projects		
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)
314	Vineyard Road & Rock Creek Pkwy	West Jackson Project Int.			Signal	B	10.7	No	West Jackson Project Int.			Signal	C	21.9	No
315	Douglas Road & Rock Creek Pkwy	West Jackson Project Int.			Signal	C	32.1	No	West Jackson Project Int.			Signal	E	61.9	No
316	Bradshaw Road & Collector WJ-8	West Jackson Project Int.			Signal	B	12.2	No	West Jackson Project Int.			Signal	A	6.6	No
317	Bradshaw Road & Collector WJ-9	West Jackson Project Int.			Signal	A	9.3	No	West Jackson Project Int.			Signal	A	5.8	No
318	Bradshaw Road & Mayhew Road	West Jackson Project Int.			Signal	F	142.3	Yes	West Jackson Project Int.			Signal	F	118.1	Yes
319	Bradshaw Road & Collector WJ-10	West Jackson Project Int.			Signal	F	182.7	Yes	West Jackson Project Int.			Signal	C	26.9	No
320	Bradshaw Road & Collector WJ-11	West Jackson Project Int.			Signal	A	7.6	No	West Jackson Project Int.			Signal	B	15.0	No
321	Collector WJ-12 & Fruitridge Road	West Jackson Project Int.			Signal	B	17.9	No	West Jackson Project Int.			Signal	B	15.6	No
322	Mayhew Road & Collector WJ-13	West Jackson Project Int.			Signal	C	22.3	No	West Jackson Project Int.			Signal	C	20.9	No
323	Collector WJ-14 & Kiefer Boulevard	West Jackson Project Int.			Signal	C	30.0	No	West Jackson Project Int.			Signal	C	24.7	No
325	Douglas Road & Kiefer Boulevard	West Jackson Project Int.			Signal	F	237.5	Yes	West Jackson Project Int.			Signal	F	191.3	Yes
327	Vineyard Road & Elder Creek Road	West Jackson Project Int.			Signal	C	34.6	No	West Jackson Project Int.			Signal	C	28.1	No
328	Vineyard Road & Florin Road	West Jackson Project Int.			Signal	C	29.1	No	West Jackson Project Int.			Signal	C	29.6	No
329	Routier Ext & Kiefer Boulevard	West Jackson Project Int.			Signal	F	87.8	Yes	West Jackson Project Int.			Signal	E	71.6	No
330	Happy Ln/Happy Lane & Routier Ext	West Jackson Project Int.			Signal	E	79.6	No	West Jackson Project Int.			Signal	E	79.3	No
331	Routier Ext/Routier Rd & Old Placerville Road	West Jackson Project Int.			Signal	F	164.0	Yes	West Jackson Project Int.			Signal	F	117.3	Yes
400	Collector JT-3 & Jackson Road	Jackson Township Project Int.			Signal	F	81.2	Yes	Jackson Township Project Int.			Signal	D	47.0	No
401	Tree View Lane & Jackson Road	Jackson Township Project Int.			Signal	D	37.7	No	Jackson Township Project Int.			Signal	B	12.5	No
402	Collector JT-4 & Jackson Road	Jackson Township Project Int.			Signal	C	23.5	No	Jackson Township Project Int.			Signal	B	10.2	No
403	Tree View Lane & Collector JT-5	Jackson Township Project Int.			Signal	B	12.7	No	Jackson Township Project Int.			Signal	B	13.1	No
404	Tree View Lane & Collector JT-6	Jackson Township Project Int.			Signal	A	7.9	No	Jackson Township Project Int.			Signal	A	7.0	No
405	Tree View Lane & Collector JT-1	Jackson Township Project Int.			Signal	B	14.4	No	Jackson Township Project Int.			Signal	B	14.4	No
406	Tree View Lane & Kiefer Boulevard	Jackson Township Project Int.			Signal	B	10.8	No	Jackson Township Project Int.			Signal	B	13.2	No
407	HS/MS Dwy & Kiefer Boulevard	Jackson Township Project Int.			Signal	A	5.3	No	Jackson Township Project Int.			Signal	A	7.7	No
500	Rockbridge Dr & Jackson Road	NewBridge Project Int.			Signal	C	34.2	No	NewBridge Project Int.			Signal	B	19.7	No
501	Eagles Nest Road & N Bridgewater Dr	NewBridge Project Int.			Signal	A	3.4	No	NewBridge Project Int.			Signal	A	3.1	No
502	Eagles Nest Road & S Bridgewater Dr	NewBridge Project Int.			Signal	B	15.7	No	NewBridge Project Int.			Signal	B	13.6	No
600	Zinfandel Drive & Collector MS-2	Mather South Project Int.			Round	B	10.9	No	Mather South Project Int.			Round	B	11.6	No
601	Zinfandel Drive & Collector MS-3	Mather South Project Int.			Round	A	8.3	No	Mather South Project Int.			Round	A	9.1	No
602	Zinfandel Drive & Collector MS-4	Mather South Project Int.			Round	A	9.1	No	Mather South Project Int.			Round	A	9.1	No
603	Collector MS-5 & Collector MS-2	Mather South Project Int.			Two-way stop			No	Mather South Project Int.			Two-way stop			No



Intersection		A.M. Peak Hour						P.M. Peak Hour							
		Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
	<i>Northbound Left Turn</i>				A	7.8						A	7.5		
	<i>Eastbound Left Turn</i>				B	10.2						B	10.8		
604	Collector MS-5 & Collector MS-3	Mather South Project Int.			Two-way stop			No	Mather South Project Int.			Two-way stop			No
	<i>Northbound Left Turn</i>				A	7.8						A	7.5		
	<i>Eastbound</i>				A	9.9						A	9.7		
605	Collector MS-5 & Collector MS-4	Mather South Project Int.			Two-way stop			No	Mather South Project Int.			Two-way stop			No
	<i>Northbound Left Turn</i>				A	8.4						A	8.2		
	<i>Eastbound</i>				C	17.7						D	33.0		
606	Collector MS-5 & W Collector MS-1/E Collector MS-1	Mather South Project Int.			Two-way stop			No	Mather South Project Int.			Two-way stop			No
	<i>Northbound Left Turn</i>				A	7.6						A	7.7		
	<i>Eastbound Left Turn</i>				B	11.7						B	12.3		
	<i>Eastbound</i>				A	9.3						A	9.3		

Note: Gray shading represents changes in traffic control that the project is responsible to provide.  
**Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.  
Source: DKS Associate 2018

Table CU-10: Cumulative No Project and Cumulative Plus Jackson Corridor Projects Intersection Geometrics

Intersection	Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change	
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach		
1	Howe Avenue & College Town Drive/US 50 Westbound Ramps	Signal	Signal	1112	21111	522	55222	1112	21111	522	55222	
2	Howe Avenue & US 50 Eastbound Ramps/US 50 Eastbound Entrance	Signal	Signal	1112	2111	5222		1112	2111	5222		
3	Power Inn Road/Howe Avenue & Folsom Blvd.	Signal	Signal	55112	211155	5512	551122	55112	211155	5512	551122	
4	Power Inn Road & 14th Avenue	Signal	Signal	5112	21115	512	512	5112	21115	512	512	
5	Power Inn Road & Fruitridge Road	Signal	Signal	5512	21155	512	5112	5512	21155	512	5112	
6	Jackson Road/Notre Dame Dr. & Folsom Blvd.	Signal	Signal	522	22	5112	5112	522	22	5112	5112	
7	Florin Perkins Road/Julliard Dr. & Folsom Boulevard	Signal	Signal	522	2	5112	512	522	2	5112	512	
8	Florin Perkins Road & Kiefer Blvd.	Two-way stop	Two-way stop	12	115		52	12	115		52	
9	Florin Perkins Road & Jackson Road	Signal	Signal	5112	45	5112	512	5112	45	51122	512	
10	Florin Perkins Road & Fruitridge Road	Signal	Signal	5112	2115	5112	512	5112	2115	5112	512	
11	Florin Perkins Road & Elder Creek Road	Signal	Signal	5112	2115	5112	5112	5112	2115	5112	5112	
12	S. Watt Ave./Watt Avenue & Folsom Blvd.	Signal	Signal	55112	211155	55112	55112	55112	211155	55112	55112	
13	S. Watt Ave. & Reith Ct/Manlove Road	Signal	Signal	51112	415	5	522	51112	415	5	522	
14	S. Watt Avenue & Kiefer Blvd.	Signal	Signal	55112	4155	55112	55112	55112	4155	55112	55112	
15	S. Watt Avenue & Canberra Dr.	Signal	Signal	112	115		52	112	115		52	
16	S. Watt Avenue & Jackson Road	Signal	Signal	55112	211155	55112	55112	55112	211155	55112	55112	West Jackson
17	S. Watt Avenue & Fruitridge Road	Signal	Signal	51112	21115	512	52	51112	21115	512	55112	West Jackson
18	S. Watt Avenue & Elder Creek Road	Signal	Signal	551112	211155	5512	5112	551112	211155	5512	5112	
20	Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	Signal	551112	211155	5112	5112	551112	211155	5112	5112	
21	Elk Grove Florin Road & Gerber Rd./Gerber Road	Signal	Signal	551112	211155	55112	55112	551112	211155	55112	55112	
23	Hedge Avenue & Jackson Road	Signal	Signal	52	2	5112	5112	512	2	5112	5112	West Jackson
24	Hedge Avenue & Fruitridge Road	All-way stop	Signal	5	2	5	5	512	215	512	512	West Jackson
25	Hedge Avenue & Elder Creek Road	All-way stop	Signal	512	215	512	512	512	215	512	512	West Jackson
26	Hedge Avenue & Tokay Lane	Two-way stop	Two-way stop	5	2	5	5	5	2	5	5	
27	Hedge Avenue & Florin Road	All-way stop	All-way stop	5	2	512	512	5	2	512	512	
28	Mayhew Road & Kiefer Boulevard	Signal	Signal	512	215	512	512	512	215	512	512	
29	Mayhew Road & Jackson Road	Two-way stop	Signal	52	2	5112	512	55112	21155	551112	551112	West Jackson
30	Mayhew Road & Fruitridge Road	Two-way stop	Signal	5	2	5		5511	211	522		West Jackson
31	Mayhew Road & Elder Creek Road	Two-way stop	Signal	5	2	512	512	55112	22	512	512	West Jackson

Intersection		Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change
		Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
32	Zinfandel Drive & Woodring Drive	Two-way stop	Two-way stop	511	4	7		511	4	7		Mather South
33	Bradshaw Road & Folsom Blvd.	Signal	Signal	512	215	512	5112	512	215	512	5112	
34	Bradshaw Road & US 50 Westbound Ramps	Signal	Signal	112	211		552	112	211		552	
35	Bradshaw Road & US 50 Eastbound Ramps	Signal	Signal	112	211	552		112	211	552		
36	Bradshaw Road & Old Placerville Road	Signal	Signal	5112	415	52	512	5112	415	52	512	
37	Bradshaw Road & Kiefer Boulevard	Signal	Signal	5112	2115	5112	512	5112	2115	5112	5112	West Jackson
38	Jackson Road & Bradshaw Road	Signal	Signal	512	2115	52	52	5112	2115	5112	5112	West Jackson
39	Bradshaw Road & Elder Creek Road	Signal	Signal	512	415	52	52	512	2115	52	5112	West Jackson
40	Bradshaw Road & Florin Road	Signal	Signal	5112	2115	512	512	5112	2115	512	512	
41	Bradshaw Road & Gerber Road	Signal	Signal	5112	2115	5112	512	5112	2115	5112	512	
42	Happy Lane & Old Placerville Road	Two-way stop	Signal	52		12	511	52		12	511	
43	Kiefer Boulevard & Happy Ln		Signal		2	5			25	5111	112	West Jackson
44	Excelsior Road & Kiefer Boulevard	Two-way stop	Signal	2	5		7	52	215	512	512	West Jackson, Jackson Township
45	Excelsior Road & Jackson Road	Signal	Signal	52	215	512	512	52	2115	5112	5112	West Jackson, Jackson Township
46	Excelsior Road & Elder Creek Road	Two-way stop	Signal	52	21	7		51	211	52		West Jackson
47	Excelsior Road & Florin Road	All-way stop	Signal	52	5	52	52	52	5	52	52	West Jackson
48	Excelsior Road & Gerber Road/Birch Ranch Drive	All-way stop	All-way stop	512	2115	52	52	512	2115	52	52	
49	Mather Field Road & US 50 Westbound Ramps	Signal	Signal	112	2111		52	112	2111		52	
50	Mather Field Road & US 50 Eastbound Ramps	Signal	Signal	112	2111	52		112	2111	52		
51	Mather Field Road & Rockingham Drive	Signal	Signal	512	2115	52	52	512	2115	52	52	
52	Mather Boulevard & Douglas Road	All-way stop	All-way stop		25	511	12		25	511	12	
53	Zinfandel Drive & US 50 Westbound	Signal	Signal	112	2111		52	112	2111		52	
54	Zinfandel Drive & US 50 Eastbound Ramps/Gold Center Drive	Signal	Signal	112	2111	52	22	112	2111	52	22	
55	Zinfandel Drive & White Rock Road	Signal	Signal	5112	2115	5112	512	5112	2115	5112	512	
56	Zinfandel Drive & Data Drive	Signal	Signal	512	415	52	52	512	415	52	52	
57	Zinfandel Dr & International Dr	Signal	Signal	5112	415	5112	5112	5112	415	5112	5112	
58	Zinfandel Drive & Douglas Road	Signal	Signal	52	215	512	5112	52	215	512	5112	
59	Eagles Nest Road/Zinfandel Drive & Kiefer Boulevard		Signal	2			5	5112	2115	5112	5112	NewBridge, Mather South
60	Eagles Nest Road & Jackson Road	Two-way stop	Signal	52	5	52	52	52	215	512	512	NewBridge



Intersection	Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
61 Eagles Nest Rd/Eagles Nest Road & Florin Road	Two-way stop	Signal	Ψ	⤴	Ψ	Ψ	Ψ	⤴	Ψ	Ψ	
62 Sunrise Boulevard & US 50 Westbound Ramps	Signal	Signal	1111	2111		5522	1111	2111		5522	
63 Sunrise Boulevard & US 50 Eastbound Ramps	Signal	Signal	1111	2111	5522		1111	2111	5522		
64 Sunrise Boulevard & Folsom Boulevard	Signal	Signal	551111	211155	5511	5512	551111	211155	5511	5512	
65 Sunrise Boulevard & White Rock Road	Signal	Signal	551111	211155	5511	551111	551111	211155	5511	551111	
66 Sunrise Boulevard & International Drive/Monier Circle	Signal	Signal	551111	211155	551111	551111	551111	211155	551111	551111	
67 Sunrise Boulevard & Douglas Road	Signal	Signal	551111	211155	5511	551111	551111	211155	5511	551111	
68 Sunrise Boulevard & Chrysanthy Boulevard	Signal	Signal	1111	1155		55	1111	1155		55	
69 Sunrise Boulevard & Kiefer Boulevard	Signal	Signal	5111	455	Ψ	51	5111	455	551111	51	NewBridge; Mather South
70 Sunrise Boulevard & Jackson Road	Signal	Signal	551111	211155	551111	551111	551111	211155	551111	551111	
71 Sunrise Boulevard & Florin Road	Signal	Signal	511	4	Ψ		511	4	Ψ		
72 Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	Signal	Ψ	21	5111	512	Ψ	21	5111	512	
73 Hazel Avenue & Tributary Point Drive/US 50 Westbound Off-ramp	Signal	Signal	55111	21111	1	522	55111	21111	1	522	
74 Hazel Avenue/Hazel Avenue & US 50 Eastbound Ramps	Signal	Signal	112	2111	5522		112	2111	5522		
76 White Rock Road & Prairie City Road	Signal	Signal		2255	5511	111		2255	5511	111	
77 Grant Line Road & White Rock Road	Signal	Signal	511	211	55		511	211	55		
78 Grant Line Road & Douglas Road	All-way stop	All-way stop	5511	211	51		5511	211	51		
79 Grant Line Road & Kiefer Boulevard	All-way stop	All-way stop	55111	2115	5511	511	55111	2115	5511	511	
80 Grant Line Road & Jackson Road	Signal	Signal	551111	211155	551111	551111	551111	211155	551111	551111	
81 Watt Avenue & US-50 EB Ramps	Signal	Signal	111111	241	5522		111111	241	5522		
82 Watt Avenue & US-50 WB Ramps	Signal	Signal	1122	2411		55222	1122	2411		55222	
83 Mayhew Rd & Folsom Blvd.	Signal	Signal	55		111	511	55		111	511	
84 65th Street Expy & Fruitridge Road	Signal	Signal	5111	2115	511	5111	5111	2115	511	5111	
85 Power Inn Road & Elder Creek Road	Signal	Signal	512	45	5111	512	512	45	5111	512	
86 Power Inn Road & Florin Rd	Signal	Signal	512	2115	5112	51111	512	2115	5112	51111	
87 Florin Perkins Road & Florin Rd	Signal	Signal	5111	2115	512	5111	5111	2115	512	5111	
88 Bradshaw Rd & Calvine Rd	Signal	Signal	5512	21155	551111	551111	5512	21155	551111	551111	
89 Vineyard Rd & Calvine Rd	Signal	Signal	Ψ	25	512	512	Ψ	25	512	512	

Intersection	Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change	
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach		
90	Excelsior Road & Calvine Rd	All-way stop	Signal	512	215	512	512	512	215	512	512	
91	Grant Line Road & Eagles Nest Rd/Sloughhouse Rd	Signal	Signal	5112	45	5	52	5112	45	5	52	
92	Grant Line Road & Calvine Rd	Signal	Signal	511	4	52		511	4	52		
93	Grant Line Road & Driveway/Wilton Rd	Signal	Signal	512	45	52	52	512	45	52	52	
94	Bond Rd/Wrangler Dr & Grant Line Road	Signal	Signal	512	215	52	5	512	215	52	5	
95	Florin Perkins Road & 14th Avenue		Signal	55112	2115	55112	55112	55112	2115	55112	55112	
96	14th Avenue & Jackson Road		Signal		55	511	112		55	5511	112	
97	Rock Creek Pkwy & Jackson Road		Signal	512	215	512	512	512	215	512	512	
98	Aspen 1 Access Road & Jackson Road		Signal	52		12	511	52		12	511	
99	Rancho Cordova Pkwy & US-50 WB Ramps		Signal	55			55	55			55	
100	Rancho Cordova Pkwy & US-50 EB Ramps		Signal	122	115	52		122	115	52		
101	Rancho Cordova Pkwy & Easton Valley Pkwy		Signal	1112	1115		552	1112	1115		552	
102	Rancho Cordova Pkwy & White Rock Road		Signal	55112	2115	55112	55112	55112	2115	55112	55112	
103	Rancho Cordova Pkwy & Douglas Road		Signal	55112	2115	55112	55112	55112	2115	55112	55112	
104	Rancho Cordova Pkwy & Chrysanthy Blvd		Signal	55112	2115	55112	55112	55112	2115	55112	55112	
105	Rancho Cordova Pkwy & Kiefer Blvd		Signal	55112	2115	55112	55112	55112	2115	55112	55112	
106	Grant Line Road & Rancho Cordova Pkwy		Signal		25	511	112		25	511	112	
107	Americanos Blvd & White Rock Road		Signal	52		112	5511	52		112	5511	
108	Americanos Blvd & Douglas Road		Signal	512	215	5112	5112	512	215	5112	5112	
109	Americanos Blvd & Chrysanthy Blvd		Signal	52	4	512	52	52	4	512	52	
110	Kiefer Blvd & Americanos Blvd		Signal		5	5	2		5	5	2	
111	Grant Line Road & Chrysanthy Blvd		Signal	55112	2115	512	55112	55112	2115	512	55112	
112	Easton Valley Pkwy & Hazel Avenue		Signal	512	215	55112	5112	512	215	55112	5112	
200	Excelsior Road & Collector WJ-1/Collector JT-1		Signal					512	45	512	512	West Jackson; Jackson Township
201	Excelsior Road & Collector WJ-2/Collector JT-2		Signal					512	45	512	512	West Jackson; Jackson Township
202	Kiefer Boulevard & W Collector MS-1		Signal						25	5511	12	Mather South
203	Northbridge Dr & Kiefer Boulevard		Signal					52		12	511	NewBridge
204	Kiefer Boulevard & E Collector MS-5		Signal						25	511	112	Mather South
300	Collector WJ-3 & Jackson Road		Signal					52		12	511	West Jackson
301	Collector WJ-4 & Jackson Road		Signal					512	215	5112	5112	West Jackson

Intersection	Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
303	Vineyard Road & Jackson Road	Signal					SS1P	21S	SS11P	SS11P	West Jackson
304	Collector WJ-5 & Jackson Road	Signal					S1P	21S	S11P	S11P	West Jackson
305	Collector WJ-6 & Jackson Road	Signal					S1P	21S	S11P	S11P	West Jackson
306	Excelsior Road & Collector WJ-6	Signal					S1	4	S		West Jackson
307	S. Watt Avenue & Rock Creek Pkwy	Signal					11P	111S		S	West Jackson
308	Hedge Avenue & Rock Creek Pkwy Westbound	Roundabout					S	4		Ψ	West Jackson
309	Hedge Avenue & Rock Creek Pkwy Eastbound	Roundabout					P	1	Ψ		West Jackson
310	Mayhew Road & Rock Creek Pkwy Westbound	Roundabout					S1	4		Ψ	West Jackson
311	Mayhew Road & Rock Creek Pkwy Eastbound	Roundabout					1P	11	Ψ		West Jackson
312	Bradshaw Road & Rock Creek Pkwy	Signal					S111	41	S		West Jackson
314	Vineyard Road & Rock Creek Pkwy	Signal					S11	4	S		West Jackson
315	Douglas Road & Rock Creek Pkwy	Signal					S11	4	S		West Jackson
316	Bradshaw Road & Collector WJ-8	Signal					11P	111S		S	West Jackson
317	Bradshaw Road & Collector WJ-9	Signal					11P	111S		S	West Jackson
318	Bradshaw Road & Mayhew Road	Signal					SS11P	211S	SS11P	SS11P	West Jackson
319	Bradshaw Road & Collector WJ-10	Signal					11P	111S		S	West Jackson
320	Bradshaw Road & Collector WJ-11	Signal					S111	41	S		West Jackson
321	Collector WJ-12 & Fruitridge Road	Signal					S1P	21S	S1P	S1P	West Jackson
322	Mayhew Road & Collector WJ-13	Signal					S11	4	S		West Jackson
323	Collector WJ-14 & Kiefer Boulevard	Signal					S1P	21S	S11P	S11P	West Jackson
325	Douglas Road Extension & Kiefer Boulevard	Signal					SS11P	211S	SS11P	SS11P	West Jackson
327	Vineyard Road & Elder Creek Road	Signal					SS11P	211S	SS11P	SS11P	West Jackson
328	Vineyard Road & Florin Road	Signal	SS		1P	S1	SS11P	211S	SS1P	SS11P	West Jackson
329	Routier Ext & Kiefer Boulevard	Signal					SS11P	211S	SS11P	SS11P	West Jackson
330	Happy Lane & Routier Ext	Signal					S1P	21S	S1P	S1P	West Jackson
331	Routier Ext/Routier Rd & Old Placerville Road	Signal					S11P	211S	S11P	SS1P	West Jackson
400	Jackson Road & Collector JT-3	Signal						2S	SS11	11P	Jackson Township
401	Jackson Road & Tree View Lane	Signal						2S	SS11	11P	Jackson Township
402	Jackson Road & Collector JT-4	Signal						2S	S11	1P	Jackson Township
403	Tree View Lane & Collector JT-5	Signal					S1P	4S	S1P	S1P	Jackson Township
404	Tree View Lane & Collector JT-6	Signal					S1P	4S	S1P	S1P	Jackson Township
405	Tree View Lane & Collector JT-1	Signal					S1P	4S	S1P	S1P	Jackson Township



Intersection	Traffic Control		Cumulative No Project Lane Geometrics				Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
406	Tree View Lane & Kiefer Boulevard	Signal					222		112	2211	Jackson Township
407	HS/MS Dwy & Kiefer Boulevard	Signal					22		12	211	Jackson Township
500	Jackson Road & Rockbridge Dr	Signal						25	211	12	NewBridge
501	Eagles Nest Road & N Bridgewater Dr	Signal					12	115		22	NewBridge
502	Eagles Nest Road & S Bridgewater Dr	Signal					212	45	212	212	NewBridge
600	Zinfandel Drive & Collector MS-2	Roundabout					12	11		2	Mather South
601	Zinfandel Drive & Collector MS-3	Roundabout					12	11		22	Mather South
602	Zinfandel Drive & Collector MS-4	Roundabout					12	11		22	Mather South
603	Collector MS-5 & Collector MS-2	Two-way stop					2	4	2		Mather South
604	Collector MS-5 & Collector MS-3	Two-way stop					2	4	2		Mather South
605	Collector MS-5 & Collector MS-4	Two-way stop					2	4	2		Mather South
606	E Collector MS-1/Collector MS-5 & W Collector MS-1	Two-way stop					21	21	22		Mather South

Note: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
Source: DKS Associate 2018



## **MITIGATION MEASURES**

### **CU-TR-2. Cumulative Intersection Operations.**

The project applicant shall implement Mitigation Measures TR-1 and TR-2. The project applicant shall implement the set of improvements assigned to the project by the Tool (Mitigation Measure TR-1) as identified in **Table CU-11a** and **Table CU-12a**. **Table CU-11a** and **Table CU-12a** summarize recommended mitigation and the results of the operations analysis for the traffic study area intersections with mitigation, which does not exceed the County's standard number of approach lanes, under the Cumulative Plus Jackson Corridor Projects scenario. **Table CU-11b** and **Table CU-12b** summarize recommended mitigation and the results of the operations analysis for the traffic study area intersections with ultimate mitigation, which may exceed the County's standard number of approach lanes, under the Cumulative Plus Jackson Corridor Projects scenario.

