Sutter County
Initial Study

1. Project title:	Project #U-19-035 (Sills)
2. Lead agency name and address:	Sutter County Development Services Department Planning Division 1130 Civic Center Boulevard Yuba City, CA 95993
3. Contact person and phone number:	Casey Murray, Associate Planner 530-822-7400
4. Project sponsor's name and address:	Applicant/Owner: Valerie Sills 4901 Waterstone Drive Roseville, CA 95747 Engineer/Surveyor: George L. Musallam, NVES 1547 Starr Drive Suite J Yuba City, CA 95993
5. Project Location & APN:	8139 Pleasant Grove Road, Elverta, CA 95626; at the southwest corner of Riego Road and Pleasant Grove Road; APN: 35-280-021
6. General Plan Designation:	AG-80 (Agriculture, 80-acre minimum)
7. Zoning Classification:	AG (Agriculture) District

8. Description of project: The proposed project is a General Plan amendment from AG-80 (Agriculture, 80-acre minimum) to I/C (Industrial/Commercial), a rezone from AG (Agriculture) to CM-PD (Commercial Industrial-Planned Development), a tentative parcel map to divide 15.44± acres into a 5.32± acre parcel (Parcel 1) and a 10.12± acre parcel (Parcel 2), design review to establish a 123,709 square foot self-storage complex, 50 parking stalls for recreational vehicle (RV) storage, and 1,363 square foot office on proposed Parcel 2, and use permit to allow for reduced agricultural buffering between adjacent agricultural uses and proposed development.

The proposed 5.32± acre Parcel 1 (northern parcel) is proposed to remain unchanged and may continue to be used agriculturally. An existing 467 square foot fruit stand and gravel parking area exist on this proposed parcel and is intended to remain. The fruit stand employs three employees and operates seasonally from 7:00 a.m. to 5:00 p.m., seven days a week from April to November annually. Strawberries and seasonal vegetables are sold at the stand. The majority of the parcel is comprised of agricultural fields including row crops, strawberries, and fallowed fields. Should this project be approved, and this parcel be rezoned to the CM-PD (Commercial Industrial-Planned Development) District, any future development on proposed Parcel 1 will require additional environmental review along with approval of a Planned Development amendment and design review.

The proposed 10.12± acre Parcel 2 (southern parcel) is proposed to be developed with a 123,709 square foot self-storage complex consisting of 1,100 various sized storage units, 50 parking stalls for RV storage, and a 1,363 square foot office to serve the storage facility. A proposed restroom in the office will be available to employees and customers. The business will employ 5-7 employees ranging from management and bookkeeping to security and janitorial staff. The business is proposed to operate from 7:00 a.m. to 7:00 p.m. seven days a week. Various products for retail will include moving and packing supplies, and locks for

the units. Indoor activities will be a front desk for transactions and security, a small display area for products, a small waiting area, one restroom, and one office for bookkeeping and management. Outdoor activities will be customers loading and unloading storage units, office transactions, inspections, and security by staff. An existing residence is proposed to be utilized as a caretaker unit and provide 24-hour security to the facility.

The residence will be separated from the self-storage complex by proposed storage buildings on the north and south side and a chain-link fence with privacy slats on the west side. Existing ground mount solar panels located north of the residence are proposed to be removed to accommodate the self-storage complex. No business signage is proposed with this project. An application for a zoning clearance for proposed signage, consistent with the sign ordinance, will be submitted at a later date.

Entrance to the facility is proposed to be provided by a new 30-foot-wide paved commercial driveway with two 14-foot-wide gates with an electronic keypad. Knox Boxes or other devises approved by the Fire Chief are proposed to be installed to provide first responder emergency access 24 hours a day. The facility is proposed to be surrounded by a six-foot-tall block wall that will consist of CMU split face and CMU precision block with a rounded concrete cap.

The entire onsite circulation and parking for the facility is proposed to be paved. Four parking spaces, including one ADA accessible space are proposed meeting County standards. Landscape planters enclosed by concrete curbing are proposed adjacent to parking spaces and will consist of Chinese maple trees along with broom and yarrow shrubs. All landscape planters will be supplied drip irrigation and have bark mulch for ground cover.

Water supply will be provided by an on-site well located west of the existing residence. Sewage disposal will be provided by an on-site septic system. A 15,000 square foot Minimum Usable Sewage Disposal Area (MUSDA) is proposed at the north end of the complex and will be protected by six-inch concrete curbing. A 5,400 square foot MUSDA is proposed west of the residence and a 6,500 square foot MUSDA is proposed east of the residence. A 20,000 square foot MUSDA is proposed in the southwest corner of Parcel 1.

A new drainage swale replacing an existing swale is proposed located north of the self-storage complex. This swale will connect an existing roadside ditch to an existing ponding area. The new swale will be the same size and have the same slope as the existing swale. The intent is not to obstruct drainage flowing through the property or generate more runoff onto adjacent properties. Drainage is proposed to be handled by retention underground High-Density Polyethylene chambers located at the south end of the parcel and is designed to hold the runoff of a 100-year storm for a cumulative six-month period. RV parking is proposed over the retention chambers area. On-site, underground stormwater retention accomplishes the capture and storage of stormwater collected from surrounding impervious areas. Riser pipes or curb cuts lead surface stormwater to subsurface vaults or systems of large diameter interconnected storage pipes or chambers. Stored water is then released directly through an outlet pipe back into natural waters at rates designed to reduce peak water flows during storms to mimic pre-development conditions. In some cases, stored water can be allowed to infiltrate to recharge groundwater (if soil types are suitable and the groundwater table is located sufficiently below the water storage units). A final detailed drainage design of all proposed improvements is proposed to be submitted at the time of building permit submittal. The final design will include the on-site pipe collection system transferring all on-site runoff from this development to the retention chambers.

The applicant has submitted colored elevation drawings of proposed buildings and facilities. The tile roof of the office building will be "Malibu" sunrise blend, all trim color will be Dunn-Edwards sun seeker, and walls will be Dunn-Edwards cliff brown. The color of the trash enclosure and perimeter wall will match the color of the office walls. The storage buildings will be forest green with a white metal roof, white metal trim, and beige roll-up doors.

A 10-foot-wide landscape planter is proposed to be located along the project's Pleasant Grove Road frontage. Chinese maple trees along with broom, yarrow, and California lilac shrubs are proposed to be planted in this planter with drip irrigation and bark mulch being provided together with a 2-foot by 4-foot

redwood header board.

The applicant has submitted a lighting/photometric plan which shows proposed project lighting. Two 20-foot-tall LED light poles are proposed adjacent to the parking lot. A single wall mounted LED light is proposed on the north, south, and west sides of the office building mounted at eight feet above the ground. The submitted photometric plan demonstrates that light will not shine off of the property, consistent with County standards.

9. Surrounding land uses and setting: The 15.44± acre project site is located in south Sutter County at the southwest corner of Riego Road and Pleasant Grove Road, approximately three miles east of State Highway 99. An existing 467 square foot fruit stand and gravel parking area is located at the northern end of the parcel. Additionally, the property is developed with a 3,483 square foot residence, 703 square foot pool house, and swimming pool. Ground mount solar panels are located approximately 160 feet north of the residence. An existing gravel driveway with access gate from Pleasant Grove Road provides access to the residence. The majority of the parcel is comprised of agricultural fields including row crops, strawberries, and fallowed fields. There is a linear grove of mature eucalyptus trees along the southern property boundary. The terrain is open and relatively flat with gentle/shallow slopes. Potential jurisdictional waters of the U.S. are present at the site including a seasonal wetland that traverses the site from Pleasant Grove Road to the western property boundary in the north half of the site and a ditch located at the northeast corner of the site.

The surrounding area is largely rural in nature. The project site and parcels to the north, west, and south are zoned AG (Agriculture) and General Planned AG-80. Riego Road, ryegrass, and rural residential uses are located to the north. Uncultivated annual grassland and rural residential uses are located to the west. Uncultivated agricultural land and rural residential uses are located to the south. Property to the east on the east side of Pleasant Grove Road is within Placer County. A mini market business is located at the southeast corner of Riego Road and Pleasant Grove Road on land zoned C1 (Neighborhood Commercial). A self-storage facility is located on Pleasant Grove Road approximately one mile south of the project site on land zoned IN (Industrial) in Placer County. Other parcels located to the east, in Placer County, consist of rural residential uses and are zoned RA (Residential-agricultural).

At 3700 Riego Road, approximately 0.15 miles northeast of the project site, is an indoor and outdoor storage facility for boats, RVs, and trailers (Morning Star Park). This property is zoned M-1-PD (Light Industrial-Planned Development) and was established by Project #09-022, which was approved by the Board of Supervisors on November 9, 2010 after staff had recommended denial of the project. This project was a General Plan amendment from AG-80 (Agriculture, 80-acre minimum)/IND (Industrial) to IND for the entire parcel, a rezone from AG (General Agricultural) District and M-1-PD (Light Industrial-Planned Development) District to M-1-PD for the entire property, together with design review approval. A portion of this site along Riego Road was previously zoned industrial and used as a truss manufacturing facility until the "great recession" occurred.

The project site is approximately 0.4 miles east of Natomas Road, which is the eastern boundary of the Sutter Pointe Specific Plan and the eastern boundary of the Natomas Basin Conservancy Habitat Conservation Plan. The project site is also approximately 0.4 miles east of the Natomas East Main Drainage Canal and approximately 0.3 miles east of an existing Union Pacific Rail line. This project is located outside the Live Oak and Yuba City spheres of influence and the County's recognized rural communities.

The proposed project is located approximately 0.5 miles northwest of and 1.5 miles west of the urban area of the Placer Vineyards Specific Plan located in Placer County. This plan comprises 5,230± acres. Approximately 979 acres of the Placer Vineyards Specific Plan consisting almost entirely of land in the far western part of the plan area, east of the project site, is known as the Special Planning Area (SPA). These are mostly rural residential-agricultural parcels ranging in size from 1 to 40 acres. While included in the Specific Plan area, these rural residential lots are governed under their existing land use and zoning classifications and are not limited or directed by the policies contained in the Specific Plan.

North: Riego Road, ryegrass, rural residential; South: uncultivated agricultural land, rural residential; East:

Pleasant Grove Road, mini market, rural residential; West: uncultivated, annual grassland, rural residential.