Shaded table cells indicate those locations where changes in traffic control and / or number of approach lanes by type have been made to mitigate impacts, which would be the responsibility of the Jackson Corridor Projects to fund. **Table CU-12a** and **Table CU-12b** also identify those intersections that would continue operate at unacceptable levels after mitigation, along with the constraint that precluded full mitigation. In locations where the LOS impact could not be mitigated by implementing the County's standard number of approach lanes, the County has proposed alternative mitigation measures, which are shown in the "Alternative Mitigation" column. These generally include providing additional turn lanes, carrying an additional through lane past the intersection, or designating the intersection as a High Capacity Intersection. These alternative mitigation measures would either fully mitigate the impact or substantially reduce the level of impact. Detailed intersection operations calculations and the full list of study area intersection operating conditions are included in Appendix TR-1. Additionally, detailed descriptions of the three "High Capacity Intersections" identified in **Table CU-12b** are provided in Appendix TR-1.

Implementation of mitigation TR-1, TR-2, and CU-TR-2 would result in fair share payments toward improvements that would reduce the cumulative intersection impacts of the Mather South Project. Several intersections would operate acceptably with implementation of mitigation. Mitigation would generally involve improvements within the alignment or widening of the roadway. The programmatic impacts of constructing these improvements have been evaluated within the scope of the technical sections of this Draft EIR. However, as shown in **Table CU-12a** and **Table CU-12b**, because many intersections have reached the maximum number of lanes allowed under the General Plan, alternative mitigation was recommended. But, even with implementation of this alternative mitigation, some intersections would continue to operate unacceptably.

**Table CU-11a: Cumulative Plus Jackson Corridor Projects Impacted Intersections  
and County Standard Intersection Geometry**

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
3	Power Inn Road/Howe Avenue & Folsom Blvd	Signal	F	108.2	-	-	-	Yes	Signal	F	88.4	-	-	-	Yes
4	Power Inn Road & 14th Avenue	Signal	F	166.0	Signal	F	126.4	Yes	Signal	F	123.7	Signal	F	109.2	Yes
12	Watt Avenue & Folsom Blvd.	Signal	F	182.3	Signal	F	185.2	Yes	Signal	F	199.9	Signal	E	57.6	No
14	S. Watt Avenue & Kiefer Blvd.	Signal	F	91.8	Signal	F	83.2	Yes	Signal	E	73.3	Signal	E	66.2	No
16	S. Watt Avenue & Jackson Road	Signal	F	237.3	Signal	F	153.4	Yes	Signal	F	185.0	Signal	F	121.0	Yes
17	S. Watt Avenue & Fruitridge Road	Signal	F	93.1	Signal	D	44.0	No	Signal	F	114.3	Signal	D	49.6	No
20	Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	F	>300	Signal	F	157.3	No	Signal	F	238.2	Signal	F	164.5	Yes
23	Hedge Avenue & Jackson Road	Signal	F	123.1	Signal	D	53.3	No	Signal	D	41.8	Signal	C	24.1	No
25	Hedge Avenue & Elder Creek Road	Signal	F	138.8	-	-	-	Yes	Signal	F	135.0	-	-	-	Yes
28	Mayhew Road & Kiefer Boulevard	Signal	F	91.2	Signal	E	68.2	No	Signal	E	74.2	Signal	E	62.4	No
29	Mayhew Road & Jackson Road	Signal	F	117.9	Signal	E	64.5	No	Signal	F	107.2	Signal	E	61.7	No

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
31	Mayhew Road & Elder Creek Road	Signal	F	>300	Signal	E	68.5	No	Signal	F	<300	Signal	D	43.3	No
32	Woodring Drive & Zinfandel Drive	Two-way stop			Round	A	8.7	No	Two-way stop			Round	B	10.4	No
	<i>Eastbound</i>		F	85.0						F	223.4				
	<i>Northbound Left Turn</i>		B	10.6						B	12.4				
36	Bradshaw Road & Old Placerville Road	Signal	F	101.6	Signal	F	98.6	Yes	Signal	F	82.4	Signal	E	76.4	No
37	Bradshaw Road & Kiefer Boulevard	Signal	F	144.2	Signal	F	117.3	Yes	Signal	F	137.6	Signal	F	113.1	Yes
38	Bradshaw Road & Jackson Road	Signal	F	172.2	-	-	-	No	Signal	F	161.0	-	-	-	Yes
39	Bradshaw Road & Elder Creek Road	Signal	F	173.1	Signal	E	66.1	No	Signal	F	201.7	Signal	D	49.4	No
40	Bradshaw Road & Florin Road	Signal	F	125.3	Signal	F	85.3	No	Signal	F	89.9	Signal	E	72.8	No
42	Happy Lane & Old Placerville Road	Two-way stop			Modify access control to allow only right-in and right-out on Happy Lane. Median will allow Westbound left-turns to Happy Lane. Construct 4-lane Routier extension.	Yes	Two-way stop			Modify access control to allow only right-in and right-out on Happy Lane. Median will allow Westbound left-turns to Happy Lane. Construct 4-lane Routier extension.	Yes				
	<i>Northbound Left Turn</i>		F	>300			F	>300							
	<i>Northbound Right Turn</i>		F	236.0			C	19.2							
	<i>Westbound Left Turn</i>		C	23.4			F	53.3							

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
43	Happy Lane & Kiefer Boulevard	Signal	F	139.2	-	-	-	Yes	Signal	E	67.8	-	-	-	No
45	Excelsior Road & Jackson Road	Signal	F	330.8	Signal	F	106.9	Yes	Signal	F	269.1	Signal	F	144.6	Yes
47	Excelsior Road & Florin Road	Signal	F	111.2	Signal	D	48.4	No	Signal	E	74.2	Signal	E	73.1	No
51	Mather Field Road & Rockingham Drive	Signal	F	>300	-	-	-	Yes	Signal	F	170.3	-	-	-	Yes
58	Zinfandel Drive & Douglas Road	Signal	F	216.8	Signal	E	62.1	No	Signal	F	220.1	Signal	E	66.9	No
61	Eagles Nest Road & Florin Road	Two-way stop			Signal	F	121.3	Yes	Two-way stop			Signal	F	138.5	Yes
	<i>Northbound</i>		F	>300						F	>300				
	<i>Southbound</i>		F	>300						F	>300				
	<i>Eastbound Left Turn</i>		B	11						A	9.3				
	<i>Westbound Left Turn</i>		A	0						A	8.7				
66	Sunrise Boulevard & International Drive/Monier Circle	Signal	F	118.6	-	-	-	Yes	Signal	E	76.7	-	-	-	No
67	Sunrise Boulevard & Douglas Road	Signal	F	190.0	Signal	F	189.8	Yes	Signal	F	105.4	Signal	F	90.9	Yes
69	Sunrise Boulevard & Kiefer Boulevard	Signal	F	>300	Signal	F	113.3	No	Signal	F	261.4	Signal	E	70.7	No

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
70	Sunrise Boulevard & Jackson Road	Signal	F	90.0	Signal	D	53.7	No	Signal	E	79.3	Signal	D	52.9	No
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	F	120.4	Signal	D	36.4	No	Signal	E	71.0	Signal	E	70.1	Yes
80	Grant Line Road & Jackson Road	Signal	F	119.0	Signal	F	119.0	Yes	Signal	F	101.1	Signal	F	101.1	Yes
86	Power Inn Road & Florin Rd	Signal	F	119.3	Signal	E	57.1	No	Signal	E	73.9	Signal	D	47.1	No
91	Grant Line Rd & Eagles Nest Rd/Sloughhouse Rd	Signal	D	43.2	Signal	D	39.1	No	Signal	D	52.0	Signal	D	38.4	No
92	Grant Line Rd & Calvine Rd	Signal	D	36.5	Signal	B	11.6	No	Signal	C	30.9	Signal	A	9.5	No
93	Grant Line Rd & Dwy/Wilton Rd	Signal	F	83.4	Signal	E	59.8	No	Signal	F	95.2	Signal	F	82.1	Yes
95	Florin Perkins Road & 14th Avenue	Signal	E	67.8	-	-	-	Yes	Signal	D	46.9	-	-	-	No
96	Jackson Road & 14th Avenue	Signal	F	119.3	-	-	-	Yes	Signal	E	57.0	-	-	-	Yes
103	Rancho Cordova Pkwy & Douglas Road	Signal	E	57.9	Signal	E	57.2	No	Signal	E	76.1	Signal	E	76.1	Yes
303	Vineyard Road & Jackson Road	Signal	F	128.3	Signal	E	77.4	No	Signal	F	96.4	Signal	D	54.7	No
308	Hedge Avenue & Rock	Round	F	60.5	Round	C	15.5	No	Round	B	11.2	Round	B	10.2	No

Intersection	A.M. Peak Hour							P.M. Peak Hour							
	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	Cumulative Plus Jackson Corridor Projects			County Standard Geometry Cumulative Plus Jackson Corridor Projects			Alternative Mitigation	
	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		
	Creek Pkwy WB														
310	Mayhew Road & Rock Creek Pkwy WB	Round	<b>F</b>	<b>181.2</b>	-	-	-	Yes	Round	<b>F</b>	<b>106.4</b>	-	-	-	Yes
311	Mayhew Road & Rock Creek Pkwy EB	Round	<b>F</b>	<b>126.7</b>	Round	<b>F</b>	<b>171.2</b>	Yes	Round	<b>F</b>	<b>126.5</b>	Round	<b>F</b>	<b>215.2</b>	Yes
318	Bradshaw Road & Mayhew Road	Signal	<b>F</b>	<b>142.3</b>	Signal	<b>F</b>	<b>115.8</b>	Yes	Signal	<b>F</b>	<b>118.1</b>	Signal	<b>F</b>	<b>95.2</b>	Yes
319	Bradshaw Road & Collector WJ-10	Signal	<b>F</b>	<b>182.7</b>	Signal	<b>F</b>	<b>146.9</b>	Yes	Signal	C	26.9	Signal	C	22.5	No
325	Douglas Road & Kiefer Boulevard	Signal	<b>F</b>	<b>237.5</b>	Signal	<b>F</b>	<b>128.4</b>	Yes	Signal	<b>F</b>	<b>191.3</b>	Signal	<b>F</b>	<b>103.7</b>	Yes
329	Routier Ext & Kiefer Boulevard	Signal	<b>F</b>	<b>87.8</b>	-	-	-	Yes	Signal	E	71.6	-	-	-	No
331	Routier Ext/Routier Rd & Old Placerville Road	Signal	<b>F</b>	<b>164.0</b>	Signal	<b>F</b>	<b>127.4</b>	Yes	Signal	<b>F</b>	<b>117.3</b>	Signal	<b>F</b>	<b>108.8</b>	Yes
400	Collector JT-3 & Jackson Road	Signal	<b>F</b>	<b>81.2</b>	Signal	D	47.2	No	Signal	D	47.0	Signal	B	18.9	No

Note: Gray shading represents changes in traffic control that the project is responsible to provide. **Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts. (-): No changes to intersection geometry or operation.  
Source: DKS Associates 2018



**Table CU-11b: Cumulative Plus Jackson Corridor Projects County Standard and Ultimate Mitigations**

Intersection		A.M. Peak Hour						P.M. Peak Hour					
		County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Ultimate Mitigated Cumulative Plus Jackson Corridor Projects			County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Ultimate Mitigated Cumulative Plus Jackson Corridor Projects		
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)
3	Power Inn Road/Howe Avenue & Folsom Blvd	Signal	F	108.2	-	-	-	Signal	F	88.4	-	-	-
4	Power Inn Road & 14th Avenue	Signal	F	126.4	-	-	-	Signal	F	109.2	-	-	-
12	Watt Avenue & Folsom Blvd.	Signal	F	185.2	Signal	D	39.4	Signal	E	57.6	Signal	D	41.7
14	S. Watt Avenue & Kiefer Blvd.	Signal	F	83.2	Signal	SB Ramps A NB Ramps A	SB Ramps 6.5 NB Ramps 4.8	Signal	E	66.2	Signal	SB Ramps B NB Ramps B	SB Ramps 15.9 NB Ramps 12.7
16	S. Watt Avenue & Jackson Road	Signal	F	153.4	Signal	F	130.1	Signal	F	121.0	Signal	F	102.6
20	Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	F	157.3	Signal	F	103.5	Signal	F	164.5	Signal	F	101.9
25	Hedge Avenue & Elder Creek Road	Signal	F	138.8	Signal	E	76.1	A	F	145.8	Signal	E	79.5
36	Bradshaw Road & Old Placerville Road	Signal	F	98.6	-	-	-	Signal	E	76.4	-	-	-
37	Bradshaw Road & Kiefer Boulevard	Signal	F	117.3	-	-	-	Signal	F	113.1	-	-	-
38	Bradshaw Road & Jackson Road	Signal	F	139.2	Gra	de Separate		Signal	F	67.8	Gra	de Separate	
42	Happy Lane & Old Placerville Road	Modify access control to allow only right-in and right-out on Happy Lane. Median will allow Westbound left-turns to Happy Lane. Alternative mitigation is to construct the 4-lane Route extension from Old Placerville Rd to Kiefer Blvd.											
43	Happy Lane & Kiefer Boulevard	Signal	F	106.9	-	-	-	Signal	E	67.8	-	-	-
45	Excelsior Road & Jackson Road	Signal	F	106.9	-	-	-	Signal	F	144.6	-	-	-
51	Mather Field Road & Rockingham Drive	Signal	F	>300	-	-	-	Signal	F	170.3	-	-	-
61	Eagles Nest Road & Florin Road	Signal	F	121.3	Signal	E	69.6	Signal	F	138.5	Signal	D	49.1
66	Sunrise Boulevard & International Drive/Monier Circle	Signal	F	118.6	-	-	-	Signal	E	76.7	-	-	-
67	Sunrise Boulevard & Douglas Road	Signal	F	189.8	-	-	-	Signal	F	90.9	-	-	-
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	D	36.4	Signal	D	35.1	Signal	E	70.1	Signal	C	27.5
80	Grant Line Road & Jackson Road	Signal	F	119.0	Signal	F	87.6	Signal	F	101.1	Signal	D	52.7
93	Grant Line Rd & Dwy/Wilton Rd	Signal	E	59.8	Signal	D	52.6	Signal	F	82.1	Signal	C	27.9
95	Florin Perkins Road & 14th Avenue	Signal	E	67.8	-	-	-	Signal	D	46.9	-	-	-
96	Jackson Road & 14th Avenue	Signal	F	119.3	-	-	-	Signal	E	57.0	-	-	-
103	Rancho Cordova Pkwy & Douglas Road	Signal	E	57.2	Signal	D	39.5	Signal	E	76.1	Signal	E	68.7
310	Mayhew Road & Rock Creek Pkwy WB	Round	F	181.2	Signal	E	78.6	Round	F	106.4	Signal	E	73.7
311	Mayhew Road & Rock Creek Pkwy EB	Round	F	171.2				Round	F	215.2			
318	Bradshaw Road & Mayhew Road	Signal	F	115.8	Signal	F	85.0	Signal	F	95.2	Signal	F	80.4
319	Bradshaw Road & Collector WJ-10	Signal	F	146.9	Signal	D	40.7	Signal	C	22.5	Signal	B	17.0
325	Douglas Road & Kiefer Boulevard	Signal	F	128.4	-	-	-	Signal	F	103.7	-	-	-
329	Routier Ext & Kiefer Boulevard	Signal	F	87.8	Signal	D	48.4	Signal	E	71.6	Signal	E	63.2
331	Routier Ext/Routier Rd & Old Placerville Road	Signal	F	127.4	Signal	D	47.2	Signal	F	108.8	Signal	C	32.3

Note: Gray shading represents changes in traffic control that the project is responsible to provide.  
**Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.  
 (-): No changes to intersection geometry or operation.  
 Source: DKS Associates 2018

Table CU-12a: Cumulative Plus Jackson Corridor Projects Intersection Impacts and Mitigations

Intersection	Traffic Control		Cumulative Plus Jackson Corridor Projects Lane Geometrics				County Standard Mitigated Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?
	Cumulative Plus Jackson Corridor Projects	Mitigated Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
3 Power Inn Road/Howe Avenue & Folsom Blvd.	Signal	Signal	SS1112	2111SS	SS1P	SS1122	SS1112	2111SS	SS1P	SS1122	Yes
4 Power Inn Road & 14th Avenue	Signal	Signal	SS1P	2111S	SS1P	SS12	SS1P	2111S	SS1P	SS1P2	Yes
12 S. Watt Ave./Watt Avenue & Folsom Blvd.	Signal	Signal	SS1112	2111SS	SS112	SS112	SS1112	2111SS	SS112	SS112	Yes
14 S. Watt Avenue & Kiefer Blvd.	Signal	Signal	SS11P	411SS	SS112	SS112	SS1112	2111SS	SS112	SS112	Yes
16 S. Watt Avenue & Jackson Road	Signal	Signal	SS1112	2111SS	SS112	SS112	SS1112	2111SS	SS1112	SS1112	Yes
17 S. Watt Avenue & Fruitridge Road	Signal	Signal	SS112	2111S	SS12	SS112	SS1112	2111SS	SS112	SS112	No
20 Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	Signal	SS1112	2111SS	SS12	SS12	SS1112	2111SS	SS1112	SS1112	Yes
23 Hedge Avenue & Jackson Road	Signal	Signal	SS12	4	SS12	SS12	SS12	21S	SS1P	SS1P	No
25 Hedge Avenue & Elder Creek Road	Signal	Signal	SS12	21S	SS1P	SS1P	SS12	21S	SS1P	SS1P	Yes
28 Mayhew Road & Kiefer Boulevard	Signal	Signal	SS12	21S	SS1P	SS1P	SS12	21S	SS1P	SS12	No
29 Mayhew Road & Jackson Road	Signal	Signal	SS112	211SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112	No
31 Waterman Road/Mayhew Road & Elder Creek Road	Signal	Signal	SS112	2S	SS1P	SS1P	SS112	211SS	SS1112	SS1112	No
32 Woodring Drive & Zinfandel Drive	Two-way stop	Roundabout	SS11	41	SS1P		SS11	41	SS1P		No
36 Bradshaw Road & Old Placerville Road	Signal	Signal	SS1112	411SS	SS1P	SS12	SS1112	411SS	SS1P	SS12	Yes
37 Bradshaw Road & Kiefer Boulevard	Signal	Signal	SS1112	2111SS	SS112	SS112	SS1112	2111SS	SS1112	SS1112	Yes
38 Jackson Road & Bradshaw Road	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112	Yes
39 Bradshaw Road & Elder Creek Road	Signal	Signal	SS11P	2111SS	SS1P	SS112	SS1112	2111SS	SS1112	SS1112	No
40 Bradshaw Road & Florin Road	Signal	Signal	SS1112	2111SS	SS1P	SS1P	SS1112	2111SS	SS1P	SS1112	No
42 Happy Lane & Old Placerville Road	Two-way stop	Access Control	SS1		SS1P	SS11	Happy Lane to become right-in and right-out only. Median will allow westbound left turns.				Yes
43 Kiefer Boulevard & Happy Ln	Signal	Signal		2S	SS111	SS11P		2S	SS111	SS11P	Yes
45 Excelsior Road & Jackson Road	Signal	Signal	SS1P	211SS	SS1112	SS1112	SS12	211SS	SS1112	SS1112	Yes
47 Excelsior Road & Florin Road	Signal	Signal	SS1P	4S	SS1P	SS1P	SS1P	4S	SS1P	SS1P	No
51 Mather Field Road & Rockingham Drive	Signal	Signal	SS11P	2111S	SS12	SS12	SS11P	2111S	SS12	SS12	Yes
58 Zinfandel Drive & Douglas Road	Signal	Signal	SS1P	21SS	SS1P	SS112	SS112	211SS	SS1112	SS1112	No
61 Eagles Nest Rd/Eagles Nest Road & Florin Road	Two-way stop	Signal	SS1	4	SS1P	SS1P	SS1	4	SS1P	SS1P	Yes
66 Sunrise Boulevard & International Drive/Monier Circle	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112	Yes
67 Sunrise Boulevard & Douglas Road	Signal	Signal	SS1112	2111SS	SS11P	SS112	SS1112	2111SS	SS1112	SS1112	Yes
69 Sunrise Boulevard & Kiefer Boulevard	Signal	Signal	SS112	41SS	SS112	SS12	SS1112	2111SS	SS112	SS112	No