10. Other public agencies whose approval is required: None

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.? The County initiated Assembly Bill 52 (AB 52) consultation through distribution of letters to seven Native American tribes provided by the Native American Heritage Commission (NAHC). Wilton Rancheria responded and stated they had no concerns regarding this project. Mooretown Rancheria responded and stated that they are not aware of any known cultural resources at this site. No requests for consultation were received from any Native American tribes during the review period.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ **I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.**

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Applicant Mitigation Agreement:
CEQA allows a project proponent to make revisions to a project, and/or to agree and comply with, mitigation measures that reduce the project impacts such that the project will not have a significant effect on the environment. CEQA Guidelines Section 15064.

As the applicant/representative for this proposed project, I hereby agree to implement the proposed mitigation measures and mitigation monitoring program identified within this document.

Signature of Applicant/Representative — Date: 1/26/22

Casey Murray Digitally signed by Casey Murray Date: 2022.01.26 10:37:11 -08'00'
Casey Murray, Associate Planner — Date: 1-26-2022

Neal Hay, Director of Development Services
Environmental Control Officer — Date: 1/26/2022

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

Responses:

a) **Less than significant impact.** This project will not have a substantial adverse effect on a scenic vista. The General Plan does not inventory any scenic vista on the subject property and there are no scenic vistas proximate to the project site. The General Plan Technical Background Report identifies geographic features such as the Sutter Buttes, Feather River, Sacramento River, and Bear River as scenic resources within the County, which contribute to the County's character. This project is not located within the Sutter Buttes Overlay Zone and is not located in the immediate vicinity of the Bear River, Feather River, or Sacramento River. As a result, this project will not substantially alter any scenic vista and a less than significant impact is anticipated.

b) **No impact.** This project will not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway because there are no state scenic highway designations in Sutter County. As there are no scenic highways located in Sutter County, no impact is anticipated.

c) **Less than significant impact.** The proposed project is located in a nonurbanized area and will not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Although the area is mostly agricultural in character, urbanization has occurred in the vicinity with a mini market business located at the southeast corner of Riego Road and Pleasant Grove Road, a self-storage facility on Pleasant Grove Road approximately one mile south of the project site, and an indoor and outdoor storage facility for boats, RVs, and trailers located on Riego Road approximately 0.15 miles northeast of the project site. In addition, single family homes are scattered throughout the area. The site is located approximately 0.4 miles east of the Sutter Pointe Specific Plan and approximately 0.5 miles

northwest of and 1.5 miles west of the urban area of the Placer Vineyards Specific Plan located in Placer County.

The proposed 5.32± acre Parcel 1 (northern parcel) is proposed to remain unchanged, at this time, and may continue to be used agriculturally. Any future development on proposed Parcel 1 will require additional environmental review along with approval of Planned Development amendment and design review applications.

The proposed 10.12± acre Parcel 2 (southern parcel) is proposed to be developed with a 123,709 square foot self-storage complex consisting of 1,100 various sized storage units, 50 parking stalls for RVs, and a 1,363 square foot office to serve the storage facility. An existing residence is proposed to be utilized as a caretaker and provide 24-hour security to the facility. The facility is proposed to be surrounded by a six-foot-tall block wall that will consist of CMU split face and CMU precision block with a rounded concrete cap.

The County's Commercial and Employment Districts contain specific design requirements for building design and landscaping, which are designed in part to improve the appearance of a site and create a cohesive look (Zoning Code Section 1500-07-050 E). As part of the design review component of the application, the applicant has submitted colored elevation drawings of proposed buildings and facilities. The tile roof of the office building will be "Malibu" sunrise blend, all trim color will be Dunn-Edwards sun seeker, and walls will be Dunn-Edwards cliff brown. The color of the trash enclosure and perimeter wall will match the color of the office walls. The storage buildings will be forest green with a white metal roof, white metal trim, and beige roll-up doors. The applicant's design review application complies with the County's design elements contained in the design checklist in Section 1500-07-050 E of the Zoning Code.

Landscaping requirements are in place for development projects located in Commercial and Employment Districts. The applicant has submitted a landscape plan, demonstrating compliance with the Zoning Code requirements for landscaping. The landscape plan demonstrates compliance with the State's current Model Water Efficient Landscaping Ordinance. The entire onsite circulation and parking for the facility is proposed to be paved. Landscape planters enclosed by concrete curbing are proposed adjacent to proposed parking spaces and will consist of Chinese maple trees along with broom and yarrow shrubs. All landscape planters will be supplied drip irrigation and have bark mulch for ground cover. A 10-foot-wide landscape planter is proposed to be located along the project's Pleasant Grove Road frontage. Chinese maple trees along with broom, yarrow, and California lilac shrubs are proposed to be planted in this planter with drip irrigation and bark mulch being provided together with a 2-foot by 4-foot redwood header board. All landscaping was selected from the County's Preferred Landscape Plant Materials List. All landscaping is required to be installed in accordance with the landscape plan prior to issuance of a certificate of occupancy for the proposed office building and shall be continuously maintained, which will be included as a proposed project condition.

As this project complies with the design requirements of the Zoning Code Design Checklist, this project is not anticipated to substantially degrade the existing visual character or quality of the site or its surroundings and a less than significant impact is anticipated.

d) **Less than significant impact.** This project will not create a new source of substantial light or glare which will adversely affect day or nighttime views in the area. The area of the project has low to moderate levels of ambient lighting predominately from vehicle headlights on Riego Road and Pleasant Grove Road and agricultural and rural residential uses.