Intersection	Traffic Control		Cumulative Plus Jackson Corridor Projects Lane Geometrics				County Standard Mitigated Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?
	Cumulative Plus Jackson Corridor Projects	Mitigated Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
70 Jackson Road & Sunrise Boulevard	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	No
72 Sheldon Lake Drive/Sunrise Boulevard & Grant Line Rd/Grant	Signal	Signal	ψ	28	5112	512	ψ	28	SS112	512	Yes
80 Grant Line Road & Jackson Road	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	Yes
86 Power Inn Road & Florin Rd	Signal	Signal	512	2115	5112	5112	SS112	21155	SS112	SS112	No
91 Grant Line Rd & Eagles Nest Rd/Sloughhouse Rd	Signal	Signal	5112	415	ψ	52	512	415	512	512	No
92 Grant Line Rd & Calvine Rd	Signal	Signal	511	41	52		SS11	211	552		No
93 Grant Line Rd & Driveway/Wilton Rd	Signal	Signal	512	415	52	52	512	415	52	512	Yes
95 Florin Perkins Road & 14th Avenue	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	Yes
96 14th Avenue & Jackson Road	Signal	Signal		55	SS11	112		55	SS11	112	Yes
103 Rancho Cordova Pkwy & Douglas Road	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	Yes
303 Vineyard Road & Jackson Road	Signal	Signal	SS12	215	SS112	SS112	SS112	21155	SS112	SS112	No
308 Hedge Avenue & Rock Creek Pkwy Westbound	Roundabout	Roundabout	ψ	4		ψ	ψ	4		ψ2	No
310 Mayhew Road & Rock Creek Pkwy Westbound	Roundabout	Signal	ψ1	41		ψ	5112	4115	512	512	Yes
311 Mayhew Road & Rock Creek Pkwy Eastbound	Roundabout		12	18	ψ						Yes
318 Bradshaw Road & Mayhew Road	Signal	Signal	SS112	21155	SS112	SS112	SS112	221155	SS112	SS112	Yes
319 Bradshaw Road & Collector WJ-10	Signal	Signal	112	115		52	112	115		52	No
325 Douglas Road Extension & Kiefer Boulevard	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	Yes
329 Routier Ext & Kiefer Boulevard	Signal	Signal	SS112	21155	SS112	SS112	SS112	21155	SS112	SS112	Yes
331 Routier Ext/Routier Rd & Old Placerville Road	Signal	Signal	5112	21155	5112	5512	SS112	21155	SS112	SS112	Yes
400 Collector JT-3 & Jackson Road	Signal	Signal		25	SS11	112		225	SS11	112	No

Note: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
<sup>1</sup> High capacity intersections are defined in the Sacramento County General Plan and may include grade separations, additional turn lanes, and/or other features as deemed appropriate by the County.  
<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan or standard intersection geometry, excluding high capacity intersections, as proposed by the County of Sacramento.  
Source: DKS Associates 2018



Table CU-12b: Cumulative Plus Jackson Corridor Projects Intersection Impacts and Mitigations

Intersection	Traffic Control		County Standard Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				Ultimate Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?	High Capacity Intersection? <sup>1</sup>	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
	County Standard Cumulative Plus Jackson Corridor Projects	Ultimate Mitigated Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach				
3 Power Inn Road/Howe Avenue & Folsom Blvd.	Signal	Signal	SS1112	2111SS	SS12	SS1122	SS1112	2111SS	SS12	SS1122	Yes	No		Existing development
4 Power Inn Road & 14th Avenue	Signal	Signal	SS12	2111S	SS12	SS122	SS12	2111S	SS12	SS122	Yes	No		Existing development
12 S. Watt Ave./Watt Avenue & Folsom Blvd.	Signal	Signal	SS1112	2111SS	SS112	SS112	SS	2SS	SS112	SS112	No	Yes	Grade separated NBT and SBT	
14 S. Watt Avenue & Kiefer Blvd.	Signal	Signal							112	SS11	No	Yes	Tight Diamond Interchange (SB Watt Ramps/Kiefer intersection shown)	
		Signal	SS112	41SS	SS112	SS112	SS		112	SS11			Tight Diamond Interchange (NB Watt Ramps/Kiefer intersection shown)	
16 S. Watt Avenue & Jackson Road	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112 *Free right	No	Yes	Triple SBL, Free WBR	
20 Elk Grove Florin Road/S. Watt Ave. & Florin Road	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS12	No	No	Dual SBR, Triple EBL	
25 Hedge Avenue & Elder Creek Road	Signal	Signal	SS12	21S	SS12	SS12	SS12	21S	SS12	SS12	No	No	Dual NBL, Dual SBL	
36 Bradshaw Road & Old Placerville Road	Signal	Signal	SS1112	41SS	SS12	SS12	SS1112	41SS	SS12	SS12	Yes	No		Existing development
37 Bradshaw Road & Kiefer Boulevard	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112	Yes	No	Carry 3 EBT and 3 WBT lanes through intersection	Maximum General Plan Lanes
38 Jackson Road & Bradshaw Road	Signal	Signal	SS1112	2111SS	SS1112	SS1112	Grade Separate				No	No	HCI, high NBT and peak EBT/WBT movements, Cumulative Fair Share	
42 Happy Lane & Old Placerville Road	Access Control	Access Control	Happy Lane to become right-in and right-out only. Median will allow westbound left turns.								Yes	No	Construct 4-lane Rooter extension from Old Placerville Rd to Kiefer Blvd	Maximum General Plan Lanes
43 Kiefer Boulevard & Happy Ln	Signal	Signal		SS	SS111	112		SS	SS111	112	Yes	No		Maximum lanes

Intersection	Traffic Control		County Standard Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				Ultimate Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?	High Capacity Intersection? <sup>1</sup>	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible	
	County Standard Cumulative Plus Jackson Corridor Projects	Ultimate Mitigated Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach					
45	Excelsior Road & Jackson Road	Signal	Signal	SIC	211SS	SS111C	SS111C	SS11C	211SS	SS111C	SS111C	Yes	No	NBR overlap	Maximum General Plan Lanes
51	Mather Field Road & Rockingham Drive	Signal	Signal	S11P	2111S	S1C	S1C	S11P	2111S	S1C	S1C	Yes	No		Existing development
61	Eagles Nest Rd/Eagles Nest Road & Florin Road	Signal	Signal	Ψ	4	Ψ	Ψ	S1C	4	S1C	S1C	No	No		
66	Sunrise Boulevard & International Drive/Monier Circle	Signal	Signal	SS111C	2111SS	SS111C	SS111C	SS111C	2111SS	SS111C	SS111C	Yes	No		Maximum General Plan Lanes
67	Sunrise Boulevard & Douglas Road	Signal	Signal	SS111C	2111SS	SS111C	SS111C	SS111C	2111SS	SS111C	SS111C	Yes	No		Maximum General Plan Lanes
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Rd/Grant	Signal	Signal	Ψ	2B	SS11C	S1P	Ψ	22B	SS11C	S1P	No	No	Dual SBL	
80	Grant Line Road & Jackson Road	Signal	Signal	SS11C	211SS	SS11C	SS11C	SS11C	2211SS	SS11C	SS1C	No	No	Dual SBR	
93	Grant Line Rd & Driveway/Wilton Rd	Signal	Signal	S1P	4S	S1C	S1C	S11C	4S	S1C	S1C	No	No		
95	Florin Perkins Road & 14th Avenue	Signal	Signal	SS11C	211SS	SS11C	SS11C	SS11C	211SS	SS11C	SS11C	Yes	No		Maximum lanes
96	14th Avenue & Jackson Road	Signal	Signal		SS	SS11	11C		SS	SS11	11C	Yes	No		Maximum lanes
103	Rancho Cordova Pkwy & Douglas Road	Signal	Signal	SS11C	211SS	SS111C	SS111C	SS11C	211SS	SS111C	SS111C	Yes	No	WBR Overlap	
310	Mayhew Road & Rock Creek Pkwy Westbound	Roundabout	Signal	S11	41		Ψ	S11P	41S	S1C	S1C	No	No		
311	Mayhew Road & Rock Creek Pkwy Eastbound	Roundabout		1P	1B	Ψ						No	No		

Intersection	Traffic Control		County Standard Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				Ultimate Mitigated Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?	High Capacity Intersection? <sup>1</sup>	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
	County Standard Cumulative Plus Jackson Corridor Projects	Ultimate Mitigated Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach				
318 Bradshaw Road & Mayhew Road	Signal	Signal	SS1112	2111SS	SS1112	SS1112	SS1112	2211SS	SSS1112	SS1112	Yes	No	HCI, Triple EBL and dual SBR, Cumulative Fair Share	Maximum General Plan lanes
319 Bradshaw Road & Collector WJ-10	Signal	Signal	1112	111S		S	1112	111SS		S	No	No	Dual SBL and Dual WBL	
325 Douglas Road Extension & Kiefer Boulevard	Signal	Signal	SS112	211SS	SS1112	SS1112	SS112	211SS	SS1112	SS1112	Yes	No		Maximum lanes
329 Routier Ext & Kiefer Boulevard	Signal	Signal	SS112	211SS	SS1112	SS1112	SS1112	2111SS	SS1112	SS1112	No	No		
331 Routier Ext/Routier Rd & Old Placerville Road	Signal	Signal	SS112	211SS	SS1112	SS1112	SS112	211SS	SS1112	SS1112	No	No	NBR overlap	

Notes: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
<sup>1</sup> High capacity intersections are defined in the Sacramento County General Plan and may include grade separations, additional turn lanes, and/or other features as deemed appropriate by the County.  
<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan or standard intersection geometry, excluding high capacity intersections, as proposed by the County of Sacramento.  
 Source: DKS Associates 2018

Further, while implementation of Mitigation Measure TR-1, TR-2, and CU-TR-2 would result in fair share payment toward improvements that would reduce impacts to a less-than-significant level for some intersection, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. Because the timing of implementation of all required improvements cannot be guaranteed and their implementation is not subject to the responsibility of just Mather South applicants and the County, it cannot be guaranteed that cumulative significant impacts to intersections would be reduced to a less-than-significant level at the time of phased development. Therefore, the project would have a substantial contribution to a significant cumulative impact. This impact would be considerable and **significant and unavoidable**.

**Table CU-13: Cumulative Plus Jackson Corridor Projects Summary of Affected Intersections**

Intersection		Alternative Mitigation
<b>Level of Service Impact Fully Mitigated by General Plan Lanes</b>		
17	S. Watt Avenue & Fruitridge Road	
20	Elk Grove Florin Road/S. Watt Ave. & Florin Road	**
23	Hedge Avenue & Jackson Road	
28	Mayhew Road & Kiefer Boulevard	
29	Mayhew Road & Jackson Road	
31	Mayhew Road & Elder Creek Road	
32	Woodring Drive & Zinfandel Drive	
39	Bradshaw Road & Elder Creek Road	
40	Bradshaw Road & Florin Road	
47	Excelsior Road & Florin Road	
58	Zinfandel Drive & Douglas Road	
69	Sunrise Boulevard & Kiefer Boulevard	
70	Sunrise Boulevard & Jackson Road	
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	**
86	Power Inn Road & Florin Rd	
91	Grant Line Rd & Eagles Nest Rd/Sloughhouse Rd	
92	Grant Line Rd & Calvine Rd	
303	Happy Lane & Jackson Road	
308	Hedge Avenue & Rock Creek Pkwy WB	
400	Collector JT-3 & Jackson Road	
<b>Level of Service Impact Not Fully Mitigated by General Plan Lanes But Designated High</b>		



Intersection		Alternative Mitigation
<b>Capacity Intersection</b>		
12	Watt Avenue & Folsom Blvd.	**
14	S. Watt Avenue & Kiefer Blvd.	**
16	S. Watt Avenue & Jackson Road	**
<b>Level of Service Impact Not Fully Mitigated by General Plan Lanes</b>		
3	Power Inn Road/Howe Avenue & Folsom Blvd	
4	Power Inn Road & 14th Avenue	
25	Hedge Avenue & Elder Creek Road	**
36	Bradshaw Road & Old Placerville Road	
37	Bradshaw Road & Kiefer Boulevard	*
38	Bradshaw Road & Jackson Road	**
42	Happy Lane & Old Placerville Road	
43	Happy Lane & Kiefer Boulevard	**
45	Excelsior Road & Jackson Road	*
51	Mather Field Road & Rockingham Drive	
61	Eagles Nest Road & Florin Road	**
66	Sunrise Boulevard & International Drive/Monier Circle	
67	Sunrise Boulevard & Douglas Road	
80	Grant Line Road & Jackson Road	**
93	Grant Line Rd & Dwy/Wilton Rd	**
95	Florin Perkins Road & 14th Avenue	
96	Jackson Road & 14th Avenue	
103	Rancho Cordova Pkwy & Douglas Road	**
310	Mayhew Road & Rock Creek Pkwy WB	**
311	Mayhew Road & Rock Creek Pkwy EB	**
318	Bradshaw Road & Mayhew Road	*
319	Bradshaw Road & Collector WJ-10	**
325	Douglas Road & Kiefer Boulevard	
329	Routier Ext & Kiefer Boulevard	*
331	Routier Ext/Routier Rd & Old Placerville Road	**
<p><sup>1</sup>. Alternative mitigations represent proposed mitigations beyond the General Plan, excluding designated high capacity intersections, as proposed by the County of Sacramento.</p> <p>* denotes alternative mitigations that improve operations but do not fully mitigate the impact.</p> <p>** denotes alternative mitigations that fully mitigate the impact.</p> <p>Source: DKS Associates 2018</p>		

*CUMULATIVE FREEWAY FACILITY IMPACTS*

**CUMULATIVE FREEWAY SEGMENTS**

**Table CU-14** summarizes a.m. and p.m. peak hour US 50 freeway mainline operations under the Cumulative Plus Jackson Corridor Project scenario. Detailed freeway mainline operations calculations are included in Appendix TR-1. The following freeway mainline location would experience unacceptable operating conditions with the addition of traffic generated by the Jackson Corridor Projects:

- Eastbound
- Stockton Boulevard to 59th Street - a.m. peak hour

**CUMULATIVE FREEWAY RAMP INTERSECTION QUEUING**

**Table CU-15** and **Table CU-16** summarize a.m. and p.m. peak hour freeway ramp intersection queuing under the Cumulative No Project and Cumulative Plus Jackson Corridor Projects scenario. As shown in **Table CU-16**, implementation of the Jackson Corridor Projects would result in freeway ramp intersections experiencing vehicle queues that would extend into the ramp's deceleration area, onto the freeway, or queues greater than the available storage capacity.

Due to the addition of traffic to freeway ramp intersections in the study area generated by the Jackson Corridor Projects, the following locations would experience queues that exceed the available storage capacity:

- Eastbound
- Exit ramp to Howe Avenue - right turn queue length exceeds available storage – a.m. peak hour
- Exit ramp to Zinfandel Drive-right turn and through queue length exceeds available storage – a.m. peak hour
- Westbound
- Exit ramp to Rancho Cordova Parkway - left turn queue length exceeds available storage – a.m. and p.m. peak hours

**Table CU-14: CEQA Cumulative Plus Four Projects Peak Hour Freeway Basic Segment Level of Service**

Direction	Location	CEQA Cumulative				Cumulative Plus Jackson Corridor Projects			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
East-bound US 50	SR 99 / SR 51 to Stockton Boulevard	8,751	D	8,638	D	9,295	D	8,855	D
	Stockton Boulevard to 59th Street	8,168	<b>F</b>	7,819	<b>F</b>	8,642	<b>F</b>	8,051	<b>F</b>
	59th Street to 65th Street	7,637	D	7,343	D	8,099	E	7,521	D
	65th Street to Howe Avenue	8,019	D	7,667	D	8,272	D	7,812	D
	Howe Avenue to Watt Avenue	7,213	C	6,672	C	7,366	C	6,679	C
	Watt Avenue to Bradshaw Road	9,633	<b>F</b>	8,982	E	9,825	<b>F</b>	9,056	E
	Bradshaw Rd to Mather Field Rd	9,467	<b>F</b>	9,052	C	9,483	<b>F</b>	9,015	C
	Mather Field Rd to Zinfandel Drive	9,072	D	8,767	D	9,211	D	8,916	D
	Zinfandel Drive to Sunrise Blvd	6,313	C	6,370	<b>F</b>	6,400	C	6,551	<b>F</b>
	Sunrise Bl to Rancho Cordova Pkwy	5,835	C	5,878	<b>F</b>	5,892	C	6,121	<b>F</b>
Rancho Cordova Pkwy to Hazel Ave	7,170	D	6,636	<b>F</b>	7,249	D	6,929	<b>F</b>	
West-bound US 50	Hazel Ave to Rancho Cordova Pkwy	5,376	B	5,162	C	5,643	B	5,218	C
	Rancho Cordova Pkwy to Sunrise Bl	6,906	C	4,366	B	7,103	C	4,461	B
	Sunrise Blvd to Zinfandel Drive	8,587	D	5,233	B	8,801	D	5,378	B
	Zinfandel Drive to Mather Field Rd	9,480	D	7,406	C	9,493	D	7,454	C
	Mather Field Rd to Bradshaw Road	9,560	<b>F</b>	8,720	D	9,406	<b>F</b>	8,544	D
	Bradshaw Road to Watt Avenue	9,001	<b>F</b>	7,882	D	8,854	<b>F</b>	8,099	E
	Watt Avenue to Howe Avenue	7,880	<b>F</b>	5,892	<b>F</b>	7,679	<b>F</b>	6,132	<b>F</b>
	Howe Avenue to 65th Street	8,761	<b>F</b>	8,070	<b>F</b>	8,972	<b>F</b>	8,384	<b>F</b>
	65th Street to 59th Street	8,809	<b>F</b>	7,978	<b>F</b>	9,012	<b>F</b>	8,296	<b>F</b>
	59th Street to Stockton Boulevard	9,692	D	8,294	<b>F</b>	9,890	D	8,656	<b>F</b>
	Stockton Boulevard to SR 99 / SR 51	10,187	E	9,674	<b>F</b>	10,300	E	9,916	<b>F</b>

**Bold** values denote level of service "F" conditions.  
**Red shaded** values indicate project impacts.  
Source: DKS Associate 2018

Table CU-15: Cumulative No Project Peak Hour Freeway Ramp Termini Queuing

Direction	US 50 Exit Ramp	Available Storage Length (feet/lane)			Maximum Queue Length (feet / lane)					
					A.M. Peak Hour			P.M. Peak Hour		
		L	T	R	L	T	R	L	T	R
Eastbound US-50	Howe Avenue	765	-	765	136	-	797	137	-	346
	Watt Avenue	1,500	-	1,500	210	-	403	244	-	242
	Bradshaw Road	1,250	-	1,250	149	-	566	159	-	317
	Mather Field Road	1,385	-	1,385	132	-	383	241	-	453
	Zinfandel Drive	1,025	1,025	1,025	163	<b>1,416</b>	<b>1,306</b>	396	368	930
	Sunrise Boulevard	1,695	-	1,695	106	-	199	196	-	114
	Rancho Cordova Pkwy.	-	-	1,850	-	-	394	-	-	528
	Hazel Avenue	1,310	-	1,310	305	-	23	711	-	18
Westbound US-50	Hazel Avenue	1,995		1,995	302		855	300		669
	Rancho Cordova Pkwy	1,065	-	-	<b>1,651</b>	-	-	<b>1,746</b>	-	-
	Sunrise Boulevard	1,540	-	1,540	52	-	198	23	-	442
	Zinfandel Drive	1,065	-	1,065	245	-	70	143	-	197
	Mather Field Road	1,335	-	1,335	362	-	331	176	-	183
	Bradshaw Road	1,330	-	1,330	177	-	122	265	-	47
	Watt Avenue	1,480	-	1,480	230	-	778	164	-	567
	Howe Avenue	1,355	1,355	1,355	85	412	804	199	412	684
<p><b>Bold</b> values exceed storage capacity.  L = left turn movement, T = through movement, R = right turn movement  Source: DKS Associates 2018</p>										

**Table CU-16: Cumulative Plus Jackson Corridor Projects Peak Hour Freeway Ramp Termini Queuing**

Direction	US 50 Exit Ramp	Available Storage Length (feet/lane)			Maximum Queue Length (feet / lane)					
					A.M. Peak Hour			P.M. Peak Hour		
		L	T	R	L	T	R	L	T	R
Eastbound US-50	Howe Avenue	765	-	765	143	-	1,025	161	-	514
	Watt Avenue	1,500	-	1,500	274	-	605	226	-	328
	Bradshaw Road	1,250	-	1,250	191	-	1,147	119	-	734
	Mather Field Road	1,385	-	1,385	168	-	386	311	-	289
	Zinfandel Drive	1,025	1,025	1,025	152	1,398	1,359	439	369	662
	Sunrise Boulevard	1,695	-	1,695	111	-	188	220	-	98
	Rancho Cordova Pkwy.	-	-	1,850	-	-	365	-	-	555
	Hazel Avenue	1,310	-	1,310	311	-	27	760	-	16
Westbound US-50	Hazel Avenue	1,995		1,995	317		796	319		656
	Rancho Cordova Pkwy	1,065	-	-	1,705	-	-	1,682	-	-
	Sunrise Boulevard	1,540	-	1,540	57	-	185	38	-	410
	Zinfandel Drive	1,065	-	1,065	253	-	69	183	-	192
	Mather Field Road	1,335	-	1,335	489	-	456	248	-	221
	Bradshaw Road	1,330	-	1,330	232	-	118	291	-	53
	Watt Avenue	1,480	-	1,480	268	-	682	174	-	607
	Howe Avenue	1,355	1,355	1,355	47	412	754	170	412	785
<p><b>Red shaded</b> values indicate project impacts.  L = left turn movement, T = through movement, R = right turn movement  Source: DKS Associates 2018</p>										

**CUMULATIVE FREEWAY MERGE / DIVERGE / WEAVE SEGMENTS**

**Table CU-17** summarizes a.m. and p.m. peak hour freeway operations at ramp junctions and weaving areas under the Cumulative Plus Jackson Corridor Project scenario. Detailed freeway ramp junction and weaving area operations calculations are included in Appendix TR-1.

As shown in **Table CU-17**, with implementation of the Jackson Corridor Projects, the following merge/diverge/weave segment would experience merge / diverge LOS worse than the freeway's LOS:

- Westbound
- Hazel Avenue to Rancho Cordova Parkway weave - a.m. peak hour

In summary, because the addition of traffic generated by the Jackson Corridor Projects would result in unacceptable operating conditions along freeway facilities within the study area, the project would have a considerable contribution to a significant cumulative.

**MITIGATION MEASURES****CU-TR-3: Cumulative Freeway Capacity Improvements.**

According to Caltrans' US-50 Transportation Concept Report (TCR) and Corridor System Management Plan (CSMP), all mainline freeway lanes of the 8-lane ultimate facility (4 lanes in each direction) have already been built, with the exception of the segment between Zinfandel Drive and Sunrise Boulevard (where 6 of the 8 ultimate lanes exist today). With the exception of this segment, capacity improvements to widen the freeway mainline are precluded by the ultimate configuration in the TCR/CSMP. The TCR/CSMP does conceptualize other projects that will benefit the US-50 corridor without adding additional mainline travel lanes.

- **To alleviate the impacts of the Jackson Corridor Developments, the Sacramento County Department of Transportation has consulted with Caltrans and they have identified the following improvements. The applicant shall provide a fair share contribution toward Caltrans' freeway facilities to the satisfaction of the Sacramento County Department of Transportation and Caltrans:**
  - **Pay fair share toward the future conversion of HOV lanes to Toll Lanes or a Reversible Lane along U.S. Highway 50 from I-5 to Watt Avenue.**
  - **Pay fair share toward the U.S. Highway 50 Integrated Corridor Management for the deployment of various Intelligent Transportation System improvements along U.S. Highway 50 and the City of Rancho Cordova, and regionally significant corridors in Sacramento County and the City of Folsom for incident management (non-capacity increasing) [Caltrans ID SAC25113].**



**Table CU-17: Cumulative Plus Jackson Corridor Projects Peak Hour Freeway Merge/Diverge/Weave Segment Level of Service**

Direction	Location	Junction Type	Cumulative No Project				Cumulative Plus Jackson Corridor Projects			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS
East-bound US 50	Northbound 65th Street Slip Entrance	Weave	945	F	777	F	918	F	724	F
	Howe Avenue / Hornet Drive Exit		2,088		2,140		2,120		2,267	
	Southbound Howe Avenue Loop Entrance	One-Lane Merge	729	D	1,342	D	750	D	1,332	D
	Northbound Howe Avenue Slip Entrance	One-Lane Merge	609	D	532	D	528	D	524	D
	Watt Avenue Exit	Two-Lane Diverge	1,538	B	1,705	B	1,532	B	1,604	A
	Southbound Watt Avenue Loop Entrance	One-Lane Merge	1,615	D	1,368	C	1,551	D	1,213	C
	Northbound Watt Avenue Slip Entrance	One-Lane Merge	682	D	588	C	608	D	597	C
	Bradshaw Road Exit	Two-Lane Diverge	2,068	F	1,631	B	2,264	F	1,835	C
	Southbound Bradshaw Road Loop Entrance	One-Lane Merge	268	D	422	D	274	D	505	D
	Northbound Bradshaw Road Slip Entrance	One-Lane Merge	1,486	D	1,029	C	1,511	D	1,102	C
	Mather Field Road Exit	Two-Lane Diverge	1,490	B	1,530	B	1,481	B	1,489	B
	Southbound Mather Field Road Loop Entrance	One-Lane Merge	252	C	222	C	252	C	169	C
	Northbound Mather Field Road Slip Entrance	Weave	431	F	894	F	571	F	1,123	F
Zinfandel Drive Exit	3,083		1,861		3,082		1,797			
Southbound Zinfandel Drive Loop Entrance	One-Lane Merge	183	C	173	C	185	C	151	C	

Direction	Location	Junction Type	Cumulative No Project				Cumulative Plus Jackson Corridor Projects			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS
	Northbound Zinfandel Drive Slip Entrance	Lane Addition	665	A	714	B	656	B	784	B
	Sunrise Boulevard Exit	Major Diverge	1,878	C	2,308	C	1,899	C	2,364	C
	Sunrise Boulevard Entrance	Lane Addition / Weave	1,233	D	1,122	C	1,174	B	1,162	C
	Rancho Cordova Parkway Exit	Major Diverge / Weave	374		763		C	327	C	
	Rancho Cordova Parkway Entrance	Weave	1,787	F	1,748	F	1,748	F	1,823	F
	Hazel Avenue Exit		1,904		2,611		1,950		2,718	
	Hazel Avenue Entrance	Weave	1,174	E	2,148	F	1,072	D	2,091	D
	Aerojet Road Exit		584		203		613		171	
West-bound US 50	Hazel Avenue Exit	Two-Lane Diverge	1,098	B	1,031	C	1,057	B	1,032	C
	Northbound Hazel Avenue Loop Entrance	One-Lane Merge	69	B	434	C	93	B	434	C
	Southbound Hazel Avenue Slip Entrance	Weave	2,306	F	2,263	F	2,369	F	2,302	F
	Rancho Cordova Parkway Exit		1,800		2,225		1,867		2,173	
	Rancho Cordova Parkway Entrance	Lane Addition / Weave	1,428	C	1,165	B	1,389	C	1,138	B
	Sunrise Boulevard Exit	Major Diverge / Weave	729		751	C	760		729	C
	Northbound Sunrise Boulevard Loop Entrance	Lane Addition	169	A	259	A	170	A	234	A
	Southbound Sunrise Boulevard Slip Entrance	Lane Addition	2,323	F	1,524	C	2,354	F	1,613	C
	Zinfandel Drive Exit	One-Lane Diverge	1,384	E	1,183	D	1,393	E	1,200	D
	Northbound Zinfandel Drive Loop Entrance	Lane Addition	909	C	1,443	D	803	C	1,295	C
	Southbound Zinfandel Drive Slip	One-Lane Merge	1,544	D	663	B	1,349	D	663	B

Direction	Location	Junction Type	Cumulative No Project				Cumulative Plus Jackson Corridor Projects			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS	Ramp Volume	LOS
	Entrance									
	Mather Field Road Exit	One-Lane Drop	1,350	D	826	C	1,581	D	1,025	C
	Northbound Mather Field Road Loop Entrance	One-Lane Merge	626	C	1,192	C	499	C	1,193	C
	Southbound Mather Field Road Slip Entrance	One-Lane Merge	303	C	504	C	427	C	428	B
	Bradshaw Road Exit	Two-Lane Diverge	1,533	C	1,756	B	1,692	C	1,809	B
	Northbound Bradshaw Road Loop Entrance	One-Lane Merge	999	<b>F</b>	927	D	1,318	<b>F</b>	1,593	D
	Southbound Bradshaw Road Slip Entrance	One-Lane Merge	385	<b>F</b>	851	D	391	<b>F</b>	816	D
	Watt Avenue Exit	Major Diverge	1,568	E	1,112	D	1,364	E	991	D
	Northbound Watt Avenue Loop Entrance	One-Lane Merge	774	D	1,125	D	726	D	1,100	D
	Southbound Watt Avenue Slip Entrance	Lane Addition	1,134	D	1,062	C	919	D	1,006	D
	Howe Avenue Exit	Major Diverge	1,879	E	1,687	D	1,709	E	1,695	D
	Northbound Howe Avenue Loop Entrance	One-Lane Merge	613	D	572	D	607	D	563	D
	Southbound Howe Avenue Slip Entrance	One-Lane Merge	668	<b>F</b>	699	C	807	<b>F</b>	646	C

**Bold** values denote level of service "F" conditions.  
**Red** shaded values indicate project impacts.  
 Source: DKS Associates 2018

~~To minimize the impact that the Jackson Corridor Projects would have on the US-50 mainline between Stockton Boulevard and 59th Street, at the time of issuance of building permits SacDOT and the County Special Districts group shall coordinate with Caltrans to identify the appropriate fair share contribution that the project applicants shall pay toward the construction of the following alternative improvement:~~

- ~~• Ramp meter improvements (Caltrans ITS/OPS Project List)~~

~~To minimize the impact that the Jackson Corridor Projects would have on the westbound US-50 weave between Hazel Avenue and Rancho Cordova Parkway, at the time of issuance of building permits SacDOT and the County Special Districts group shall coordinate with Caltrans to identify the appropriate fair share contribution that the project applicants shall pay toward the construction of the following alternative improvement:~~

- ~~• Multi-modal corridor improvements and interchange improvements at Hazel Avenue (2035 SACOG MTP)~~
- Auxiliary lanes between Hazel Avenue and Rancho Cordova Parkway (2035 SACOG MTP)

Implementation of CU-TR-3 would result in fair share payment toward improvements that would reduce the impacts of the Jackson Corridor Projects on freeway facilities. However, the amount by which these improvements would improve operating conditions at the facilities detailed above are unknown at this time; thus, if implemented it cannot be assured that CU-TR-3 would improve operating conditions to acceptable levels at all affected freeway facilities. Additionally, because implementation of the improvements does not fall within Sacramento County's jurisdictional control, and while the appropriate jurisdictions can and should implement feasible mitigation to reduce impacts, it cannot be guaranteed that these improvements would be implemented or implemented concurrent with, or prior to project development. Therefore, this impact would remain significant. The project would have a **considerable contribution** to a **significant and unavoidable** cumulative freeway impact.

#### *CUMULATIVE ROADWAY FUNCTIONALITY IMPACTS*

**Table CU-18** summarizes the results of the rural roadway segment functionality analysis under the Cumulative Plus Jackson Corridor Projects scenario. This table includes the number of lanes assumed with the implementation of the Jackson Corridor Projects, which in many cases is greater than the number of lanes in the existing condition. The shaded table cells under the "Travel Lanes" heading illustrates new roadways and widened roadways that are assumed part of the Jackson Corridor Projects. The "Substandard" heading indicates whether a roadway meets the County standards of providing 12-foot travel lanes with 6-foot shoulders. If any of the Jackson Corridor Projects make improvements to a roadway segment such as widening, reconstruction of the entire substandard roadway segment to County standards would be required. The shaded table cells under the "Functionality Impact" heading indicate

those locations with a functionality impact. **Plate CU-9** depicts the location of the segments along which functionality impacts would occur.

As stated above, the Joint TIS and in Chapter 17, "Traffic and Circulation," assumed that the Jackson Corridor Projects would construct several travel lanes on roadway segments that are internal to, or on the boundary of the Jackson Corridor Projects, and the entire roadway segment would be reconstructed to County standards. The timing of implementation of these additional traffic lanes on these internal or boundary roadway segments would affect whether or not impacts would occur as some point before full build out of the Mather South Project. As shown in **Table CU-18**, implementation of the Jackson Corridor Projects would result in functionality impacts along 32 roadway segments within the project study area. Therefore, the project would have a **cumulatively considerable** contribution to a significant cumulative impact.

### **MITIGATION MEASURES**

#### **CU-TR-4. Cumulative Roadway Functionality Improvements**

The project applicant shall implement Mitigation Measures TR-1 and TR-2. This program would require that before the issuance of tentative maps, the County shall identify the appropriate fair share contribution that the project applicants shall pay toward the construction of the improvements summarized in **Table CU-19**.

Proposed improvements include widening the deficient rural roadway segments shown in **Table CU-19** to County standards. **Table CU-19** summarizes the proposed improvements of widening the deficient rural roadway segments to County standards, and the resultant functionality analysis for these roadway segments with these improvements implemented.

Implementation of Mitigation Measures TR-1, TR-2, and CU-TR-4 would result in fair share payment toward improvements that would reduce the cumulative roadway functionality impacts of the Jackson Corridor Projects as shown in **Table CU-19**. However, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development proposed for the Mather South Project because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. If all improvements were implemented in a timely way, all impacts would be reduced to a less-than-significant level. However, because the timing of implementation of all required improvements cannot be guaranteed and is not subject to the sole responsibility of just Mather South applicants and the County, it cannot be guaranteed that significant impacts to roadway segments would be reduced to a less-than-significant at the time of development. Therefore, the project would have a **considerable contribution to significant and unavoidable** cumulative roadway functionality impact.

**Table CU-18: Cumulative Plus Jackson Corridor Projects Roadway Functionality Impacts**

ID	Roadway	Segment		Jurisdiction	Existing Substandard Roadways				Cumulative Plus Jackson Corridor Projects			
		From	To		Travel Lanes	Pavement (ft)	Substandard? <sup>1</sup>	Existing Volume	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>
15	Douglas Rd	Mather Blvd	Zinfandel Dr	County	2	23	Yes	6,635	4	Arterial M	33,390	Yes <sup>3</sup>
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	Rancho Cordova/County	2	23	Yes	8,369	6	Arterial M	50,360	Yes <sup>3</sup>
19	Eagles Nest Rd	Kiefer Blvd	Jackson Rd	County	2	20	Yes	740	4	Arterial M	13,130	Yes <sup>3</sup>
20	Eagles Nest Rd	Jackson Rd	Florin Rd	County	2	<21	Yes	517	2	Arterial M	9,110	Yes
21	Eagles Nest Rd	Florin Rd	Grant Line Rd	County	2	<21	Yes	189	2	Arterial M	4,530	No
25	Elder Creek Rd	South Watt Ave	Hedge Ave	County	2	23	Yes	5,576	4	Arterial M	52,900	Yes <sup>3</sup>
26	Elder Creek Rd	Hedge Ave	Mayhew Rd	County	2	23	Yes	5,797	4	Arterial M	43,330	Yes <sup>3</sup>
27	Elder Creek Rd	Mayhew Rd	Bradshaw Rd	County	2	23	Yes	5,355	4	Arterial M	27,860	Yes <sup>3</sup>
28	Elder Creek Rd	Bradshaw Rd	Excelsior Rd	County	2	23	Yes	2,158	3	Arterial M	30,740	Yes <sup>3</sup>
30	Excelsior Rd	Kiefer Blvd	Jackson Rd	County	2	22	Yes	3,716	2	Arterial M	26,970	Yes
31	Excelsior Rd	Jackson Rd	Elder Creek Rd	County	2	<21	Yes	5,075	3	Arterial M	36,220	Yes <sup>3</sup>
32	Excelsior Rd	Elder Creek Rd	Florin Rd	County	2	<21	Yes	4,203	3	Arterial M	12,520	Yes <sup>3</sup>
33	Excelsior Rd	Florin Rd	Gerber Rd	County	2	<21	Yes	5,423	2	Arterial M	13,080	Yes
34	Excelsior Rd	Gerber Rd	Calvine Rd	County	2	<21	Yes	4,229	2	Arterial M	8,360	Yes
39	Florin Rd	South Watt Ave	Hedge Ave	County	2	22	Yes	7,718	4	Arterial M	12,010	Yes <sup>3</sup>
40	Florin Rd	Hedge Ave	Mayhew Rd	County	2	22	Yes	6,312	4	Arterial M	13,280	Yes <sup>3</sup>
41	Florin Rd	Mayhew Rd	Bradshaw Rd	County	2	22	Yes	6,317	4	Arterial M	40,200	Yes <sup>3</sup>
42	Florin Rd	Bradshaw Rd	Excelsior Rd	County	2	22	Yes	3,478	4	Arterial M	26,070	Yes <sup>3</sup>
43	Florin Rd	Excelsior Rd	Sunrise Blvd	County	2	22	Yes	3,835	2	Arterial M	17,090	Yes
48	Fruitridge Rd	South Watt Ave	Hedge Ave	City of Sacramento/County	2	22	Yes	2,890	3	Arterial M	24,240	Yes <sup>3</sup>
49	Fruitridge Rd	Hedge Ave	Mayhew Rd	County	2	22	Yes	1,790	4	Arterial M	21,800	Yes <sup>3</sup>
50	Grant Line Rd	White Rock Rd	Douglas Rd	Rancho Cordova/County	2	22	Yes	7,189	4	Arterial M	41,130	Yes <sup>3</sup>
58	Happy Ln	Old Placerville Rd	Kiefer Blvd	County	2	22	Yes	4,635	4	Arterial M	17,440	Yes <sup>3</sup>
59	Hedge Ave	Jackson Rd	Fruitridge Rd	County	2	22	Yes	3,061	2	Arterial M	11,760	Yes
60	Hedge Ave	Fruitridge Rd	Elder Creek Rd	City of Sacramento/County	2	22	Yes	3,737	2	Arterial M	10,010	Yes
61	Hedge Ave	Elder Creek Rd	Florin Rd	County	2	22	Yes	2,722	2	Arterial M	22,460	Yes
70	Jackson Rd	Bradshaw Rd	Excelsior Rd	County	2	26	Yes	13,030	6	Arterial M	59,380	Yes <sup>3</sup>
71	Jackson Rd	Excelsior Rd	Eagles Nest Rd	County	2	26	Yes	10,478	4	Arterial M	62,220	Yes <sup>3</sup>
74	Kiefer Blvd	Florin Perkins Rd	South Watt Ave	City of Sacramento/County	2	22	Yes	4,616	2	Arterial M	4,830	No
77	Kiefer Blvd	Bradshaw Rd	Happy Ln	County	2	22	Yes	4,618	6	Arterial M	50,960	Yes <sup>3</sup>
78	Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	County	2	22	Yes	656	3	Arterial M	39,820	Yes <sup>3</sup>
83	Mather Blvd-Excelsior Rd <sup>4</sup>	Douglas Rd	Kiefer Blvd	County	2	22	Yes	6,751	2	Res Collector F	6,410	No
89	Mayhew Rd	Jackson Rd	Fruitridge Rd	County	2	22	Yes	1,616	4	Arterial M	47,790	Yes <sup>3</sup>
116	White Rock Rd	Fitzgerald Rd	Grant Line Rd	Rancho Cordova/County	2	20	Yes	2,490	4	Arterial M	55,810	Yes <sup>3</sup>
123	Zinfandel Dr	Douglas Rd	Kiefer Blvd	County	2	<21	Yes	2,848	4	Arterial M	22,250	Yes <sup>3</sup>

Note: Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide. For all roadway segments to be widened, the project is responsible to build the entire roadway to County standards.

Red text with light gray shading indicate project impacts.

<sup>1.</sup> Substandard rural roads are defined as rural, 2-lane roadway segments with travel lanes narrower than 12 feet and/or roadside shoulders narrower than 6 feet.

<sup>2.</sup> Functionality impacts are triggered when a substandard rural road increases over a threshold of 6,000 ADT, or for a roadway already above 6,000 ADT, increases by more than 600 ADT.

<sup>3.</sup> The potential for an impact exists should the project generate traffic volumes on the roadway exceeding 6,000 ADT, or increasing more than 600 ADT on a roadway already above 6,000 ADT, prior to the construction of roadway improvements.

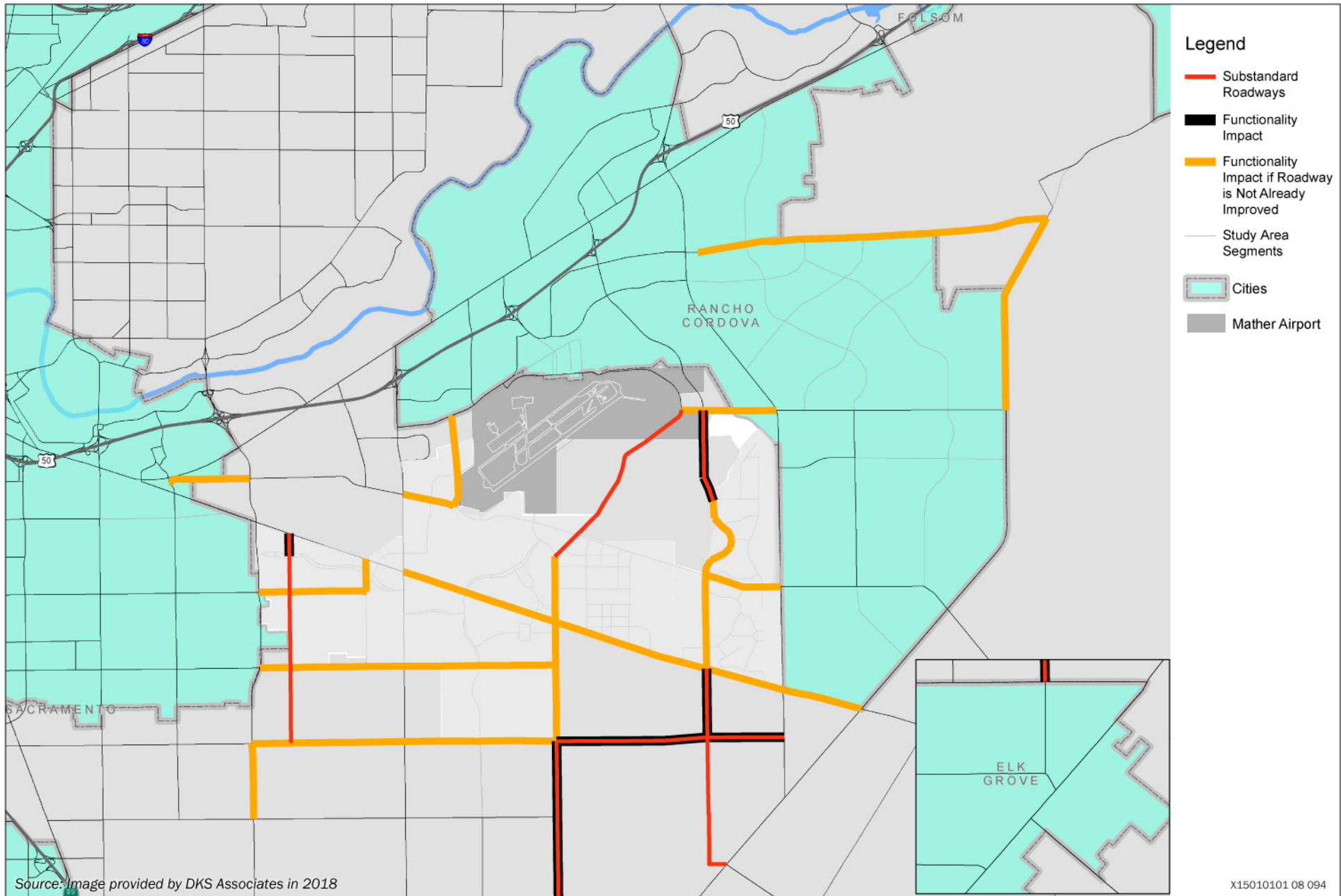
<sup>4.</sup> Excluding the roadway segment that is within the developed community of Independence at Mather.

<sup>5.</sup> The functionality impact is mitigated by improving the roadway to County standards, including widening travel lanes to 12 feet and/or widening or providing paved shoulders to 6 feet.

Source: DKS Associates 2018







**Plate CU-9: Cumulative Plus Jackson Corridor Projects – Functionality Impacts**



**Table CU-19: Cumulative Plus Jackson Corridor Projects Functionality Mitigations**

ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects				Mitigation	Impact after Mitigation?
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>		
		Mather Blvd	Zinfandel Dr	4	Arterial M	33,390	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	6	Arterial M	50,360	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
19	Eagles Nest Rd	Kiefer Blvd	Jackson Rd	4	Arterial M	13,130	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
20	Eagles Nest Rd	Jackson Rd	Florin Rd	2	Arterial M	9,110	Yes	Widen to County standards <sup>5</sup>	No
25	Elder Creek Rd	South Watt Ave	Hedge Ave	4	Arterial M	52,900	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
26	Elder Creek Rd	Hedge Ave	Mayhew Rd	4	Arterial M	43,330	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
27	Elder Creek Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	27,860	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
28	Elder Creek Rd	Bradshaw Rd	Excelsior Rd	3	Arterial M	30,740	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
30	Excelsior Rd	Kiefer Blvd	Jackson Rd	2	Arterial M	26,970	Yes	Widen to County standards <sup>5</sup>	No
31	Excelsior Rd	Jackson Rd	Elder Creek Rd	3	Arterial M	36,220	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
32	Excelsior Rd	Elder Creek Rd	Florin Rd	3	Arterial M	12,520	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
33	Excelsior Rd	Florin Rd	Gerber Rd	2	Arterial M	13,080	Yes	Widen to County standards <sup>5</sup>	No
34	Excelsior Rd	Gerber Rd	Calvine Rd	2	Arterial M	8,360	Yes	Widen to County standards <sup>5</sup>	No
39	Florin Rd	South Watt Ave	Hedge Ave	4	Arterial M	12,010	Yes <sup>3</sup>	Widen to County	No

ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects				Mitigation	Impact after Mitigation?
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>		
								standards <sup>5</sup>	
40	Florin Rd	Hedge Ave	Mayhew Rd	4	Arterial M	13,280	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
41	Florin Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	40,200	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
42	Florin Rd	Bradshaw Rd	Excelsior Rd	4	Arterial M	26,070	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
43	Florin Rd	Excelsior Rd	Sunrise Blvd	2	Arterial M	17,090	Yes	Widen to County standards <sup>5</sup>	No
48	Fruitridge Rd	South Watt Ave	Hedge Ave	3	Arterial M	24,240	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
49	Fruitridge Rd	Hedge Ave	Mayhew Rd	4	Arterial M	21,800	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
50	Grant Line Rd	White Rock Rd	Douglas Rd	4	Arterial M	41,130	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
58	Happy Ln	Old Placerville Rd	Kiefer Blvd	4	Arterial M	17,440	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
59	Hedge Ave	Jackson Rd	Fruitridge Rd	2	Arterial M	11,760	Yes	Widen to County standards <sup>5</sup>	No
60	Hedge Ave	Fruitridge Rd	Elder Creek Rd	2	Arterial M	10,010	Yes	Widen to County standards <sup>5</sup>	No
61	Hedge Ave	Elder Creek Rd	Florin Rd	2	Arterial M	22,460	Yes	Widen to County standards <sup>5</sup>	No
70	Jackson Rd	Bradshaw Rd	Excelsior Rd	6	Arterial M	59,380	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
71	Jackson Rd	Excelsior Rd	Eagles Nest Rd	4	Arterial M	62,220	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
77	Kiefer Blvd	Bradshaw Rd	Happy Ln	6	Arterial M	50,960	Yes <sup>3</sup>	Widen to County	No

ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects				Mitigation	Impact after Mitigation?
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>		
								standards <sup>5</sup>	
78	Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	3	Arterial M	39,820	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
89	Mayhew Rd	Jackson Rd	Fruitridge Rd	4	Arterial M	47,790	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
116	White Rock Rd	Fitzgerald Rd	Grant Line Rd	4	Arterial M	55,810	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
123	Zinfandel Dr	Douglas Rd	Kiefer Blvd	4	Arterial M	22,250	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No

Notes: Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide. For all roadway segments to be widened, the project is responsible to build the entire roadway to County standards.