The County's Commercial and Employment Districts contain specific design requirements for development projects, which include requirements for lighting (Zoning Code Section 1500-07-050 E). These requirements specify that parking lot lighting shall not exceed 20 feet in total height, is oriented and shielded to direct the light downward onto the property and not spill onto adjacent properties or road rights-of-way. The requirements also specify illumination requirements for parking lots, driveways, trash enclosures, exterior doors, and pedestrian walkways and require that a point-by-point exterior lighting (photometric) plan be submitted to demonstrate compliance with the lighting standards. The applicant has submitted an exterior lighting (photometric) plan, demonstrating compliance with this design requirement.

Two 20-foot-tall LED light poles are proposed adjacent to the paved parking area with fixtures tilted toward the project site. A single wall mounted LED light is proposed on the north, south, and west sides of the office building mounted at eight feet above the ground. The submitted photometric plan demonstrates that light will not shine off of the property, consistent with County standards. Outdoor lighting is required to be installed in accordance with the lighting plan prior to issuance of a certificate of occupancy for the proposed office building, which will be included as a proposed project condition. As a result, it is not anticipated this project will create a new source of substantial light or glare in this area. A less than significant impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)
(County of Sutter, Zoning Code. 2021)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of,	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Responses:

a) **Less than significant impact**. The proposed project is to establish a self-storage complex that will occupy the southern 10.12± acres of the 15.44± acre site. The development of this facility will convert some land designated as "Farmland of Statewide Importance" (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to a non-agricultural use. "Farmland of Statewide Importance" is farmland similar to "Prime Farmland" but with minor shortcomings, such as greater slopes or less ability to store soil moisture. As shown on the 2018 Sutter County Important Farmland map, approximately 6.7 acres or 43.4 percent of the 15.44± acre project site is designated as "Farmland of Statewide Importance." This acreage consists of the areas of the site that have most recently been used for growing crops. Of this 6.7 acres, approximately 4.85 acres will be converted to a non-agricultural use and approximately 1.85 acres will remain as "Farmland of Statewide Importance." Although this project will convert approximately 4.85 acres of agricultural land to commercial uses, the loss of that acreage is not considered significant when viewed in the context that the County had 103,035 acres of land designated as "Farmland of Statewide Importance" in 2018. The loss of approximately 4.85 acres is also not considered significant when compared to the fact that the County had an average annual acreage loss of 451 acres of "Farmland of Statewide Importance" and an average annual acreage loss of 1,120 acres of important farmland between 1988 and 2018.

Between 2016 and 2018, Sutter County had a loss of 946 acres of "Farmland of Statewide Importance." The loss of 4.85 acres with this project is not significant compared to the total acreage lost between these years. Approximately 70 percent of Sutter County is encumbered by floodplain designations making development difficult. This has an indirect effect on preserving agricultural lands throughout the majority of the County.

The project site has not always included land designated as "Farmland of Statewide Importance." From 2002 to 2010, the entire site was designated as "Other Land" at a time when it was not being used for growing crops.

The approximate 1.85 acres that will remain as "Farmland of Statewide Importance" will be located on the 5.32± acre Parcel 1, which is proposed to remain unchanged with this project. This parcel can continue to be utilized for growing agricultural crops. As a result, a less than significant impact is anticipated.

b) **Less than significant impact**. This project will not conflict with existing zoning for agricultural uses or a Williamson Act contract. The project site and all adjacent properties are not encumbered by a Williamson Act contract.

The project site is proposed to be rezoned from AG (Agriculture) to CM-PD (Commercial Industrial-Planned Development). The proposed 5.32± acre Parcel 1 (northern parcel) is proposed to remain unchanged and may continue to be used agriculturally. Any future development on proposed Parcel 1 will require additional environmental review along with approval of Planned Development amendment and design review applications.

The proposed 10.12± acre Parcel 2 (southern parcel) is proposed to be developed with a 123,709 square foot self-storage complex consisting of 1,100 various sized storage units, 50 parking stalls for RVs, and a 1,363 square foot office to serve the storage facility. Parcel 1 will be separated from the self-storage complex by a proposed approximate 14-foot-tall self-storage building, proposed MUSDA area, and six-foot-tall block wall. The back of the self-storage building will face the property to the north. As Parcel 1 will not be zoned agriculturally and could potentially be developed with commercial or industrial uses, no conflicts are anticipated.

Article 19 of the Zoning Code contains agricultural buffering standards, which are applicable for new or expanded non-agricultural use or development such as commercial or industrial projects that require discretionary approval, are located outside established City sphere of influence boundaries or rural community boundaries, are located on land that is not zoned AG, and is adjacent to agriculturally zoned property with existing agricultural uses. The purpose of agricultural buffers is to provide for the long-term viability of agricultural operations and to minimize potential conflicts between adjacent agricultural and new, non-agricultural development and uses. Agricultural buffers are required to be located on the non-agricultural property.

Uncultivated agricultural land is located on agriculturally zoned parcels to the west and south of the proposed self-storage complex on Parcel 2, this project requires discretionary approval, and the site is located outside sphere of influence and rural community boundaries; therefore, agricultural buffering standards apply to this project. The agricultural buffering standards require a 50-foot buffer (setback) between uncultivated agricultural land and the proposed development.