**Red** text with light gray shading indicate project impacts.

<sup>1</sup> Substandard rural roads are defined as rural, 2-lane roadway segments with travel lanes narrower than 12 feet and/or roadside shoulders narrower than 6 feet.

<sup>2</sup> Functionality impacts are triggered when a substandard rural road increases over a threshold of 6,000 ADT, or for a roadway already above 6,000 ADT, increases by more than 600 ADT.

<sup>3</sup> The potential for an impact exists should the project generate traffic volumes on the roadway exceeding 6,000 ADT, or increasing more than 600 ADT on a roadway already above 6,000 ADT, prior to the construction of roadway improvements.

<sup>4</sup> Excluding the roadway segment that is within the developed community of Independence at Mather.

<sup>5</sup> The functionality impact is mitigated by improving the roadway to County standards, including widening travel lanes to 12 feet and/or widening or providing paved shoulders to 6 feet.

Source: DKS Associates 2018

## CUMULATIVE PLUS MATHER SOUTH PROJECT

### *CUMULATIVE ROADWAY SEGMENT OPERATIONS CUMULATIVE PLUS MATHER SOUTH PROJECT*

**Table CU-20** summarizes the results of the operations analysis for the traffic study area roadway segments under the Cumulative No Project and Cumulative Plus Jackson Corridor Projects conditions. The table includes the new roadways or widened roadways, the roadway improvements that would be the responsibility of the project, and the roadway segments where a LOS impact occurs. Detailed roadway segment operations calculations and the full list of study area roadway segment operating conditions are included in Appendix TR-1.

As shown in **Table CU-20**, the addition of vehicle trips generated by the Mather South Project would result in the exceedance of applicable LOS and V/C thresholds along four roadway segments in the study area. Thus, this impact would be **cumulatively considerable**.

**Table CU-20: Cumulative Roadway Segment Levels of Service - Impacts Triggered by Mather South Project**

ID	Roadway	Segment		Cumulative No Project					Cumulative Plus Jackson Corridor Projects					Project(s) Responsible for Change in Lanes
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	
73	Jackson Rd	Sunrise Blvd	Grant Line Rd	4	Arterial M	31,730	0.88	D	4	Arterial M	45,290	1.26	<b>F</b>	
78.4	Kiefer Blvd	E Collector MS-1	Sunrise Blvd	2	Arterial M	10,150	0.56	A	3	Arterial M	39,820	2.21	<b>F</b>	NewBridge
104.3	Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	6	Arterial M	54,110	1.00	F	6	Arterial M	63,690	1.18	<b>F</b>	
105	Sunrise Blvd	Douglas Rd	Kiefer Blvd	5	Arterial M	34,760	0.97	E	5	Arterial M	43,880	1.22	<b>F</b>	

Notes: V/C -= Volume to Capacity, LOS = Level of Service

Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide.

**Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.

<sup>1</sup>. The following classifications are used to determine daily roadway capacity: Arterial L - Arterial, Low Access Control  
 Arterial M - Arterial, Moderate Access Control Arterial H - Arterial, High Access Control Rural Hwy - Rural 2-lane Highway  
 Rural S - Rural 2-lane Road, 24'-36' of pavement, Paved Shoulders Rural NS - Rural 2-lane Road, 24'-36' of pavement, No Shoulders Res Collector F - Residential Collector with Frontage  
 Res Collector NF - Residential Collector with No Frontage

Source: DKS Associates 2018



**MITIGATION MEASURES****CU-TR-5. Cumulative Roadway Segment Operations Cumulative Mather South Project**

The project applicant shall implement Mitigation Measure CU-TR-1 which requires the applicant to pay their appropriate fair share contribution toward the construction of the improvements summarized in **Table CU-21**.

**Table CU-21** summarizes the results of the operations analysis for the study area roadway segments with mitigation under the Cumulative Plus Mather South Project scenario. Where feasible, the number of roadway lanes was increased to mitigate the impact. However, the increased number of lanes could not exceed the maximum General Plan designations of the appropriate jurisdictions. The shaded table cells under the “Travel Lanes” and “Facility Type” headings illustrate widened roadways for mitigation purposes, which would be the responsibility of the Jackson Corridor Projects to fund. The Mather South Project would contribute its fair share for these improvements. The shaded table cells under the “Level of Service” heading indicate those locations that would continue to operate unacceptably after mitigation. The table also includes the constraint that precluded full mitigation of the LOS impact. In several locations where the improvements allowed under the general plan would not mitigate an LOS impact, the County has proposed alternative mitigation measures, which are shown in the “Alternative Mitigation” column. These alternative mitigation measures will either fully mitigate the impact or substantially reduce the level of impact.

Implementation of Mitigation Measure CU-TR-5 would result in fair share payment toward improvements that would reduce the impacts of the Mather South Project as shown in **Table CU-21**. However, as shown in **Table CU-21**, two roadway segments operating unacceptably under the Cumulative Plus Jackson Corridor Projects scenario would continue to operate at unacceptable levels with the implementation of all feasible improvement projects funded through Mitigation Measure CU-TR-5. Additionally, it cannot be guaranteed that any of these improvements would be implemented or implemented concurrent with, or prior to project development. Therefore, the project would result in a **considerable contribution** to a **significant and unavoidable** cumulative impact.

*CUMULATIVE INTERSECTION OPERATIONS CUMULATIVE MATHER SOUTH PROJECT*

**Table CU-22** and **Table CU-23** summarize the results of the operations analysis for the study area intersections under Cumulative Plus Mather South Project conditions. The tables include the implementation of intersection changes associated with the Mather South Project. **Table CU-23** illustrates the type of traffic control and number of lanes by type on each study area intersection approach. Shaded table cells indicate those locations where changes in traffic control and / or number of approach lanes by type would be fully funded by the project(s) shown in the last column. Shaded table cells in **Table CU-22** illustrate those locations with a LOS impact. Detailed intersection operations calculations and the full list of study area intersection operating conditions are included in Appendix TR-1.

A signal warrant analysis was conducted for all unsignalized intersections along Jackson Road, and other unsignalized intersections in close proximity to the project. Detailed signal warrant calculation sheets are included in Appendix TR-1. The following unsignalized intersection would operate at an unacceptable level and meet one or more traffic signal warrant under the Cumulative Plus Mather South Project conditions:

- Eagles Nest Road and Florin Road

As shown in **Table CU-22**, the addition of vehicle trips generated by the Mather South Project would result in the exceedance of applicable LOS and delay thresholds under Cumulative Plus Mather South Project conditions. Thus, the project would result in a considerable contribution to a significant cumulative impact.

### **MITIGATION MEASURES**

#### **CU-TR-6. Cumulative Intersection Operations Cumulative Mather South Project**

The project applicant shall implement Mitigation Measure CU-TR-2. This mitigation will require the project applicant to contribute their appropriate fair share contribution toward the construction of the improvements summarized in **Table CU-24a** through **Table CU-25b** below.

**Table CU-24a** and **Table CU-25a** summarize recommended mitigation and the results of the operations analysis for the traffic study area intersections with mitigation, which does not exceed the County's standard number of approach lanes, under the Cumulative Plus Mather South Project scenario. **Table CU-24b** and **Table CU-25b** summarize recommended mitigation and the results of the operations analysis for the traffic study area intersections with ultimate mitigation, which may exceed the County's standard number of approach lanes, under the Cumulative Plus Mather South Project scenario.

Shaded table cells indicate those locations where changes in traffic control and / or number of approach lanes by type have been made to mitigate impacts, which would be the responsibility of the Jackson Corridor Projects to fund. **Table CU-25a** and **Table CU-25b** also identify those intersections that would continue operate at unacceptable levels after mitigation, along with the constraint that precluded full mitigation. In locations where the LOS impact could not be mitigated by implementing the County's standard number of approach lanes, the County has proposed alternative mitigation measures, which are shown in the "Alternative Mitigation" column. These generally include providing additional turn lanes, carrying an additional through lane past the intersection, or designating the intersection as a High Capacity Intersection. These alternative mitigation measures would either fully mitigate the impact or substantially reduce the level of impact. Detailed intersection operations calculations and the full list of study area intersection operating conditions are included in Appendix TR-1.

**Table CU-21: Cumulative Plus Jackson Corridor Projects Roadway Segment Mitigations - Impacts Triggered by Mather South Project**

ID	Roadway	Segment		Cumulative Plus Jackson Corridor Projects					Mitigated Cumulative Plus Jackson Corridor Projects						
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	V/C Ratio	LOS	Travel Lanes	Facility Type <sup>1</sup>	V/C Ratio	LOS	LOS Impact with Mitigation?	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
73	Jackson Rd	Sunrise Blvd	Grant Line Rd	4	Arterial M	45,290	1.26	<b>F</b>	6	Arterial M	0.84	D	No		
78.4	Kiefer Blvd	E Collector MS-1	Sunrise Blvd	3	Arterial M	39,820	2.21	<b>F</b>	4	Arterial M	1.11	<b>F</b>	Yes		Maximum General Plan lanes
104.3	Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	6	Arterial M	63,690	1.18	<b>F</b>	6	Arterial M	1.18	<b>F</b>	Yes		Maximum General Plan lanes
105	Sunrise Blvd	Douglas Rd	Kiefer Blvd	5	Arterial M	43,880	1.22	<b>F</b>	6	Arterial M	0.81	D	No		

Notes: V/C = Volume to Capacity, LOS = Level of Service

Gray shading represents changes in travel lanes or facility type that the project is responsible to provide.

**Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.

<sup>1</sup> The following classifications are used to determine daily roadway capacity:

Arterial L - Arterial, Low Access Control Arterial M - Arterial, Moderate Access Control Arterial H - Arterial, High Access Control Rural Hwy - Rural 2-lane Highway

Rural S - Rural 2-lane Road, 24'-36' of pavement, Paved Shoulders Rural NS - Rural 2-lane Road, 24'-36' of pavement, No Shoulders Res Collector F - Residential Collector with Frontage

Res Collector NF - Residential Collector with No Frontage

<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan, as proposed by the County of Sacramento.

Source: DKS Associates 2018

**Table CU-22: Cumulative Plus Jackson Corridor Projects Intersection Levels of Service - Impacts Triggered by Mather South Project**

Intersection	A.M. Peak Hour							P.M. Peak Hour							
	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	Cumulative No Project			Cumulative Plus Jackson Corridor Projects			LOS Impact	
	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		
51	Mather Field Road & Rockingham Drive	Signal	<b>F</b>	<b>156.5</b>	Signal	<b>F</b>	<b>&gt;300</b>	Yes	Signal	<b>F</b>	<b>119.4</b>	Signal	<b>F</b>	<b>170.3</b>	Yes
58	Zinfandel Drive & Douglas Road	Signal	<b>F</b>	<b>156.8</b>	Signal	<b>F</b>	<b>216.8</b>	Yes	Signal	E	73.1	Signal	<b>F</b>	<b>220.1</b>	Yes
61	Eagles Nest Road & Florin Road	Two-way stop			Two-way stop			Yes	Two-way stop			Two-way stop			Yes
	Northbound		<b>F</b>	<b>&gt;300</b>		<b>F</b>	<b>&gt;300</b>			<b>F</b>	<b>&gt;300</b>		<b>F</b>	<b>&gt;300</b>	
	Southbound		<b>F</b>	<b>&gt;300</b>		<b>F</b>	<b>&gt;300</b>			<b>F</b>	<b>&gt;300</b>		<b>F</b>	<b>&gt;300</b>	
	Eastbound Left Turn		B	10.2		B	11.3			A	8.5		A	9.3	
	Westbound Left Turn		A	0.0		A	0.0			A	9.4		A	8.7	
67	Sunrise Boulevard & Douglas Road	Signal	<b>F</b>	<b>140.5</b>	Signal	<b>F</b>	<b>190.0</b>	Yes	Signal	E	73.5	Signal	<b>F</b>	<b>105.4</b>	Yes
69	Sunrise Boulevard & Kiefer Boulevard	Signal	<b>F</b>	<b>151.0</b>	Signal	<b>F</b>	<b>&gt;300</b>	Yes	Signal	<b>F</b>	<b>138.0</b>	Signal	<b>F</b>	<b>261.4</b>	Yes
72	Sheldon Lake Drive/ Sunrise Boulevard & Grant Line Road	Signal	<b>F</b>	<b>91.2</b>	Signal	<b>F</b>	<b>120.4</b>	Yes	Signal	C	33.1	Signal	<b>E</b>	<b>71.0</b>	Yes
93	Grant Line Rd & Dwy/Wilton Rd	Signal	<b>E</b>	<b>78.8</b>	Signal	<b>F</b>	<b>83.4</b>	Yes	Signal	E	69.8	Signal	<b>F</b>	<b>95.2</b>	Yes

Note: Gray shading represents changes in traffic control that the project is responsible to provide. **Bold** values do not meet LOS policy. **Red** values with light gray shading indicate project impacts.  
Source: DKS Associates 2018

**Table CU-23: Cumulative Plus Jackson Corridor Projects Intersection Geometrics - Impacts Triggered by Mather South Project**

Intersection	Traffic Control		Super Cumulative No Project Lane Geometrics				Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				Project(s) Responsible for Change
	Existing	Existing Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
51	Signal	Signal	5 T T P	2 T T T S	5 T T	4 T	5 T T P	2 T T T S	5 T T	4 T	
58	Signal	Signal	4 T	2 T S S	5 T T	5 T T T	4 T	2 T S S	5 T T	5 T T T	
61	Two-way stop	Signal	ψ	4	ψ	ψ	ψ	4	ψ	ψ	
67	Signal	Signal	5 T T T T	2 T T T S S	5 T T T	5 T T T T	5 T T T T	2 T T T S S	5 T T T	5 T T T T	
69	Signal	Signal	5 T T T	4 S S	ψ	4 T	5 T T T	4 S S	5 T T T	4 T	NewBridge, Mather South
72	Signal	Signal	ψ	2 T	5 T T T	5 T T	ψ	2 T	5 T T T	5 T T	
76	Signal	Signal		2 S	5 T T T	T T T		2 S	5 T T T	T T T	
93	Signal	Signal	5 T T	4 S	4 T	4 T	5 T T	4 S	4 T	4 T	

Note: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
Source: DKS Associates 2018

**Table CU-24a: Cumulative Plus Jackson Corridor Projects Impacted Intersections and County Standard Mitigations - Impacts Triggered by Mather South Project**

Intersection		A.M. Peak Hour							P.M. Peak Hour						
		Cumulative Plus Jackson Corridor Projects			County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Alternative Mitigation Needed	Cumulative Plus Jackson Corridor Projects			County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Alternative Mitigation Needed
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	
51	Mather Field Road & Rockingham Drive	Signal	<b>F</b>	<b>&gt;300</b>	Signal	-	-	Yes	Signal	<b>F</b>	<b>170.3</b>	Signal	-	-	Yes
58	Zinfandel Drive & Douglas Road	Signal	<b>F</b>	<b>216.8</b>	Signal	E	62.1	No	Signal	<b>F</b>	<b>220.1</b>	Signal	E	66.9	No
61	Eagles Nest Road & Florin Road	Two-way stop			Signal	<b>F</b>	<b>121.3</b>	Yes	Two-way stop			Signal	<b>F</b>	<b>138.5</b>	Yes
	Northbound		<b>F</b>	<b>&gt;300</b>						<b>F</b>	<b>&gt;300</b>				
	Southbound		<b>F</b>	<b>&gt;300</b>						<b>F</b>	<b>&gt;300</b>				
	Eastbound Left Turn		B	11						A	9.3				
	Westbound Left Turn		A	0						A	8.7				
67	Sunrise Boulevard & Douglas Road	Signal	<b>F</b>	<b>190.0</b>	Signal	<b>F</b>	<b>189.8</b>	Yes	Signal	<b>F</b>	<b>105.4</b>	Signal	<b>F</b>	<b>90.9</b>	Yes
69	Sunrise Boulevard & Kiefer Boulevard	Signal	<b>F</b>	<b>&gt;300</b>	Signal	<b>F</b>	<b>113.3</b>	No	Signal	<b>F</b>	<b>261.4</b>	Signal	<b>E</b>	<b>70.7</b>	No
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	<b>F</b>	<b>120.4</b>	Signal	<b>D</b>	<b>36.4</b>	Yes	Signal	<b>E</b>	<b>71.0</b>	Signal	<b>E</b>	<b>70.1</b>	Yes
93	Grant Line Rd & Dwy/Wilton Rd	Signal	<b>F</b>	<b>83.4</b>	Signal	<b>E</b>	<b>59.8</b>	Yes	Signal	<b>F</b>	<b>95.2</b>	Signal	<b>F</b>	<b>82.1</b>	Yes

Note: Gray shading represents changes in traffic control that the project is responsible to provide. **Bold** values do not meet LOS policy. Red values with light gray shading indicate project impacts.  
Source: DKS Associates 2018

**Table CU-24b: Cumulative Plus Jackson Corridor Projects County Standard and Ultimate Mitigations - Impacts Triggered by Mather South Project**

Intersection		A.M. Peak Hour						P.M. Peak Hour					
		County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Ultimate Mitigated Cumulative Plus Jackson Corridor Projects			County Standard Mitigated Cumulative Plus Jackson Corridor Projects			Ultimate Mitigated Cumulative Plus Jackson Corridor Projects		
		Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)	Control	Int LOS	Delay (sec)
51	Mather Field Road & Rockingham Drive	Signal	<b>F</b>	<b>&gt;300</b>	Signal	-	-	Signal	<b>F</b>	<b>170.3</b>	Signal	-	-
61	Eagles Nest Road & Florin Road	Signal	<b>F</b>	<b>121.3</b>	Signal	E	69.6	Signal	<b>F</b>	<b>138.5</b>	Signal	D	49.1
67	Sunrise Boulevard & Douglas Road	Signal	<b>F</b>	<b>189.8</b>	Signal	-	-	Signal	<b>F</b>	<b>90.9</b>	Signal	-	-
72	Sheldon Lake Drive/Sunrise Boulevard & Grant Line Road	Signal	<b>D</b>	<b>36.4</b>	Signal	<b>D</b>	<b>35.1</b>	Signal	<b>E</b>	<b>71.0</b>	Signal	C	27.5
93	Grant Line Rd & Dwy/Wilton Rd	Signal	<b>F</b>	<b>83.4</b>	Signal	C	21.3	Signal	<b>F</b>	<b>95.2</b>	Signal	C	27.9

Notes: Gray shading represents changes in traffic control that the project is responsible to provide. **Bold** values do not meet LOS policy. Red values with light gray shading indicate project impacts.  
Source: DKS Associates 2018



**Table CU-25a: Cumulative Plus Jackson Corridor Projects Intersection Impacts and Mitigations - Impacts Triggered by Mather South**

Intersection	Traffic Control		Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				County Standard Mitigated Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?
	Super Cumulative Plus Jackson Corridor Projects	Mitigated Super Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach	
51 Mather Field Road & Rockingham Drive	Signal	Signal	511P	2111S	59P	9P	511P	2111S	59P	9P	Yes
58 Zinfandel Drive & Douglas Road	Signal	Signal	5P	21S	51P	5511P	5511P	21S	5511P	5511P	No
61 Eagles Nest Rd/Eagles Nest Road & Florin Road	Two-way stop	Signal	Ψ	4	Ψ	Ψ	Ψ	4	Ψ	Ψ	Yes
67 Sunrise Boulevard & Douglas Road	Signal	Signal	5511P	2111S	5511P	5511P	5511P	2111S	5511P	5511P	Yes
69 Sunrise Boulevard & Kiefer Boulevard	Signal	Signal	51P	41S	5511P	9P	5511P	2111S	5511P	5511P	No
72 Sheldon Lake Drive/Sunrise Boulevard & Grant Line Rd/Grant	Signal	Signal	Ψ	24	511P	51P	Ψ	24	5511P	51P	Yes
76 White Rock Road & Prairie City Road	Signal	Signal		2S	5511	11P		2S	5511	11P	Yes
93 Grant Line Rd & Driveway/Wilton Rd	Signal	Signal	51P	41S	5P	5P	51P	41S	5P	51P	Yes

Notes: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
<sup>1</sup> High capacity intersections are defined in the Sacramento County General Plan and may include grade separations, additional turn lanes, and/or other features as deemed appropriate by the County.  
<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan or standard intersection geometry, excluding high capacity intersections, as proposed by the County of Sacramento.  
 Source: DKS Associates 2018

**Table CU-25b: Cumulative Plus Jackson Corridor Projects Intersection Impacts and Mitigations - Impacts Triggered by Mather South Project**

Intersection	Traffic Control		County Standard Mitigated Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				Ultimate Mitigated Super Cumulative Plus Jackson Corridor Projects Lane Geometrics				LOS Impact with Mitigation?	High Capacity Intersection? <sup>1</sup>	Alternative Mitigation <sup>2</sup>	Constraint if Full Mitigation Not Possible
	Super Cumulative Plus Jackson Corridor Projects	Mitigated Super Cumulative Plus Jackson Corridor Projects	NB Approach	SB Approach	EB Approach	WB Approach	NB Approach	SB Approach	EB Approach	WB Approach				
51 Mather Field Road & Rockingham Drive	Signal	Signal	511P	2111S	59P	9P	511P	2111S	59P	9P	Yes	No		Existing development
72 Sheldon Lake Drive/Sunrise Boulevard & Grant Line Rd/Grant	Signal	Signal	Ψ	24	5511P	51P	Grade Separate				No	No		
76 White Rock Road & Prairie City Road	Signal	Signal		2S	5511	11P	Grade Separate				No	Yes		
93 Grant Line Rd & Driveway/Wilton Rd	Signal	Signal	51P	41S	5P	51P	511P	41S	5P	55P	No	No	Dual SBL, Dual WBL, Dual WBR	

Notes: Gray shading represents changes in traffic control or approach lanes for which the project is responsible to pay a fair share.  
<sup>1</sup> High capacity intersections are defined in the Sacramento County General Plan and may include grade separations, additional turn lanes, and/or other features as deemed appropriate by the County.  
<sup>2</sup> Alternative mitigations represent proposed mitigations beyond the General Plan or standard intersection geometry, excluding high capacity intersections, as proposed by the County of Sacramento.  
 Source: DKS Associates 2018

Implementation of Mitigation Measure CU-TR-6 would result in fair share payment toward improvements that would reduce the impacts of the Mather South Project as shown in **Table CU-24a** and **Table CU-24b**. However, as shown in **Table CU-25a** and **Table CU-25b**, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development proposed for the Mather South Project because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. If all improvements were implemented in a timely way, all impacts would be reduced to a less-than-significant level. However, because the timing of implementation of all required improvements cannot be guaranteed and is not subject to the sole responsibility of just Mather South applicants and the County, it cannot be guaranteed that significant impacts to intersection would be reduced to a less-than-significant at the time of development. Therefore, the project would have a **considerable contribution** to **significant and unavoidable** cumulative intersection impact.

*FREEWAY FACILITY IMPACTS CUMULATIVE PLUS MATHER SOUTH PROJECT*

***CUMULATIVE FREEWAY SEGMENTS CUMULATIVE MATHER SOUTH PROJECT***

**Table CU-14** summarizes a.m. and p.m. peak hour US 50 freeway mainline operations under the Cumulative Plus Mather South Project scenario. Detailed freeway mainline operations calculations are included in Appendix TR-1. As shown in **Table CU-14**, with implementation of the Mather South Project, the Caltrans' threshold of significance (5 percent V/C increase) would not be exceeded along any of the freeway segments analyzed.

***CUMULATIVE FREEWAY RAMP INTERSECTION QUEUING CUMULATIVE MATHER SOUTH PROJECT***

**Table CU-15 and Table CU-16** summarizes a.m. and p.m. peak hour freeway ramp intersection queuing under the Cumulative Plus Mather South Project scenario. Detailed freeway mainline operations calculations are included in Appendix TR-1. As shown in **Table CU-15**, implementation of the Mather South Project would result in freeway ramp intersections experiencing vehicle queues that would extend into the ramp's deceleration area, onto the freeway, or queues greater than the available storage capacity.

Due to the addition of traffic to freeway ramp intersections in the study area generated by the Mather South Project, the following location would experience queues that exceed the available storage capacity:

- Westbound
- Exit ramp to Rancho Cordova Parkway - left turn queue length exceeds available storage

***CUMULATIVE FREEWAY MERGE / DIVERGE / WEAVE SEGMENTS CUMULATIVE MATHER SOUTH PROJECT***

**Table CU-17** summarizes a.m. and p.m. peak hour freeway operations at merge/diverge/weave segments under the Cumulative Plus Mather South Project scenario. Detailed merge/diverge/weave data and analysis is included in Appendix TR-1. As shown in **Table CU-17**, with implementation of the Mather South Project, none of



the merge/diverge/weave segments would experience merge / diverge LOS worse than the freeway's LOS.

In summary, because the addition of Mather South Project traffic to the freeway facilities in the study area would result in freeway ramp intersections experiencing vehicle queues greater than the available storage capacity, the project would have a considerable contribution to a significant cumulative freeway impact.

### **MITIGATION MEASURES**

#### **CU-TR-7: Freeway Capacity Improvements**

The project shall implement Mitigation Measure CU-TR-3.

Implementation of Mitigation Measure CU-TR-7 would result in fair share payment toward improvements that would reduce the impacts of the Mather South Project on freeway facilities. However, the amount by which these improvements would improve operating conditions at the facility detailed above are unknown at this time; thus, if implemented it cannot be assured that the implementation of CU-TR-7 would improve operating conditions to acceptable levels at the affected facility. Additionally, because effect of the improvement is outside of Sacramento County's jurisdictional control, and while the appropriate jurisdictions can and should implement feasible mitigation to reduce impacts, it cannot be guaranteed that this improvement would be implemented or implemented in time for project development. Therefore, this impact would remain significant. The project would have a **considerable contribution** to a **significant and unavoidable** cumulative freeway impact.

#### *CUMULATIVE ROADWAY FUNCTIONALITY IMPACTS CUMULATIVE MATHER SOUTH PROJECT*

**Table CU-26** summarizes the results of the rural roadway segment functionality analysis under Cumulative Plus Mather South Project conditions. This table includes the number of lanes assumed with the implementation of the Mather South Project, which in many cases is greater than the number of lanes in the existing condition. The shaded table cells under the "Travel Lanes" heading illustrates new roadways and widened roadways that are assumed part of the Mather South Project. The "Substandard" heading indicates whether or not a roadway meets the County standards of 12-foot lanes and 6-foot shoulders. If the project makes improvements to a roadway segment such as widening, it would be required to reconstruct the entire substandard roadway segment to County standards. The shaded table cells under the "Functionality Impact" heading indicate those locations with a functionality impact.

As stated above and in Chapter 17, "Traffic and Circulation," the traffic analysis assumed that the Jackson Corridor Projects would construct several travel lanes on roadway segments that are internal to, or on the boundary of the Jackson Corridor Projects, and the entire roadway segment would be reconstructed to County standards at that time. The timing of implementation of such additional traffic lanes on these internal or boundary roadway segments will affect whether impacts would exist at some time before full build out of the Mather South Project.

**Table CU-26: Cumulative Plus Jackson Corridor Projects Functionality Impacts Triggered by Mather South Project**

ID	Roadway	Segment		Jurisdiction	Existing Substandard Roadways				CEQA Cumulative + FOUR PROJECTS			
		From	To		Travel Lanes	Pavement (ft)	Substandard? <sup>1</sup>	Existing Volume	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>
15	Douglas Rd	Mather Blvd	Zinfandel Dr	County	2	23	Yes	6,635	4	Arterial M	33,390	Yes <sup>3</sup>
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	Rancho Cordova/County	2	23	Yes	8,369	6	Arterial M	50,360	Yes <sup>3</sup>
25	Elder Creek Rd	South Watt Ave	Hedge Ave	County	2	23	Yes	5,576	4	Arterial M	52,900	Yes <sup>3</sup>
26	Elder Creek Rd	Hedge Ave	Mayhew Rd	County	2	23	Yes	5,797	4	Arterial M	33,660	Yes <sup>3</sup>
33	Excelsior Rd	Florin Rd	Gerber Rd	County	2	<21	Yes	5,423	2	Arterial M	13,080	Yes
39	Florin Rd	South Watt Ave	Hedge Ave	County	2	22	Yes	7,718	4	Arterial M	12,010	Yes <sup>3</sup>
40	Florin Rd	Hedge Ave	Mayhew Rd	County	2	22	Yes	6,312	4	Arterial M	13,280	Yes <sup>3</sup>
41	Florin Rd	Mayhew Rd	Bradshaw Rd	County	2	22	Yes	6,317	4	Arterial M	40,200	Yes <sup>3</sup>
43	Florin Rd	Excelsior Rd	Sunrise Blvd	County	2	22	Yes	3,835	2	Arterial M	17,090	Yes
50	Grant Line Rd	White Rock Rd	Douglas Rd	Rancho Cordova/County	2	22	Yes	7,189	4	Arterial M	41,130	Yes <sup>3</sup>
77	Kiefer Blvd	Bradshaw Rd	Happy Ln	County	2	22	Yes	4,618	6	Arterial M	50,960	Yes <sup>3</sup>
78	Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	County	2	22	Yes	656	3	Arterial M	39,820	Yes <sup>3</sup>
123	Zinfandel Dr	Douglas Rd	Kiefer Blvd	County	2	<21	Yes	2,848	4	Arterial M	22,250	Yes <sup>3</sup>

Note: Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide. For all roadway segments to be widened, the project is responsible to build the entire roadway to County standards.

Red text with light gray shading indicate project impacts.

- <sup>1</sup> Substandard rural roads are defined as rural, 2-lane roadway segments with travel lanes narrower than 12 feet and/or roadside shoulders narrower than 6 feet.
- <sup>2</sup> Functionality impacts are triggered when a substandard rural road increases over a threshold of 6,000 ADT, or for a roadway already above 6,000 ADT, increases by more than 600 ADT.
- <sup>3</sup> The potential for an impact exists should the project generate traffic volumes on the roadway exceeding 6,000 ADT, or increasing more than 600 ADT on a roadway already above 6,000 ADT, prior to the construction of roadway improvements.
- <sup>4</sup> Excluding the roadway segment that is within the developed community of Independence at Mather.
- <sup>5</sup> The functionality impact is mitigated by improving the roadway to County standards, including widening travel lanes to 12 feet and/or widening or providing paved shoulders to 6 feet.

Source: DKS Associates 2018



As shown in **Table CU-26**, the implementation of the Mather South Project would result in functionality impacts along 13 roadway segments within the project study area. Therefore, the project would have a considerable contribution to a significant cumulative impact.

### **MITIGATION MEASURES**

#### **CU-TR-8. Roadway Functionality Improvements**

The project applicant shall implement Mitigation Measure CU-TR-4. This mitigation would require the project applicant to pay their appropriate fair share contribution toward the construction of the improvements summarized in **Table CU-27**.

Proposed improvements include widening the deficient rural roadway segments shown in **Table CU-27** to County standards. **Table CU-27** summarizes the proposed improvements of widening the deficient rural roadway segments to County standards, and the resultant functionality analysis for these roadway segments with these improvements implemented.

Implementation of Mitigation Measure CU-TR-8 would result in fair share payment toward improvements that would reduce the impacts of the Mather South Project as shown in **Table CU-27**. However, it cannot be guaranteed that all of these improvements would be implemented concurrent with the phasing of development proposed for the Mather South Project because of the dynamic and interrelated nature of mitigation improvements that would serve multiple development projects. If all improvements were implemented in a timely way, all impacts would be reduced to a less-than-significant level. However, because the timing of implementation of all required improvements cannot be guaranteed and is not subject to the sole responsibility of just Mather South applicants and the County, it cannot be guaranteed that significant impacts to roadway segments would be reduced to a less-than-significant at the time of development. Therefore, the project would have a **considerable contribution to significant and unavoidable** cumulative roadway functionality impact.

**Table CU-27: Cumulative Plus Jackson Corridor Projects Functionality Mitigations - Impacts Triggered by Mather South Project**

ID	Roadway	Segment		CEQA Cumulative + FOUR PROJECTS				Mitigation	Impact after Mitigation?
		From	To	Travel Lanes	Facility Type <sup>1</sup>	Forecasted Volume	Functionality Impact? <sup>2</sup>		
15	Douglas Rd	Mather Blvd	Zinfandel Dr	4	Arterial M	33,390	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
16	Douglas Rd	Zinfandel Dr	Sunrise Blvd	6	Arterial M	50,360	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
25	Elder Creek Rd	South Watt Ave	Hedge Ave	4	Arterial M	52,900	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
26	Elder Creek Rd	Hedge Ave	Mayhew Rd	4	Arterial M	33,660	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
33	Excelsior Rd	Florin Rd	Gerber Rd	2	Arterial M	13,080	Yes	Widen to County standards <sup>5</sup>	No
39	Florin Rd	South Watt Ave	Hedge Ave	4	Arterial M	12,010	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
40	Florin Rd	Hedge Ave	Mayhew Rd	4	Arterial M	13,280	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
41	Florin Rd	Mayhew Rd	Bradshaw Rd	4	Arterial M	40,200	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
43	Florin Rd	Excelsior Rd	Sunrise Blvd	2	Arterial M	17,090	Yes	Widen to County standards <sup>5</sup>	No
50	Grant Line Rd	White Rock Rd	Douglas Rd	4	Arterial M	41,130	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
77	Kiefer Blvd	Bradshaw Rd	Happy Ln	6	Arterial M	50,960	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
78	Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	3	Arterial M	39,820	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No
123	Zinfandel Dr	Douglas Rd	Kiefer Blvd	4	Arterial M	22,250	Yes <sup>3</sup>	Widen to County standards <sup>5</sup>	No

Notes: Gray shading indicates changes in travel lanes or facility type that the project is responsible to provide. For all roadway segments to be widened, the project is responsible to build the entire roadway to County standards.

Red text with light gray shading indicate project impacts.

<sup>1</sup> Substandard rural roads are defined as rural, 2-lane roadway segments with travel lanes narrower than 12 feet and/or roadside shoulders narrower than 6 feet.

<sup>2</sup> Functionality impacts are triggered when a substandard rural road increases over a threshold of 6,000 ADT, or for a roadway already above 6,000 ADT, increases by more than 600 ADT.

<sup>3</sup> The potential for an impact exists should the project generate traffic volumes on the roadway exceeding 6,000 ADT, or increasing more than 600 ADT on a roadway already above 6,000 ADT, prior to the construction of roadway improvements.

<sup>4</sup> Excluding the roadway segment that is within the developed community of Independence at Mather.

<sup>5</sup> The functionality impact is mitigated by improving the roadway to County standards, including widening travel lanes to 12 feet and/or widening or providing paved shoulders to 6 feet.

Source: DKS Associates 2018

## WATER SUPPLY

*CUMULATIVE SETTING*

The Mather South Project would be developed in the eastern Sacramento County, near several other projects including New Bridge, Jackson Township, and West Jackson. The portion of the county where these projects would be developed is largely rural and sparsely developed. The Sacramento County Water Agency (SCWA) provides water supply and maintains infrastructure in the Zone 40/41 area which serves the Mather South Plan Area. Regional water infrastructure is present near the Plan Area. Cumulative water supply impacts would be less than significant.

*CUMULATIVE IMPACTS EVALUATION*

As described in Chapter 18, Water Supply, SCWA has been planning for and implementing regional water supply infrastructure upgrades in the Zone 40/41 area which serves the Mather South Plan Area and vicinity. As a result, the SCWA Water Supply Master Plan (WSMP) has been concurrently developed to address the sufficiency of water supply for the West Jackson, Jackson Township, and New Bridge projects. Additionally, the Water Supply Improvement Plan (WSIP) has been prepared to address specific infrastructure needs in the area. The 2016 WSIP develops the future water demands of Zone 40 assuming that the proposed Mather South, West Jackson, Jackson Township, and New Bridge projects are approved and proceed (SCWA 2016).

SCWA has included the project and other anticipated projects including (the Four Projects) in the build-out scenario for future water demands. Table CU-28 provides a summary and schedule of the SCWA's planned water supply projects that are planned through 2040 to meet projected water demand.

**Table CU-28: Planned SCWA Water Supply Expansion Projects**

Expected Future Water Supply Projects or Programs		
Name of Future Projects or Program	Implementation Year	Expected Increase in Water Supply to Agency, ac-ft/yr
Phase A NSA Project	2020	9,000
Disconnection of Anatolia GWTP	2020	-4,000
Phase B NSA Project	2025	27,000
Poppy Ridge GWTP Expansion	2025	4,000
West Jackson GWTP	2035	10,000
Big Horn GWTP Expansion	2035	5,000

Source: SCWA 2016, WSIP

Notes: These projects will expand infrastructure capacity to allow SCWA to utilize more of its available water supplies. The expected increase in supplies includes supply for the wholesale customers. The retail and wholesale breakdown of the supplies from each project is not specifically known.

Therefore, the Mather South Project would not result in a considerable contribution such that a new significant cumulative impact related to water supply would occur. The project's cumulative impacts would be **less than significant**.

## ENERGY

### *CUMULATIVE SETTING*

The geographic area considered for cumulative impacts regarding energy use is Sacramento County and the service areas for SMUD and PG&E. SMUD and PG&E both employ programs and mechanisms to support provision of services for new developments to be built within their service territory. The most common mechanism includes connection fees to recoup the cost of infrastructure required to service new developments through standard billing services. Additionally, energy efficiency, power management strategies, and conservation measures, reducing energy demand in existing development can serve to reduce additional energy infrastructure and services required for new development.

Sacramento County is currently processing four specific and community master plans within the Jackson Road corridor each of which is undergoing a separate evaluation for environmental impacts. Build out of the plans, if approved, would occur across a 20-plus year horizon. The projects include the Newbridge Specific Plan, the West Jackson Highway Master Plan, the Jackson Township Specific Plan, and the Mather South Community Master Plan. The total impact of these plans would result in the development of over 9,247 acres and would include at least 27,425 dwelling units, and over 20 million square feet of commercial, retail, office, and other nonresidential uses. In anticipation of the increased energy demand that would result from the implementation of these plans, the following new electrical infrastructure would be required to serve all four developments combined:

- One new bulk substation: Jackson Bulk Electrical substation;
- Eight project-specific distribution substations located on-site throughout the plan areas;
- Two expanded project-specific distribution substations within the West Jackson Master Plan Project area; and
- Ancillary infrastructure including on-site and off-site distribution, sub-transmission, and connections to existing transmission lines in the area.

The above infrastructure would be needed to provide adequate service for the development of each new community while continuing to maintain adequate service levels for the existing development within the area. The bulk electrical substation and off-site transmission and sub-transmission lines are not specific to any one of the projects but are needed to meet the cumulative needs for all the projects in combination with existing development.

Based on the size and land uses included within each project, SMUD has estimated the following future energy demand:



- Mather South Community Master Plan - 27 megawatts (MW)
- Jackson Township Specific Plan - 44 MW
- NewBridge Specific Plan - 21 MW
- West Jackson Highway Master Plan - 223 MW

### *ELECTRICAL INFRASTRUCTURE NEEDS*

#### **DISTRIBUTION SUBSTATIONS**

The following description generally summarizes the requirements for new SMUD distribution substations, such as those that will be located within each of the specific and community master plan areas. While exact design specifications are not available, this summary provides a good faith effort at evaluating the size, capacity, infrastructure, and design of each of the distribution substations to analyze the potential environmental impacts associated with the infrastructure.

Each of the eight substations would be approximately 1.5 acres in size and would be energized by connecting to 69,000 volts (69 kV) subtransmission lines that are supplied by the proposed Jackson Bulk Substation (described in detail below) and existing SMUD Bulk Substations. Bulk substations typically step-down transmission line voltage of 230,000 volts (230 kV) to subtransmission voltage of 69 kV through power transformers. The distribution substations would in turn step down the electricity supply to 12,000 volts (12 kV) for delivery to residential neighborhoods. Each distribution substation would include up to two transformers, eight capacitor banks, two backup battery systems, two metal clad switchgears, and two poles with a disconnect switch. Substations will require an access road of at least 20-foot wide if the access roads are straight, and 24-foot wide if there are turns. The distribution substations would receive electricity from 69-kV sub-transmission lines. SMUD's standard construction for sub-transmission lines is overhead construction with poles that if pole-mounted would be approximately 65-foot tall. The distribution substations would distribute electricity via underground and/or overhead 12-kV lines to neighborhoods. Permanent utility easements would be required. Construction of the distribution substations would occur over a 1-year period.

#### **SPECIFIC AND COMMUNITY PLAN INFRASTRUCTURE**

The following section describes the existing and required electrical infrastructure that would be required within each of the four specific and community master plan areas. The approximate locations of the proposed new electrical infrastructure are illustrated on Plates EN-1 Proposed Substation Locations and Plate EN-2, Proposed Subtransmission Lines. Additional 69-kV routes may be required depending upon the final locations of the new distribution substations.

#### ***MATHER SOUTH COMMUNITY PLAN AREA***

The Mather South Community Plan Area would require one new distribution substation and is proposed to be in one of two site options. Location A would be in the center of the Plan Area within COMM1 land use designation and would receive the 69-kV sub-

transmission line along the east side of Zinfandel Drive. Location B would be located on the eastern side of the Plan Area within R17a and receive the 69-kV sub-transmission line along the east side of the Regional Bike Trail on the west side of the Folsom South Canal.

There is one existing 69-kV subtransmission line east of Sunrise Boulevard, and the cumulative projects would require three new 69-kV subtransmission routes within the project, including one along the north side of Douglas Road, one along the east side of Zinfandel Drive or the east side of the Regional Bike Trail, and one along Kiefer Boulevard.

#### ***JACKSON TOWNSHIP SPECIFIC PLAN AREA***

The Jackson Township Specific Plan Area would require one new distribution substation near Jackson Road and Tree View Lane. There are four existing 230-kV transmission lines in an easement that runs along the southeasterly portion of the Jackson Township plan area. Two of the lines are owned by SMUD and two are owned by PG&E. The cumulative projects would require three new 69-kV sub-transmission routes within the project, including one along Kiefer Boulevard, one along Jackson Road, and one along Excelsior Road.

#### ***NEW BRIDGE SPECIFIC PLAN AREA***

The New Bridge Specific Plan Area would require one new distribution substation west of the Folsom South Canal or the expansion of the existing SMUD distribution substation in the P/QP parcel (S-60) at the northwest corner of Jackson Road and Sunrise Boulevard. The determination of constructing a new distribution substation or expanding the existing distribution substation is dependent on construction constraints at the time of development. If a new distribution substation is constructed, the existing distribution substation will be removed after the new location is in service. The four 230-kV transmission lines described above also traverse the New Bridge Plan area in an easement that runs along the north central portion. There are additionally, two existing 69-kV sub-transmission lines in the plan area, one located along the north side of Jackson Road and one on the east side of Sunrise Boulevard. The cumulative projects would require two new 69-kV sub-transmission routes within the project area, including one on the west side of Eagles Nest Road between Jackson Road and Kiefer Boulevard, and one on the south side of Kiefer Boulevard between the western New Bridge plan boundary and Sunrise Boulevard.

#### ***WEST JACKSON HIGHWAY MASTER PLAN AREA***

The West Jackson Highway Master Plan Area project would require the expansion of two existing distribution substations, one on the east side of Happy Lane south of Old Placerville Road and one along the west side of Mayhew and north of Jackson Road. The expansion of these distribution substations would result in impacts to the adjacent parcels, which will be evaluated in detail in the West Jackson Highway Master Plan EIR.

The project would also require four new distribution substations, near Fruitridge Road and Hedge Avenue; Jackson Road and Vineyard Road extension; Fruitridge Road and Bradshaw Road; Excelsior and Kiefer Boulevard; and Florin Road and Vineyard Road.

The project may also result in the removal of an existing distribution substation if no longer required by the existing customer, near Kiefer Boulevard and Bradshaw Road.

The four existing 230-kV transmission lines that are located south of Jackson Road and described above, also run along the northern portion of the West Jackson Highway Master Plan area. The cumulative projects would require seven new 69-kV sub-transmission lines, including one along Kiefer Boulevard, one along Happy Lane, one along Jackson Road, one along Vineyard Road, one along Bradshaw Road, one along the east/west road between Bradshaw Rd and Vineyard Road, and one along Hedge Avenue.

### **JACKSON BULK SUBSTATION**

As noted above, because of the cumulative anticipated growth along the Jackson Road corridor, SMUD would require the construction and operation of a new bulk substation. The following description summarizes the general components and requirements for a new SMUD bulk substation, such as the Jackson Bulk Substation. While exact design specifications are not available, this summary provides a good faith effort at evaluating the size, capacity, infrastructure, and design of the project to analyze the potential environmental impacts associated with the project. The description of electrical infrastructure is largely derived from SMUD's recent Franklin Bulk Substation project.

The project would result in the construction and operation of a new bulk transmission substation, modify existing and construct new overhead 69-kV sub-transmission and make connections to existing 230-kV transmission lines that would link the distribution substations to the electrical grid. Project features would include the development of the Jackson Bulk Substation, up to eight new distribution substations located within nearby master plan areas (as described above), and sub-transmission lines.

### ***BULK SUBSTATION LOCATION***

SMUD would require the dedication of approximately 22 acres of land north of the existing Cordova-Hedge and Cordova-Pocket 230-kV transmission lines that are located within a utility easement south of Jackson Road. The two potential locations are shown on Plate EN-1.

Option 1 is located adjacent to the southeast corner of Jackson Road and Excelsior Road and is not located within any of the four proposed master plan projects discussed above. It is located within parcels APN 067-0050-039-0000 and 067-0050-040-0000. The parcels also include two single-family, detached homes and is designated as AG-160 (Agricultural-160 Acres). There are two retention ponds on the site which are designated wetlands and included in the U.S Fish and Wildlife National Wetland Inventory. The substation location for Option 1 is located approximately 680 feet north of the nearest sensitive receptors. The site is located directly south of Jackson Road and north of two SMUD 230-kV transmission lines, and two PG&E lines, that run

through the proposed south-easterly portion of the West Jackson Highway Master Plan development area.

Option 2 is located approximately 2,000 feet south of Jackson Road and 2,000 feet west of Excelsior Road and is within the project boundary of the West Jackson Highway Master Plan. This location is within a civic/employment designated portion of the master plan.

### **BULK SUBSTATION INFRASTRUCTURE**

#### **BULK SUBSTATION**

The bulk substations would step down transmission line voltage of 230 kV to subtransmission voltage of 69 kV for distribution to distribution substations located within the four community and masterplan areas. The bulk substation area would be graded and partially covered in crushed gravel, except where concrete foundations for the control building, transformers, circuit breakers and other equipment, oil containment, metal clad switchgear, and paved access roads would be built.