Article 19 of the Zoning Code allows for reductions in buffer widths with approval of a use permit where the approving authority determines that:

A. Specific site characteristics exist such as topography, prevailing winds, vegetation, and other site features that provide adequate buffering such that the required setback is not necessary to promote and protect agriculture and protect public health and safety; or
B. Site constraints such as parcel size and configuration are such that the required setback is infeasible and the reduced setback provides the maximum feasible buffer from the agricultural district or use.

This project includes a use permit to allow for a reduced agricultural buffer between adjacent agricultural land and proposed development.

The proposed self-storage complex will be setback zero feet from the uncultivated agricultural property to the west. The property to the west will be separated from the self-storage complex by a proposed approximate 14-foot-tall self-storage building and six-foot-tall block wall. The

back of the self-storage building will face the agricultural property. These features provide a buffer between the property to the west and the proposed development.

The proposed self-storage complex will be setback zero feet from the uncultivated agricultural property to the south. The portion of this property located directly south of the project site is used residentially and the remainder of the property to the west consists of uncultivated agricultural land. The property to the south will be separated from the self-storage complex by the proposed six-foot-tall block wall and a row of existing eucalyptus trees located along the south side of the project site. These features provide a buffer between the property to the south and the proposed development. In addition, the proposed RV parking at the south end of the self-storage complex will be setback at least 40 feet from the property to the south. Self-storage buildings will be setback more than 125 feet from the property to the south.

This project does not propose sensitive uses such as a new residence, school, daycare center, playground, or medical facility that may be sensitive to adjacent agricultural land. Adjacent agricultural land is not currently utilized for growing crops. Only one self-storage building and a portion of the RV parking area will be located within 50 feet of the adjacent agricultural land. Conflicts between the proposed project and adjacent agricultural land is not anticipated. A less than significant impact is anticipated.

c) **No impact.** This project does not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)), because the project site and surrounding area does not contain forest land. The project site is not zoned for forest land or timberland nor is it adjacent to land that is zoned for forest land or timberland. This project is located in the Sacramento Valley, a non-forested region. No impact is anticipated.

d) **No Impact.** This project will not result in the loss of forest land or conversion of forest land to a non-forest use because of its location within Sutter County. Sutter County is located on the valley floor of California's Central Valley, and, as such, does not contain forest land. No impact is anticipated.

e) **Less than significant impact.** This project will not involve other changes to the existing environment which could result in the conversion of farmland to a non-agricultural use or conversion of forest land to a non-forest use. This project does not include land being converted from forest land to non-forest use and no forest land is located in the vicinity. Agricultural uses in the vicinity will continue as they historically have with few incompatibilities anticipated because the proposed self-storage complex does not present incompatibilities as residential uses can. Staff does not anticipate that this project will result in the conversion of other agricultural lands to non-agricultural use. Therefore, a less than significant impact is anticipated.

(California Dept. of Conservation, Farmland Mapping and Monitoring Program. 2018)

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

Responses:

a-d) **Less than significant with mitigation incorporated.** This project will not conflict with any air quality plan or result in a net increase of any criteria pollutant, nor expose sensitive receptors to substantial pollutant concentrations or objectionable odors.

The proposed project is located within the Northern Sacramento Valley Air Basin (NSVAB) and the jurisdiction of the Feather River Air Quality Management District (FRAQMD). Air quality standards are set at both the federal and state levels. FRAQMD is responsible for the planning and maintenance/attainment of these standards at the local level. FRAQMD sets operational rules and limitations for businesses that emit significant amounts of criteria pollutants.

According to the FRAQMD 2010 Indirect Source Review Guidelines, Significant Impact Thresholds are triggered by the construction of 130 new single-family residences, 225,000 square feet of new light industrial space, 350,000 square feet of new warehouse space, or 130,000 gross square feet of new office space. This project will not trigger this threshold of significance and as such, will have a less than significant impact upon air quality.

While the project will not trigger any air quality significant impact thresholds as stated above, there may be fugitive dust created by the applicant as site improvements are made. This project was circulated to FRAQMD for review and they have required the applicant to complete and submit a Fugitive Dust Control Plan and stated this project is subject to FRAQMD rules and regulations for new development. To ensure these requirements are met, the following mitigation measure is proposed:

> **Mitigation Measure No. 1 (Air Quality):** Prior to any on-site grading, landscaping, or construction activities, the applicant shall submit a Fugitive Dust Control Plan to the Feather River Air Quality Management District (FRAQMD) for review and approval. The

applicant shall comply with all FRAQMD standards and construction phase measures. A copy of the approved plan shall be submitted to the Development Services Department.

The approved Fugitive Dust Control Plan serves as an acknowledgement by the project proponent of their duty to address state and local laws governing fugitive dust emissions and the potential for first offense issuance of a Notice of Violation by FRAQMD where violations are substantiated by district staff. The approved Fugitive Dust Control Plan along with the standard construction phase measures are required to be made available to the contractors and construction superintendent on the project site. The approved Fugitive Dust Control Plan requires the project proponent to acknowledge that they have read the FRAQMD Rules and Regulations Statement for new development, which includes state and local fugitive dust emission laws. It further requires the project proponent to acknowledge that it is their responsibility to ensure that appropriate materials and instructions are available to site employees to implement fugitive dust mitigation measures appropriate for each development phase of this project in order to ensure compliance. It further requires the project proponent to acknowledge that it is their responsibility to ensure that site employees are made formally aware of fugitive dust control laws, requirements, and available mitigation techniques, and that appropriate measures are to be implemented at the site as necessary to prevent fugitive dust violations.