The main components of a bulk substation are the power transformers, steel structures, switches, control and relay equipment, circuit breakers, capacitor banks, electrical busses, cables and control building. Each power transformer would be approximately 35-feet tall, would contain approximately 25,000 to 30,000 gallons of insulating mineral oil. The maximum average sound level for each transformer would not exceed 80 decibel A-weighting (dBA) measured at a distance of 6-feet around the periphery of the transformer.

The bulk substation would also include circuit breakers and circuit switchers to receive and distribute electricity. Circuit breakers would be approximately 25-feet tall and would contain sulfur hexafluoride (SF<sub>6</sub>) or other insulating medium. Sound levels would not exceed 140 decibels measured at 50-feet around the perimeter of the circuit breaker. Noise generated by the circuit breaker is typically intermittent.

The bulk substation also includes pad-mounted transformers which will contain approximately 85 gallons of insulating oil, which is typically natural ester oil, which is non-toxic and biodegradable. The bulk substation would also include battery systems using lead acid, which would be located inside the control building. Other optional electrical components may be included which utilize mineral oil for insulating.

#### **ELECTRICAL BUS**

The bulk substation would include a network of steel structures that would support equipment, electrical buses, varying in height from approximately 16 to 80 feet tall. The electrical bus would support equipment such as insulators and would support overhead conductors entering the bulk substation from the interconnecting transmission and sub-transmission overhead lines.

### **CONTROL BUILDING**

The bulk substation would include a control building up to 50 feet high. The control building would be constructed with masonry block, concrete, or steel walls. The control building would include a restroom for employees and would be connected to municipal water and sewer if available.

### **ACCESS ROAD**

The bulk substation would require two access roads of at least 20-feet wide if the access roads are straight, and 24-feet if there are turns.

### **BULK SUBSTATION FENCING, LANDSCAPING, AND LIGHTING**

To maintain security and public safety, a minimum 10-foot fence would be installed around the perimeter of the bulk substation site. SMUD would work with Sacramento County to determine the most appropriate landscaping and screening improvements. Lighting would be included as required by the National Electrical Safety Code for substation operation. The installed lighting system would be designed for purposes of nighttime operations and maintenance and would be oriented to minimize glare onto surrounding property.

### **TRANSMISSION LINES**

Transmission and subtransmission lines would be required to receive electricity from the grid at the Jackson Bulk Substation and distribute to the distribution substations. The receipt and distribution of electricity along electrical lines would require the dedication of a utility easement. Receipt of electricity from the grid would occur by connecting the Jackson Bulk Substation to the two SMUD 230-kV transmission lines. To make these connections, SMUD would install new steel poles up to 130-feet tall to the location of the new bulk substation. The number of new transmission poles needed would be determined by the distance between the new bulk substation and the existing transmission line right of way. Two poles at a minimum would be required. Distribution of electricity would occur across existing and new 69-kV wood or steel sub-transmission lines approximately 65 tall or along underground lines. The additional cost of underground 69-kV sub-transmission would be borne by the applicant requesting the facilities be installed underground and would require a feasibility study.

### **CONSTRUCTION, OPERATION, AND MAINTENANCE**

Construction of the Jackson Bulk Substation would occur over approximately two years, in typical construction phases. During normal operations, the bulk substation would be operated remotely and continuously. Bulk substation maintenance would occur on a regular basis from two to four times per month for internal inspections and four times per year for perimeter maintenance. Major maintenance would occur about once every three years.

### **CUMULATIVE IMPACTS SUMMARY**

Implementation of the four proposed specific and community master plans would result in a substantial increase in the regional demand for energy and the subsequent need to

develop new supportive infrastructure (i.e., one bulk substation, eight distribution substations, two expanded distribution substations, transmission lines, sub-transmission lines, and accessory infrastructure). As shown in Plate EN-1, all new project-specific distribution substations would be located within the project boundaries of their associated maps, with the exception of the expanded distribution substations required by the West Jackson Highway Master Plan Project. The Jackson Bulk Substation (bulk substation) and ancillary facilities would be located off-site for some or all facilities. Should Option 1 be selected for the bulk substation, it would be located off-site for the four master plans. For infrastructure located within project boundaries, impacts would be addressed as direct impacts within the appropriate resource areas within each project’s EIR. However, because in most cases Option 1 and Option 2 would not be located within project boundaries of the four proposed master plan projects discussed above, an evaluation of cumulative impacts associated with each location is provided below. Table CU-29 includes an evaluation of the potential impacts of the new bulk substation if it were to be developed in either location. This analysis is programmatic in nature; a more detailed CEQA analysis will be performed by SMUD prior to construction of any of the proposed substations which will determine the environmental impacts and respective mitigation measures.

**Table CU-29: Summary of Potential Environmental Impacts from Jackson Bulk Substation Construction and Operation**

Affected Resources	Potential Impacts
Aesthetics and Visual Resources	<p>The aesthetic and visual characteristics of the proposed sites for Option 1 and 2 are similar and are characterized by grassland, rural residential homes, and agricultural land uses. The surrounding area is currently relatively rural, but with implementation of the Jackson Bulk Substation, eight distribution substations, and proposed community and master plan projects, would gradually transition to an urbanized community. The proposed bulk substation would be typical of other bulk substations in the region and would include a two-story control building, transformers (approximately 35-feet tall), power circuit breakers (approximately 25-feet tall), a network of steel structures to support electrical equipment (up to 100-feet tall), and overhead conductors entering the substation from the interconnecting sub-transmission and transmission overhead lines (up to 130-feet tall).</p> <p>Project construction would temporarily disrupt the existing visual environment as project materials would be staged and workers would be present on-site during the construction phase which would be approximately two years. However, these changes in the existing visual environment would be temporary, and consistent with the overall change to existing visual context in the Jackson Road corridor because of multiple large proposed master plans.</p> <p>Under both options, the bulk substation would be located adjacent to urbanizing areas and Jackson Highway, and would be typical of supportive urban infrastructure seen in the community. The overall visual transformation of the surrounding areas is addressed in the project-specific visual resources chapter of this EIR and is inclusive of supporting infrastructure needed to support the community. As described therein, the Franklin Bulk Substation MND concluded that the project would result in less than significant impacts. No scenic resources nor scenic vistas are located on or adjacent to the sites or nearby for either Option 1 or Option 2. While development of the bulk substation would result in the visual transformation of the site from a rural character to urban</p>

Affected Resources	Potential Impacts
	<p>infrastructure, its development would be completed in concert with the overall urbanization of the surrounding area such that construction of this facility would not result in the substantial degradation of views of the site. As described above, nighttime lighting would be included for safety and maintenance purposes but would be shielded and directionally controlled to prevent impacts to nearby sensitive land uses. Overall, the project would not result in a considerable contribution to a new significant cumulative impact related to visual resources. Cumulative impacts would be <b>less than significant</b>.</p>
Air Quality	<p>Construction of the Jackson Bulk Substation and related infrastructure components under Options 1 and 2 would involve the use of off-road heavy-duty construction equipment. Construction of the bulk substation would be typical of construction activity for the project type and size. Use of this equipment during various construction phases would result in emissions of fugitive dust, diesel particulate matter, and other criteria air pollutants. It is anticipated that certain phases in the construction of the substation may result in fugitive dust emissions and criteria air pollutants which exceed applicable standards set by the Sacramento Metropolitan Air Quality Management District (SMAQMD). Given the proximity of both Option 1 and Option 2 to existing sensitive receptors, the use of construction equipment may also expose sensitive receptors to substantial pollutant concentrations. As a result, construction activity associated with bulk substation construction could result in significant air quality impacts. Construction of the bulk substation would be the responsibility of SMUD and would not be subject to the control of the County. Nonetheless, SMUD would be responsible for implementing appropriate mitigation developed in consultation with regulatory agencies to mitigate air quality impacts. Such mitigation could include construction practice and equipment limitations and renewable energy features. With implementation of mitigation, project-related impacts associated with the bulk substation could be reduced to a less-than-significant level. Mitigation Measure CU-2 below is recommended to reduce the project's contribution to impacts, specifically a reduction in fugitive dust emissions through the implementation of Fugitive Dust Control Plan during project construction. Mitigation Measure CU-3 below is recommended to reduce the project's contribution to impacts, specifically NO<sub>x</sub> emissions during project construction through the implementation of NO<sub>x</sub> reduction measures. However, even with implementation of this mitigation, cumulative construction-related air quality impacts could result in emissions above SMAQMD's thresholds for certain pollutants and, therefore, cumulative impacts would remain considerable and significant and unavoidable.</p> <p>Operation of the bulk substation under Option 1 or 2 would result in emissions associated with routine maintenance tasks including worker commute trips and the use of maintenance equipment, as needed. Similar to existing facilities such as the Franklin Bulk Substation, emissions during operations would be limited over the lifetime of the project and no permanent staff would be expected to be stationed at the facility. Therefore, no significant operational impacts would be expected, and this would not result in a considerable contribution to a significant cumulative impact. Cumulative impacts related to operations would be <b>less than significant</b>.</p>
Biological Resources	<p>The site for Option 1 includes two, single-family, detached homes on large lots which are surrounded by grassland habitat. There are also two retention ponds located within the parcel that are designated wetlands and could be disturbed during construction. The site for Option 2 is located within the project boundary of the West Jackson Highway Master Plan and consists of grassland habitat. Disturbance of special-status plant species and wildlife as well as their habitats</p>



Affected Resources	Potential Impacts
	<p>could occur because of construction activities for the development of either Option 1 or Option 2. The total area of disturbance for development of the bulk substation would be a maximum of approximately 22 acres. This would not be a significant biological impact due to the extent of existing development on the Option 1 site, and the relatively small scale of the bulk substation in comparison to other larger development projects. Construction of the substation would be the responsibility of SMUD and would not be subject to the control of the County. Nonetheless, SMUD would be responsible for implementing appropriate mitigation developed in consultation with resource agencies to mitigate the impacts to special-status species and their habitats. Mitigation Measure CU-4 General Construction Measures, Mitigation Measure CU-5 Pre-Construction Surveys, Mitigation Measure CU-6 Avoid Disturbance or Harm to Wildlife Species below is recommended to reduce the project's contribution to construction-related impacts. However, even with implementation of the mitigation measures listed above cumulative construction-related impacts would remain <b>considerable and significant and unavoidable</b>.</p> <p>Development of the project would contribute to the loss of biological resources within the region, but due to the relatively small amount of anticipated impacts this is not a considerable contribution to a significant cumulative biological resources impact. Mitigation Measure CU-7, Clean Water Act Permitting, and Mitigation Measure CU-8, Compensate for Permanent Loss of Wetlands below is recommended to reduce the project's contribution to this impact.</p>
Cultural Resources	<p>Construction activities for the development of the Jackson Bulk Substation and related infrastructure under Option 1 or Option 2 would involve ground disturbance, grading, and trenching activities that could result in the uncovering of previously undiscovered cultural resources on the site. Mitigation Measures CU-9 and CU-10 are recommended to minimize the potential for the project to result in potential impacts on cultural resources. With mitigation, the project would not result in a considerable contribution to a significant cumulative impact. Cumulative impacts would be <b>less than significant</b>.</p>
Geology and Soils	<p>Construction activities for the development of the Jackson Bulk Substation and related infrastructure under Option 1 or Option 2 would involve ground disturbance, grading, and trenching activities that could result in activities which expose soils and result in accelerated erosion. Construction activity could result in the movement of soils to other locations on the project site to assist in the leveling the site. Because the project would disturb more than one acre of ground surface, the project would be required to comply with the Sacramento County Land Grading and Erosion Control Ordinance (Sacramento County Code Ch. 16.44). The ordinance establishes administrative procedures, minimum standards of review, and implementation and enforcement procedures for the control of erosion and sedimentation that are directly related to land grading activities.</p> <p>In addition to complying with the County's ordinances because the construction site would disturb more than one acre, it would be required to comply with the State's General Stormwater Permit for Construction Activities, which is Mitigation Measure CU-11. The Construction General Permit is issued by the State Water Resources Control Board and enforced by the Regional Board and requires preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) that must always be kept on site for review by the State inspector. As such, the project would not result in substantial soil erosion or the loss of topsoil and would not contribute considerably to a significant cumulative impact. Cumulative impacts would be <b>less than significant</b>.</p>

Affected Resources	Potential Impacts
Greenhouse Gas Emissions	<p>Operation of the Jackson Bulk Substation under Option 1 or 2 would result in GHG emissions associated with routine maintenance tasks including worker commute trips and the use of maintenance equipment, as needed. Similar to existing facilities such as the Franklin Bulk Substation, GHG emissions during operations would be limited over the lifetime of the project and no permanent staff would be expected to be stationed at the facility. Construction of the project and related infrastructure components under Option 1 or Option 2 would involve the use of off-road heavy-duty construction equipment resulting in GHG emissions and vehicle miles associated with construction worker commute trips. The full design and construction details for the bulk substation are not known at this time. However, the Franklin Bulk Substation, which is similar in size to the Jackson Bulk Substation, resulted in 1,230 MTCO<sub>2e</sub> during the initial year of construction. Based on similar size of the Jackson Bulk Substation, GHG emissions during the initial year of construction could potentially exceed SMAQMD's significance threshold of 1,100 MTCO<sub>2e</sub>/year for construction activity. Therefore, implementation of Mitigation Measure CU-12 (described below) is suggested to reduce construction-generated GHG emissions to below 1,100 MTCO<sub>2e</sub>/year. With implementation of the Mitigation Measure CU-12, the project would not result in a considerable contribution to a significant cumulative impact. Cumulative impacts would be <b>less than significant</b>.</p>
Hazards and Hazardous Materials	<p>Construction of the Jackson Bulk Substation and related infrastructure components under Option 1 or Option 2 would involve the transport and use of hazardous materials. These include mineral oil used to insulate transformers which would be in sealed transformer equipment, substation battery backup systems, containing liquid sulfuric acid, which would be in sealed cases, and petroleum products for use in construction equipment. As part of the SWPPP required for the project, a Spill Prevention and Response Plan (SPRP) would be implemented and would include action measures to minimize the potential release of hazardous materials into the environment. Mitigation Measures CU-13, CU-14, and CU-15 are suggested to ensure impacts of a potential release of hazardous materials into the environment are reduced to the largest degree possible. Mitigation Measure CU-13 requires environmental training on BMPs which would be employed for phases of construction in which hazardous materials are encountered. Mitigation Measure CU-14 requires the development of a Hazardous Substance Control and Emergency Response Plan. The plan would include BMPs for avoiding hazardous materials spills and specific measures to implement if a hazardous materials spill does occur. Operation of the substation would require the storage and use of mineral oil onsite for the purpose of insulating the substation transformers. As part of Mitigation Measure CU-15, a Spill Prevention, Control, and Countermeasures (SPCC) Plan would be prepared to identify storage devices and containment measures for spill events. For operation of the project, Mitigation Measure CU-16 is also suggested, which would require the preparation of A Hazardous Materials Business Plan (HMBP), if operation of the Project required the handling or storage of hazardous materials equal to or greater 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases. The HMBP would also include an operation specific emergency response plan for the specific type of hazardous materials used on site. Although hazardous material would be used on site, with the implementation of Mitigation Measures CU-13 through CU-15, the risks for the accidental release of hazardous materials into the environment would be reduced such that the project would not result in a considerable contribution to a significant cumulative impact. Cumulative impacts would be <b>less than</b></p>

Affected Resources	Potential Impacts
	<b>significant.</b>
Hydrology and Water Quality	<p>Construction of the Jackson Bulk Substation at Option 1 or Option 2 would result in increased sediment erosion because of ground disturbance associated with activities such as grading, trenching, foundation installation, fence construction, and road improvements. Increased erosion could affect water quality in on-site and offsite water bodies. Substation construction could also result in the degradation of water quality from runoff of petroleum-based products associated with the use of construction equipment. Option 1 contains wetland features and Option 2 contains two retention basins that are identified as freshwater ponds and classified as part of the Palustrine System, which includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, as well as all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. Substation construction could result in changes in drainage patterns on the site. Substation construction would be required to comply with the Sacramento County Land Grading and Erosion Control Ordinance (Sacramento County Code Ch. 16.44). As discussed in the Geology and Soils section above, because the construction site would disturb more than one acre, it would also be required to comply with the State's General Stormwater Permit for Construction Activities which is issued by the State Water Resources Control Board and enforced by the Regional Board. This permit would require the preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). Based on the results of this permitting process, if deemed applicable, standard erosion control measures would be implemented to protect water quality consistent with Regional Water Quality Control Board (RWQCB) and County requirements. The use of standard control measures through the permitting process, would ensure that substation construction activity would not violate any water quality standards or waste discharge requirements. Implementation of standard construction-related hydrology and water quality measures listed below as well as implementation of Mitigation Measures CU-11, and CU-13 through CU-15 would feasibly reduce this impact. Further, the facility would be designed to meet current State and County stormwater and water quality standards for the operation of the facility such that no significant operational hydrology and water quality impacts would occur. Therefore, the project would not result in a considerable contribution to a significant cumulative hydrology or water quality impact. Cumulative impacts would be <b>less than significant</b>.</p>
Noise and Vibration	<p>Construction activities for the development of the Jackson Bulk Substation and related infrastructure under Option 1 or Option 2 would involve the use of off-road heavy-duty construction equipment resulting in noise and vibration levels that could result in impacts on nearby sensitive receptors (e.g., residential land uses). Site construction characteristics would be similar to those in Mather South Community Master Plan (i.e., construction activity occurring in close proximity to sensitive receptors). Existing noise sensitive receptors exists approximately 2,035 feet east of the substation location in Option 1 and within approximately 680 feet south of the project site boundary for Option 2.</p> <p>Construction activities would be intermittent and temporary in nature. Construction activities occurring during the quieter nighttime hours are of particular concern. If construction activities were to occur during the nighttime hours this could result in increased levels of annoyance and potential for sleep disruption to occupants of nearby dwellings. Because details regarding when construction activity would occur, temporary noise impacts may still occur. Construction of the substation would be the responsibility of SMUD and would not be subject to the control of the County. Nonetheless, SMUD would be</p>

Affected Resources	Potential Impacts
	<p>responsible for implementing appropriate mitigation developed in consultation with regulatory agencies to mitigate air quality impacts. As such, construction noise mitigation strategies identified within Mitigation Measure CU-17 are proposed to mitigate substation construction activity on nearby noise sensitive receptors and could feasibly reduce this impact to below a level of significance. In general, this mitigation can and should be implemented by SMUD and would generally include the limitation of construction activity to daytime hours as prescribed in the Sacramento County Noise Ordinance, which are exempt from the County's noise standards. Although this mitigation would help to reduce potential impacts on nearby sensitive receptors, because the full detail of construction activity is not known at this time, including the type and amount of construction equipment to be used as well as when construction activity would occur, noise impacts may still occur.</p> <p>As noted in the Noise Section of this EIR, a 224 mega-volt ampere (MVA) transformer, is estimated to generate a maximum noise level of 80 dBA <math>L_{eq}/L_{50}</math> at 6 feet (SMUD 2016). The exact size of the proposed bulk substation is unknown at this point. For this analysis it is assumed, based on information included in the Noise Section regarding the Franklin Bulk Substation MND (SMUD 2016), the proposed bulk substation would be of a similar size as the Franklin Bulk Substation. The County's zoning designation of the nearest noise sensitive land use is AG-160 (Agricultural-160 Acres). According to Sacramento County Code, Section 6.68.070 (a), this designation is not considered a noise sensitive land use and, therefore, the County daytime and nighttime exterior noise standards would not apply.</p> <p>Although the adjacent noise sensitive land use is not subject to the County's nighttime exterior noise standard, noise sensitive receptors on this property could be affected by operations of the bulk substation depending on its location under either Option 1 or Option 2. If the bulk substation were to generate noise levels of 80 dBA <math>L_{eq}/L_{50}</math> at 6 feet, the substation would not exceed the County of Sacramento's nighttime exterior noise standard of 45 dBA <math>L_{eq}/L_{50}</math> at the location of the nearest sensitive receptor for a (approximately 680 feet from the substation location for Option 2). Such mitigation could include the siting of noise-generating equipment away from sensitive receptors. With implementation of mitigation, project-related impacts would be reduced to below a level of significance. Mitigation Measure CU-16 below is recommended to reduce the project's contribution to a new significant cumulative impact. Cumulative impacts would be <b>less than significant</b>.</p>
Transportation	<p>Construction activities for the development of the Jackson Bulk Substation under Option 1 or Option 2 would result in construction-related commute and haul trips that could temporarily increase traffic volumes on local roadways. Construction of the facility would take place over approximately two years and would be temporary. Construction of the bulk substation would be the responsibility of SMUD and would not be subject to the control of the County. Nonetheless, SMUD would be responsible for implementing appropriate construction-traffic measures to ensure adequate access to and from the facility would be maintained. SMUD would also be required to coordinate with the County regarding construction-traffic management plans consistent with the Sacramento County Department of Transportation's Construction Traffic Management Program (Chapter 6 of the County's Project Delivery Manual). Therefore, no significant construction-related traffic impacts would occur. The facility would not require any permanent staff and would only require periodic maintenance. Therefore, this facility would not result in the substantial generation of operational traffic such that significant traffic impacts to local</p>

Affected Resources	Potential Impacts
	roadways and intersections would occur. Overall, the project would not result in a considerable contribution to a significant cumulative impact related to traffic impacts. Cumulative impacts would be <b>less than significant</b> .

## MITIGATION

### **Mitigation Measure CU-1 Coordination with SMUD**

The project applicant of each of the following Specific and Community Master Plans: Newbridge Specific Plan, the West Jackson Highway Master Plan, the Jackson Township Specific Plan, and the Mather South Community Master Plan shall coordinate with SMUD to identify the timing of construction of the Jackson Bulk Substation and seek to facilitate efficiencies in grading and pre-construction activities as feasible, as a condition of this project

## AIR QUALITY

### **Mitigation Measure CU-2 Dust Control Plans**

SMUD shall develop a Fugitive Dust Control Plan (FDCP) for the bulk substation. The FDCP shall be prepared prior to the start of construction activities. Measures to be included in the plan include, but are not limited to, the following:

- a. Water all exposed surfaces at least two times daily when soil moisture conditions have the potential to result in dust generation. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- b. Cover or maintain at least two feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- c. Use wet power vacuum street sweepers to remove any visible track out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- d. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- e. Temporary construction entrances shall be stabilized to control fugitive dust emissions.
- f. The FDCP shall identify a designated person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures, as necessary, to minimize the transport of dust offsite and to ensure compliance with identified fugitive dust control measures. Their duty hours shall include holidays and weekend periods when work may not be in progress. The names and telephone numbers of such persons shall be provided to the SMAQMD Compliance Division prior to the start of any grading, or earthwork.

- g. Signs shall be posted at the substation site entrance a minimum of 30 days prior to initiation of Project construction. The signs shall include the following information: (a) Project Name; (b) Anticipated construction schedule(s); and (c) Telephone number(s) for designated construction activity monitor(s) or, if established, a complaint hotline. The designated construction monitor shall document and immediately notify SMUD and SMAQMD of any air quality complaints received. If necessary, the contractor will coordinate with SMUD and SMAQMD to identify any additional feasible measures and/or strategies to be implemented to address public complaints.

### ***Mitigation Measure CU-3 NO<sub>x</sub> Reduction Measures***

Consistent with SMAQMD-recommended “basic” and “enhanced” NO<sub>x</sub> reduction measures, the following measures shall be implemented during bulk substation construction:

#### *Basic Measures:*

- a. Minimize idling time of diesel-powered equipment either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- b. Maintain all construction equipment in proper working condition according to manufacturer’s specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before initial use in the project area. Documentation verifying compliance with this measure shall be retained on site and provided to SMAQMD upon request.
- c. When leasing equipment, the contractor shall use alternatively fueled equipment (e.g., electric, propane, etc.), in lieu of diesel- or gasoline fueled equipment, whenever possible and to the extent available.