As required by the Fugitive Dust Control Plan, the developer or contractor is required to control dust emissions from earth moving activities, storage, and any other construction activity to prevent airborne dust from leaving the project site. Required measures to control dust emissions include, but are not limited to, suspending all grading operations on a project when winds exceed 20 miles per hour or when winds carry dust beyond the property line, utilizing a water truck to water all work areas as needed, and covering all onsite dirt piles or other stockpiled material.

All projects are subject to FRAQMD rules in effect at the time of construction. All new residential, commercial, and industrial land uses in Yuba and Sutter counties are subject to the Indirect Source Fee collected by FRAQMD. These fees are collected by FRAQMD to offset FRAQMD's costs for reviewing projects under CEQA. Projects are subject to the Indirect Source Fee at the time of building permit issuance. FRAQMD has stated the Indirect Source Fee will be assessed at $0.06 per square foot of developed area. The County verifies that the fees have been paid prior to building permit issuance.

Construction activity will be phased and will temporarily increase emissions in the project vicinity during the construction period. Construction activities, including site clearing, excavation, grading, and paving, would be considered an intermittent air quality impact throughout the construction period of the project. Emission levels would fluctuate depending upon construction activity, equipment type, and duration of use. All equipment must comply with California emissions standards. With the above mitigation required, a less than significant impact is anticipated.

(Feather River Air Quality Management District, Indirect Source Review Guidelines. 2010)
(County of Sutter, General Plan 2030. 2011)

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

Responses:

A reconnaissance-level biological site assessment report was received from Bargas Environmental Consulting dated June 11, 2018. A copy of this report is included as an attachment to this initial study. This report summarizes the results of a reconnaissance-level biological site assessment survey conducted by Bargas Environmental Consulting for the proposed project. The survey was conducted on December 14, 2017 and focused on the presence of suitable habitat that may support special-status species and nesting migratory birds and the presence of wetland habitat that may be under the jurisdiction of federal or state agencies. Methods included a thorough review of habitat, special-status species, and jurisdictional wetland databases and a pedestrian survey of the site to evaluate current site conditions, potential habitat for special-status species, potential nesting bird habitat, presence of wetlands and waterways, and identification of vegetation. The survey resulted in the identification of seasonal wetlands on the property and the presence of suitable habitat for special-status species. As a result, the applicant was required to have a biological resources

assessment prepared to determine if any resources will be adversely affected and, if so, identify appropriate mitigation measures to avoid or mitigate such impacts (General Plan Policy ER 1.4). A biological resources assessment and aquatic resource delineation was received from Bargas Environmental Consulting dated February 2021. A copy of this report is included as an attachment to this initial study. The Biological Resources Assessment describes the project location and biological setting, details the methodology utilized, which includes desktop analysis and field survey, details the associated regulatory setting, details biological and aquatic resources, and discusses minimizing potential biological effects.

a) **Less than significant with mitigation incorporated.** This project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).

The effects on special status plants and wildlife species is discussed in section 5.3 of the Biological Resources Assessment. Vernal pool fairy shrimp, tricolored blackbird, and the burrowing owl were determined to have low potential for occurrence and significant impacts to these species will not be expected as a result of the proposed project.

Special status plant species including the dwarf downingia, Boggs Lake hedge-hyssop, and legenere were determined to have a low probability occurrence in the project area. The presence or absence of these species could not be definitively determined due to the time period in which the biological survey was conducted; therefore, one or more of these species have the potential to be adversely affected by this project. The Biological Resources Assessment has provided the following mitigation measure to mitigate potentially significant impacts on special status plants.

> **Mitigation Measure No. 2 (Biological Resources):** To avoid potential impacts to special status plants, pre-construction surveys for special status plants by a qualified biologist shall take place within 100 feet of all areas of ground disturbing work areas during a time period appropriate for field identification of dwarf downingia, Boggs Lake hedge-hyssop, and legenere, likely in early- to mid-spring. A copy of the survey report shall be provided to the Development Services Department. If special status plants are found and located in an area where potential impacts may occur, the survey report will identify the plant or plants, the potential impacts that could occur to those plants, and measures (such as avoidance, relocation, etc.) to minimize potential impacts as agreed upon by the California Department of Fish and Wildlife (CDFW).

Swainson's hawk was determined to have a high potential to occur within the project site. White-tailed kite was documented to be present since one individual was observed in the project area. The tall trees within the project area provide suitable nesting habitat for both species and the ruderal land within the project site provides some suitable foraging habitat. The abundance of agricultural and ruderal lands adjacent to the project area also provide suitable foraging habitat. Therefore, both of these species have the potential to be adversely affected by implementation of the proposed project. The Biological Resources Assessment has provided the following mitigation measures to mitigate potentially significant impacts on Swainson's hawk and white-tailed kite.

> **Mitigation Measure No. 3 (Biological Resources):** Pre-construction surveys by a qualified biologist following the guidelines of the Staff Report Regarding Mitigation for

Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) shall be completed to determine the level of impact to the species and mitigate any impacts associated with this project. A copy of the survey report shall be provided to the Development Services Department. These measures state that no intensive new disturbances, such as heavy equipment operation associated with construction, shall be initiated within ¼ mile of an active Swainson's hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15.

Currently, California Department of Fish and Wildlife (CDFW) recommends that impacts to suitable Swainson's hawk foraging habitat within 10 miles of an active nest should be mitigated by securing a conservation easement or fee title on suitable Swainson's hawk foraging habitat in the region. Sutter County and the project proponents, in coordination with CDFW, will determine what mitigation, if any, will be appropriate for impacts to Swainson's hawk foraging habitat.

Mitigation Measure No. 4 (Biological Resources): A pre-construction survey by a qualified biologist for white-tailed kite shall occur no more than two weeks prior to project construction if work occurs during the breeding period (March 1 to September 15). The survey shall encompass the project area and a 1/2-mile buffer. If nesting white-tailed kites or other raptors are found within 500 feet of the project area work locations, CDFW shall be contacted for guidance on establishing an appropriate protective "no work" buffer. The status of any active nests shall be monitored during construction by a qualified biologist to ensure that nesting raptors are not distressed by construction activities.

As stated in the Biological Resources Assessment, birds are present in nearly all natural and anthropogenic environments. As such, the proposed project has the potential to adversely affect nesting birds protected by the Migratory Bird Treaty Act. The Biological Resources Assessment has provided the following mitigation measure to mitigate potentially significant impacts on nesting birds.

Mitigation Measure No. 5 (Biological Resources): To comply with the Migratory Bird Treaty Act, pre-construction surveys for nesting birds by a qualified biologist shall take place within 300 feet of all project work areas within one week of the commencement of project construction if work occurs during the nesting bird season, which is generally accepted as February 1 to September 30. A copy of the survey report shall be provided to the Development Services Department. To avoid potential take under the Migratory Bird Treaty Act, construction activities shall not take place in the vicinity of any active bird nests. The recommended construction buffer zone around active bird nests varies by species and will need to be determined on an individual basis based on the opinion of the surveying biologist as agreed upon by the California Department of Fish and Wildlife (CDFW).

With the above mitigation measures required, this project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

b) **Less than significant impact.** This project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. There are no streams or rivers in the immediate

vicinity. No riparian habitat or other sensitive natural community is known to exist onsite or near the property. As stated in section 5.4 in the Biological Resources Assessment, this project is not expected to have a substantial adverse effect on any riparian habitat or other sensitive natural community except as otherwise identified relative to potential impacts on state or federally protected wetlands and conflicts with local policies. Therefore, a less than significant impact is anticipated.

c) **Less than significant with mitigation incorporated.** This project will not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

As discussed in section 5.5 of the Biological Resources Assessment, the project site contains one seasonal wetland (PEM2-1) and a ditch containing an emergent wetland (R4EM2-1). The seasonal wetland spans the width of the project site from Pleasant Grove Road to the western border, passing between crop fields and under or across a dirt farm road. The feature is described as swale-like as it receives water from other localities and directs it to a large seasonal wetland present west of the project site. Sources of water include stormwater flow from adjacent uplands and roadways, a roadside drainage ditch along Pleasant Grove Road, and from seasonal wetlands visible in aerial imagery located on rural properties east of the project site and Pleasant Grove Road that are connected to the roadside drainage ditch through an under-road culvert.

The project site contains one ditch containing an emergent wetland. This feature was excavated to drain stormwater runoff from the road and adjacent uplands and is located in the northeast corner of the project site along the edge of the graveled area. Sources of water include stormwater flow from adjacent uplands and roadways, high flows from a roadside drainage ditch along Pleasant Grove Road, and through the connections described above, from seasonal wetlands on properties east of the project site and Pleasant Grove Road. The ditch containing the emergent wetland continues northwest then turns west to run parallel to Riego Road, eventually discharging to the large seasonal wetland present west of the project site.

A total of approximately 0.72 acres of potentially jurisdictional wetlands and other waters of the U.S. have been mapped within the project site that may be potentially impacted by project activities. The location of these features is shown on Figure 3 of the aquatic resources delineation.

Per the proposed project design plans, some portion of the emergent wetland may be impacted by the proposed project. Additional development in the northeast corner of the parcel may impact the seasonal wetland delineated in the project site.

The Biological Resources Assessment has provided the following mitigation measure to mitigate potential adverse effects on jurisdictional features to a less than significant level.

> **Mitigation Measure No. 6 (Biological Resources):** The aquatic resources delineation identified potential Waters of the U.S. within the project area. If these features are verified as Waters of the U.S. by the US Army Corps of Engineers (USACE) and if disturbance will occur to Waters of the U.S. within the project, the following measures are required to minimize potential impacts to Waters of the U.S.:

- Prior to construction, the project applicant shall obtain authorization to fill wetlands under the Section 404 of the federal CWA (Section 404 Permit) from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation measures will be developed as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit for the project shall be prepared and submitted to USACE, and shall include direct, avoided, and preserved acreages to Waters of the U.S. Mitigation for impacts to Waters of the U.S. typically consists of a minimum of a 1:1 ratio for direct impacts; however, final mitigation requirements shall be developed in consultation with USACE. The applicant shall implement all permit conditions as required by USACE.