#### *Enhanced Measures:*

- d. A comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that would be used in aggregate of 40 or more hours during substation construction shall be submitted to the SMAQMD.
  - The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment.
  - The contractor shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.
  - This information shall be submitted at least four business days prior to the use of subject heavy-duty off-road equipment.

- The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
- e. A plan shall be submitted to the SMAQMD demonstrating that combined emissions from heavy-duty off-road equipment (50 horsepower or more), construction vehicles, and haul truck to be used during substation construction, including owned, leased, and subcontractor vehicles, will achieve NO<sub>x</sub> reductions sufficient to demonstrate compliance with the SMAQMD's maximum allowable mass emissions threshold of 85 pounds per day (lbs/day) of NO<sub>x</sub>.
  - The plan shall include an inventory of all off-road equipment and haul trucks to be used during construction.
  - Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, limitations on the use of off-road equipment and/or haul trucks, changes in construction schedules, the payment of mitigation fees to the SMAQMD, and/or other options as they become available. The SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
- f. SMUD shall ensure that emissions from all off-road diesel powered equipment used in the project area do not exceed 40% opacity for more than three minutes in any one hour.
  - Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.
  - Non-compliant equipment shall be documented and a summary provided to SMAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly.
  - A monthly summary of the visual survey results shall be submitted throughout the duration of the Project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.

Once more detailed construction information becomes available, a refined emissions modeling analysis can be performed to determine if all or a portion of the above "Enhanced Measures" should be implemented to demonstrate compliance with SMAQMD's maximum allowable mass emissions threshold of 85 lbs/day of NO<sub>x</sub>.

This analysis shall be conducted in accordance with applicable SMAQMD-recommended methodologies.

### *BIOLOGICAL RESOURCES*

#### **Mitigation Measure CU-4 General Construction Measures**



The following general construction measures shall be implemented in order to avoid impacts to biological resources during construction of the bulk substation:

- Construction personnel shall minimize the work area footprint and the duration at a work area site, to the extent possible.
- Construction personnel shall use existing paved and unpaved roads to access the work area where present. Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the maximum extent feasible.
- Trash dumping, littering, open fires (such as barbecues), hunting, and pets shall be prohibited in work areas.

### ***Mitigation Measure CU-5 Pre-Construction Surveys***

The following measures shall be implemented in order to avoid impacts to special-status plants during construction of the bulk substation:

- Pre-construction surveys for special-status plants will be conducted within 250 feet of the Project Area, where access is possible, during the appropriate bloom period for identification.
- If surveys for special-status plants cannot be completed during the appropriate bloom period, topsoil (upper 2-4 inches) in the appropriate habitat for the surveyed specie(s) where ground disturbance will occur will be stockpiled prior to construction and respread after construction in suitable areas
- If any special-status plant species are found in the project area, orange or yellow construction flagging or fencing will be erected to provide a 20-foot -buffer area around the population to prevent encroachment by construction activities, if possible given the location of the population. The fencing will be maintained until construction is complete.
- If any special-status plant species are found in the project area and avoidance is not possible due to the location of the population, SMUD will consult with the appropriate resource agencies (California Department of Fish and Wildlife [CDFW] and/or California Native Plant Society [CNPS]) to develop mitigation and/or compensation measures needed to reduce the impact to a less than significant level.
- Where it is not feasible to avoid special-status plant locations within construction areas, seed collection and transplanting shall be performed for annual plant species in suitable areas.
- If an affected special-status plant is a perennial species, native plant nursery propagation shall be performed as well as planting within suitable areas.
- All special-status plant restoration and planting areas shall be monitored for a minimum of one year.

### ***Mitigation Measure CU-6 Avoid Disturbance or Harm to Wildlife Species***

Following preconstruction surveys and initiation of project construction, it is possible that wildlife species could subsequently enter or return to the project area. The following measures will be implemented to avoid disturbance or harm to these species:

- If any special-status species or other wildlife species are observed in the project area during construction, construction will cease until the species is allowed to move out of harm's way on their own accord.
- If they cannot be allowed to move out of harm's way on their own accord, SMUD field crews shall contact SMUD Environmental Management at (916) 732-5836, who will report the sighting to the appropriate agency (USFWS and/or CDFW). SMUD Environmental Management will have authority to stop activities until appropriate corrective measures have been completed or it is determined that the individual will not be harmed. Capture and relocation of trapped or injured species can only be attempted by agency-approved biologists.

#### ***Mitigation Measure CU-7 Clean Water Act Permitting***

SMUD will obtain relevant CWA permits (Section 404 and 401). Additionally:

- All proposed discharges of dredge or fill material into waters of the U.S. will first be authorized by the United States Army Corps of Engineers (Corps), pursuant to Section 404 of the CWA. All Corps permit conditions will be implemented.
- Pursuant to Section 401 of the CWA, SMUD will obtain Water Quality Certification from the RWQCB for the proposed Project.

#### ***Mitigation Measure CU-8 Compensate for Permanent Loss of Wetlands***

SMUD will compensate for the permanent loss of wetland habitat through the purchase of mitigation credits at a 1:1 creation ratio from the SMUD Nature Preserve Mitigation Bank or an alternative Corps-approved mitigation bank. This mitigation requirement may be refined or superseded by the terms of the Corps Section 404 permit for the project.

### *CULTURAL RESOURCES*

#### ***Mitigation Measure CU-9: Cultural Resources***

SMUD shall complete cultural resource surveys prior to any ground disturbing activities or construction activities associated with the bulk substation. Surveys will be completed prior to any ground disturbing activities or the Project construction activities to inventory and evaluate cultural resources affected by the Project, or affected by any components that might be added to the Project, or any existing components that may be modified

#### ***Mitigation Measure CU-10: Cultural Resources: Prepare and implement Archaeological Resource Management and Treatment Plan to address significant or unique archeological resources.***

In the case of the inadvertent discovery of a resource that is listed or eligible for listing in the National Register or California Register or of a unique archaeological resource as defined by CEQA, SMUD will have a qualified archaeologist prepare and implement an

Archaeological Resource Management and Treatment Plan that specifies the treatment of the resources. Prior to implementation, this document shall be submitted for review to SMUD as CEQA Lead Agency. This plan shall be tailored to the specific needs of the Project and the particular resources present there. The proposed Archaeological Resources Management and Treatment Plan must minimally address the following:

A general research design shall be developed that:

- Charts a timeline of all research activities.
- Recapitulates any existing paleo-environmental, prehistoric, ethnohistoric, ethnographic, and historic contexts to create a comprehensive historic context for the Project Area.
- Poses research questions and testable hypotheses specifically applicable to the resource types encountered.
- Clearly articulates why it is in the public's interest to address the research questions that it poses.
- Artifact collection, retention/disposal, and curation policies shall be discussed, as related to the research questions formulated in the research design. These policies shall apply to archaeological materials and documentation resulting from evaluation and data recovery of the resource.
- Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitoring team shall be identified.
- The manner in which Native American observers or monitors shall be included, the procedures to be used to select them, and their roles and responsibilities shall be described.
- All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from Project-related impacts.
- The commitment to curate of all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery), in accordance with CEQA Lead Agency requirements and the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections (HRC 1993), into a retrievable storage collection in a public repository or museum shall be stated.

*GEOLOGY AND SOILS*

**Mitigation Measure CU-11 Storm Water Pollution Protection Plan**

SMUD shall prepare and implement a SWPPP that includes erosion control measures and construction waste containment measures to ensure that waters of the U.S. and the State are protected during and after project construction. The SWPPP shall include site design measures to minimize offsite storm water runoff that might otherwise affect surrounding habitats. The SWPPP would also include a Spill Prevention and Response Plan (SPRP) and a construction-specific Hazardous Substance Control and Emergency Response Plan (HSCERP) to minimize the potential for accidental releases of hazardous materials into the environment.

The SWPPP shall be prepared with the following objectives: (a) to identify pollutant sources, including sources of sediment, that may affect the quality of storm water discharges from the construction of the project; (b) to identify BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the site during construction; (c) to outline and provide guidance for BMPs monitoring; (d) to identify project discharge points and receiving waters; (e) to address post-construction BMPs implementation and monitoring; and (f) to address sedimentation, siltation, turbidity, and non-visually detectable pollutant monitoring, and outline a sampling and analysis strategy.

The contractor shall implement the SWPPP including all BMPs and perform inspections of all BMPs. Potential SWPPP BMPs could include, but would not be limited to the following:

- Placing fiber rolls around onsite drain inlets to prevent sediment and construction-related debris from entering inlets.
- Placing fiber rolls along the perimeter of the site to reduce runoff flow velocities and prevent sediment from leaving the site.
- Placing silt fences down-gradient of disturbed areas to slow down runoff and retain sediment.
- Stabilizing construction entrance to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- Staging and covering excavated and stored construction materials and soil stockpiles in stable areas to prevent erosion.

The construction-specific SPRP and HSCERP shall include preparations for quick and safe cleanup of accidental spills. It shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan shall identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted, with secondary containment.

Construction personnel shall not refuel or conduct equipment maintenance activities within 250 feet of any aquatic features. The SPRP and HSCERP shall identify BMPs in

the event a spill occurs. BMPs may include but are not limited to the following: use of oil-absorbent materials, tarps, and storage drums to contain and control any minor releases; and storage and use of emergency-spill supplies and equipment in locations adjacent to work and staging areas.

#### *GREENHOUSE GAS EMISSIONS*

##### **Mitigation Measure CU-12 Greenhouse Gas Reduction Measures**

Prior to project construction, SMUD shall provide a plan to SMAQMD which demonstrates that the combined emissions from all off-road equipment, construction vehicles, and haul truck to be used in the construction project will implement GHG reduction strategies demonstrating that annual GHG emissions would be the SMAQMD's construction mass emissions threshold of 1,100 MTCO<sub>2e</sub>/year.

- The plan shall include an inventory of all off-road equipment and haul trucks to be used during construction.
- Strategies for reducing GHG emissions could include the use of alternative fuels, changes in construction schedules, the phasing of haul truck trips. and/or other options as they become available.

If more detailed construction information becomes available a refined emissions modeling analysis can be performed. This analysis shall be conducted in accordance with applicable SMAQMD-recommended methodologies. The analysis shall include reduction measures sufficient to ensure construction activity would not exceed SMAQMD's mass emissions threshold of 1,100 MTCO<sub>2e</sub>/year.

#### *HAZARDS AND HAZARDOUS MATERIALS*

##### **Mitigation Measure CU-13 Worker Training for Hazardous Materials**

SMUD shall establish an environmental training program to communicate environmental concerns and appropriate work practices to all field personnel, including spill prevention, emergency response measures, and proper BMP implementation. All personnel will review all site-specific plans, including, but not limited to, the Project's SWPPP, health and safety plan, and fugitive dust control plan.

##### **Mitigation Measure CU-14 Spill Prevention, Control, and Countermeasures Plan**

SMUD shall prepare and maintain an operation-specific Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) in accordance with state and federal requirements, including 40 CFR 112. The SPCC Plan shall identify engineering and containment measures for preventing oil releases into waterways. An SPCC Plan is required when there is over 1,320 gallons of petroleum products on site (excluding vehicles).

##### **Mitigation Measure CU-15 Hazardous Materials Business Plan**

SMUD will evaluate applicability of the Hazardous Materials Business Plan (HMBP) requirements (the project would use or store hazardous materials equal to or greater

than 55 gallons of liquids, 500 pounds of solids and/or 200 cubic feet [at standard temperature and pressure] of compressed gases) and file operation-specific HMBP in accordance with local, state, and federal laws. The HMBP shall identify site activities, provide an inventory of hazardous materials used onsite, provide a facilities map, and identify an emergency response plan/contingency plan.

#### *NOISE AND VIBRATION*

##### **Mitigation Measure CU-16 Limit Construction Activity to Daytime Hours**

Per Sacramento County noise ordinance requirements (Sacramento County Code Section 6.68), construction activity associated with the development of the Jackson Bulk Substation shall be limited to the hours of 6:00 a.m. and 8:00 p.m. on weekdays and between 7:00 a.m. and 8:00 p.m. on weekends.

##### **Significance after Mitigation**

Project applicants for each of the community and master plan projects would be required to comply with Mitigation Measure CU-1 to coordinate with SMUD during the grading and pre-construction activities to facilitate efficiencies where feasible.

Additionally, the specific design and siting details for the construction and operation of the bulk substation are not known at this time. The EIR has provided an analysis of the potential project and cumulative impacts associated with development of the bulk substation and other ancillary off-site facilities (e.g., power lines) based upon the best available information at this time. Development of the facility is the responsibility of SMUD as the utility provider and SMUD can and should mitigate for impacts related to development. Additional or substitute mitigation may be available when a specific site and the design of the project is known. Where standard development policies and requirements can be implemented to reduce impacts, they have been assumed in the above analysis. However, until specific site and design plans are developed, it is unknown whether specific impacts related to air quality, biological resources, greenhouse gas emissions, noise can be reduced. Therefore, at the program-level it is not possible to guarantee that all impacts related to would be able to be mitigated and the this Draft EIR conservatively assumes that the project would have **cumulatively considerable and significant** impacts related to these resources.

## GROWTH INDUCING IMPACTS

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### GROWTH INDUCEMENT

The CEQA Guidelines identify several ways in which a project could have growth-inducing impacts (CEQA Guidelines Section 15126.2). Growth inducement is when a project fosters economic or population growth in the surrounding environment, which may be directly or indirectly caused. For instance, a project may generate significant additional employment opportunities, which in turn generates the construction of additional housing to bring additional residents near this employment center. Indirect growth inducement is also possible, if a project removes obstacles to population growth, or encourages and facilitates other activities that are beyond those proposed as part of the project. For instance, a project may upgrade and increase the capacity of a major water pipeline, which then allows additional development in the area that had previously been constrained by lack of additional infrastructure capacity. Aside from infrastructure, other indirect examples include altering the availability of developable land and precedent-setting actions related to local government growth policies.

Growth inducement may not be considered necessarily detrimental, beneficial, or of significance under CEQA. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment. The paragraphs below analyze the project's potential to induce growth by removing a barrier to growth, by setting a land use precedent, or by fostering additional development.

### REMOVING BARRIERS TO GROWTH

The Mather South Project is within the Sacramento County Urban Services Boundary (USB) and Urban Policy Area (UPA) and is within the Cordova Community Plan and Mather Field Specific Plan area. Therefore, the Mather South Plan Area has been identified for future development. There are no barriers to growth which would be removed through implementation of the project. Areawide water supply infrastructure and wastewater treatment and conveyance facilities have been planned for, and if the project were to develop prior to other areas in the Cordova Community Plan Area, project-specific wastewater and water infrastructure would be constructed. However, because future wastewater and water infrastructure was assumed and approved under the Mather Field Specific Plan, the project would not remove these barriers to growth, but merely implement previously approved infrastructure expansions. Similarly, primary roadways are in service throughout the vicinity of the Plan Area, and the project would only result in additional access to the internal portions of the project site, thereby not removing additional barriers to growth. The Mather South Project would contribute to the cumulative demand for one SMUD bulk substation and would also require the development of a smaller substation and other supportive infrastructure (i.e. control buildings, transmission lines, access roads) within the Plan Area. However, this does not represent a barrier to growth because SMUD has existing high voltage transmission lines in the vicinity and has the capacity available to serve the project.



## LAND USE PRECEDENT AND FOSTERING DEVELOPMENT

The Mather South Project is consistent with the land use designations approved in the Mather Field Project (2016) which was an amendment to the Mather Field Specific Plan. Under the Mather Field Specific Plan, the intent for the Plan Area has been to develop the site with a mix of uses that would realize successful economic development on the former Mather AFB site. The County's Board of Supervisors have made continued efforts to redevelop the Plan Area and the Mather South Project is consistent with that vision.

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## 21 GLOSSARY OF ACRONYMS/ABBREVIATIONS

°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACLUP	Airport Comprehensive Land Use Plan
ADA	Americans with Disabilities Act
ADT	Average Daily Trips
AF/year	acre-feet per year
AFB	Air Force Base
AGL	above ground level
ALUCP	Airport Land Use Compatibility Plan
amp	amperes
AOC	Area of Concern
APE	Area of Potential Effect
APPA	Airport Planning Policy Area
AQMP	Air Quality Mitigation Plan
ARA	Aggregate Resource Areas
ASTM	American Society for Testing and Materials
BMP	best management practice
BO	Biological Opinion
Board	Sacramento County Board of Supervisors
CA SDWA	California Safe Drinking Water Act
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
Cal EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Uniform Building Code
CCAA	California Clean Air Act
CDE	California Department of Education
CDFW	California Department of Fish & Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act

CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH <sub>4</sub>	methane
CHRIS	California Historical Information System
CLUP	Comprehensive Land Use Plan
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalent
COC	contaminants of concern
Community Master Plan	Mather South Community Master Plan
County DWR	Sacramento County Department of Water Resources
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSCGMP	Central Sacramento County Groundwater Management Plan
CSMP	Corridor System Management Plan
CSWMP	comprehensive stormwater management program
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
dB	decibels
DBH	diameter at breast height
DDW	Division of Drinking Water's
Delta	Sacramento River–San Joaquin River Delta
diesel PM	exhaust from diesel engines
DNL	Day-Night Average Sound Level
DOD	U.S. Department of Defense
DOT	U.S. Department of Transportation
DPR	Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
DU	dwelling unit
DUE	dwelling unit equivalent
DWR	Department of Water Resources
EAP	Energy Action Plan
EGUSD	Elk Grove Unified School District
EIR	environmental impact report
EIS	Environmental Impact Statement

EMD	Sacramento County Environmental Management Department
EMFAC	EMissions FACtor
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 1992
ESA	Environmental Site Assessment
EV	electric vehicle
EVSE	Electric Vehicle Service Equipment
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FEMA	Federal Emergency Management Agency
FHSZ	fire hazard severity zone
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
GIS	Geographic Information Systems
GSP	Groundwater Sustainability Plan
HAP	hazardous air pollutant
HASP	Health and Safety Plan
HCM	<i>Highway Capacity Manual</i>
HMP	Hydromodification Management Plan
HOV	high-occupancy vehicle
hp	horsepower
Hz	hertz
IPCC	Intergovernmental Panel on Climate Change
IRCTS	Inactive Rancho Cordova Test Site
ITS	intelligent transportation systems
IWMP	Interim Mather Wetlands Management Plan
Joint TIS	Joint Transportation Impact Study
JPA	Joint Powers Authority
km	kilometers
kV	kilovolt
lb/day	pounds per day
LCFS	Low Carbon Fuel Standard
L <sub>dn</sub>	day-night level
LEA	local educational agency
L <sub>eq</sub>	equivalent continuous sound level
LID	Low Impact Development
L <sub>max</sub>	maximum sound level
LOS	level of service
LUFT	Leaking underground fuel tank
Mather AFB	Mather Air Force Base
Mather South Project	Mather South Community Master Plan Project

MCL	maximum contaminants level
Metro Fire	Sacramento Metropolitan Fire District
mgd	million gallons per day
MIST	Mather Internal Study Team
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
mPa	micro-Pascals
mpg	miles per gallon
mph	miles per hour
MPO	metropolitan planning organizations
MSCMP or project	Mather South Community Master Plan
MT	metric tons
MTIP	Metropolitan Transportation Improvement Program
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
MUFI	minor, ubiquitous, or fragmentary infrastructure
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCIC	North Central Information Center
NDMA	n-nitrosodimethylamine
NEV	neighborhood electric vehicle
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NOI	notice of intent
NOP	Notice of Preparation
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	North Service Area
OPR	Office of Planning and Research
OSHA	U.S. Occupational Safety and Health Administration
ozone	photochemical smog
PCB	polychlorinated biphenyl
PCE	perchloroethylene
PEA	preliminary endangerment assessment

PER	County of Sacramento Office of Planning and Environmental Review
PG&E	Pacific Gas and Electric Company
Plan Area	Mather South Plan Area
PM <sub>10</sub>	respirable particulate matter
PM <sub>2.5</sub>	fine particulate matter
POU	Place of Use
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
project site	also referred to as the Plan Area
PSD	Prevention of Significant Deterioration
REC	Recognized Environmental Condition
RHMA	rubberized hot-mix asphalt
RMS	root-mean-square
ROD	Record of Decision
ROG	reactive organic gases
RPS	renewable portfolio standard
RT	Sacramento Regional Transit District
RWQCB	regional water quality control board
SAC	Strategic Air Command
SacDOT	Sacramento County Department of Transportation
SacOES	Sacramento County Office of Emergency Services
SACOG	Sacramento Area Council of Governments
SACOMC	Sacramento Commission on Mather Conversion
SacRT	Sacramento Regional Transit District
SAF Plan	State Alternative Fuels Plan
SCBMP	Sacramento County Bicycle Master Plan
SCGA	Sacramento Central Groundwater Authority
SCPMP	Sacramento County Pedestrian Master Plan
SCS	Sustainable Communities Strategy
SCTDF	Sacramento County Transportation Development Fee
SCTMF	Sacramento Countywide Transportation Mitigation
Fee	
SCWA	Sacramento County Water Agency
sf	square feet
SGMA	Sustainable Groundwater Management Act
SIP	State implementation plan
SMAQMD	Sacramento Metropolitan Air Quality Management
District	
SMUD	Sacramento Municipal Utility District
SO <sub>2</sub>	sulfur dioxide



SPA Ordinance	Mather Field Special Planning Area Ordinance
SPL	sound pressure level
SR 16	State Route 16
SRC	Sacramento Rendering Company
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSD	Sacramento County Sheriff's Department
SSHCP	South Sacramento Habitat Conservation Plan
Survey Report	<i>Mather Field Project Cultural Resources Survey Report</i>
SVAB	Sacramento Valley Air Basin
SVP	Society of Vertebrate Paleontology
SWPPP	stormwater pollution prevention plan
SWRC	State Water Resources Control Board
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCE	trichloroethylene
TCR	Transportation Concept Report
TDS	total dissolved solids
TIA	Traffic Impact Analysis
TMA	Transportation Management Agency
tons/year	tons per year
Tool	Dynamic Implementation Tool
Transportation Report	<i>Mather South Specific Plan Amendment Transportation Impact Report</i>
TSM	Transportation Systems Management
UAIC	United Auburn Indian Community of the Auburn Rancheria
UDA	Urban Development Area
ULOP	urban level of flood protection
UPA	Urban Policy Area
US 50	U.S. Highway 50
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USB	Urban Services Boundary
USFWS	U.S. Fish & Wildlife Service
USGS	United States Geological Survey
UST	underground storage tanks
UWMP	Urban Water Management Plan
V/C	volume-to-capacity
VA	Veterans Affairs
VdB	vibration decibels
VMT	vehicle miles traveled
VOC	volatile organic compound
VSWTP	Vineyard Surface Water Treatment Plant

Water Forum	Sacramento Area Water Forum
WEAP	Worker Environmental Awareness Program
WFA	Water Forum Agreement
WFP	Water Forum Plan
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
WSIP	Water System Infrastructure Plan
WTP	Water Treatment Plant

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## 22 ACKNOWLEDGEMENTS

### EIR PREPARERS

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SACRAMENTO COUNTY OFFICE OF PLANNING AND ENVIRONMENTAL REVIEW

Todd Smith, Principal Planner

### EIR CONSULTANTS

Ascent Environmental, Inc.  
455 Capitol Mall, Suite 300  
Sacramento, CA 95814

### APPLICANT

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Phil Rodriguez  
Mather South, LLC

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