- Prior to construction, the project applicant shall obtain a Water Quality Certification or waiver pursuant to Section 401 of the CWA from the Central Valley Regional Water Quality Control Board (CVRWQCB). The applicant shall implement all permit conditions as required by CVRWQCB.

d) **Less than significant impact.** This project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of a native wildlife nursery site. As discussed in section 4.4 and section 5.6 in the Biological Resources Assessment, given the generally low level of development and expansive surrounding agricultural land adjacent to the project area, changes to the land use in the project area are not expected to be significant impediments to wildlife movement. The introduction of paved or otherwise hardscaped surfaces, walls, structures, or other physical barriers will represent impediments to wildlife movement through the site; however, the project area does not represent a unique habitat type and is surrounded by similar land uses. In addition, this project is not anticipated to significantly interfere with wildlife movement due to the fact that the site is bound by Riego Road to the north and Pleasant Grove Road to the east. The property is not located near any rivers or streams. A less than significant impact is anticipated.

e) **Less than significant impact.** This project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As discussed in section 5.7 of the Biological Resources Assessment, this project has the potential to impact environmental resources identified in the Sutter County 2030 General Plan, including aquatic resources and some special status plant and wildlife species. Mitigation for potential impacts to plant and wildlife species and aquatic resources is discussed above (Mitigation Measure 2, 3, 4, 5, 6).

Sutter County has not adopted a tree preservation ordinance; however, General Plan Policy ER 3.7 is in place to preserve native oak trees when possible through the review of discretionary development projects and activities. All tree species found at the project site with a diameter at breast height greater than six inches are identified in the Biological Resources Assessment. No oak trees were identified as being at the project site; therefore, no mitigation is necessary, and a less than significant impact is anticipated.

f) **No impact.** The proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because a plan has not been adopted that affects this project site. The project site is approximately 0.4 mile east of Natomas Road, which is the eastern

boundary of the Sutter Pointe Specific Plan and the eastern boundary of the Natomas Basin Habitat Conservation Plan. As this project site is located outside the boundary of the Natomas Basin Conservancy Habitat Conservation Plan, this project is not required to abide by the provisions of the plan. This conclusion is also reached in the Biological Resources Assessment as stated in section 5.8. As a result, not impacts are anticipated.

(Bargas Environmental Consulting, Biological Resources Assessment. 2021)
(Bargas Environmental Consulting, Reconnaissance-Level Biological Site Assessment Survey. 2018)
(County of Sutter, General Plan Technical Background Report. 2008)
(California Department of Fish and Wildlife, California Natural Diversity Database)
(U.S. Fish and Wildlife Service, National Wetlands Inventory, 2021)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Responses:

a-b) **Less than significant impact.** The proposed project will not cause a substantial adverse change in the significance of a historical resource or archaeological resource pursuant to §15064.5. In Section 4.6 of the General Plan Technical Background Report, Figure 4.6-1 does not list the property as being a historic site. There are no unique features or historical resources located on the project site and the property is not located near a cemetery. The project site is not located within the vicinity of the Bear River, Sacramento River, or Feather River. There is no evidence on the project site indicating that historical or archaeological resources exist. Furthermore, the property has been extensively disturbed to varying depths due to agricultural uses. Therefore, no significant impacts to historical or archaeological resources are anticipated with this project.

c) **Less than significant with mitigation incorporated.** This project is not expected to disturb any human remains, including those interred outside of dedicated cemeteries. There are no unique features or historical resources located on the project site and the property is not located near a cemetery. California Health and Safety Code §7050.5 states that when human remains are discovered, no further site disturbance can occur until the County Coroner has made the necessary findings as to the origin of the remains and their disposition pursuant to Public Resources Code Section 5097.98. If the remains are recognized to be those of a Native

American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.

Public Resources Code §5097.98 states that whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, it shall immediately notify the most likely descendent from the deceased Native American. The descendants may inspect the site and recommend to the property owner a means for treating or disposing the human remains. If the Commission cannot identify a descendent, or the descendent identified fails to make a recommendation, or the landowner rejects the recommendation of the descendent, the landowner shall rebury the human remains on the property in a location not subject to further disturbance.

While human remains are not expected to be disturbed during construction of this project, the following mitigation measure is proposed to protect possible disturbance of human remains should they be encountered.

> **Mitigation Measure No. 7 (Cultural Resources):** California Health and Safety Code §7050.5 states that when human remains are discovered, no further site disturbance can occur until the County Coroner has made the necessary findings as to the origin of the remains and their disposition pursuant to Public Resources Code §5097.98. If the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.

(County of Sutter, General Plan Technical Background Report. 2008)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Responses:

a-b) **Less than significant impact.** This project will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This project proposes to establish a self-storage complex.

Overall, the construction and operation of this project will not require the creation of a new source of energy generation. Construction is proposed to be completed in one phase and will consume minor amounts of fuel compared to the total consumption within Sutter County. As such, the proposed project construction will have a nominal effect on local and regional energy

supplies. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and required recycling of construction debris, will further reduce the amount of transportation fuel demand during project construction. For these reasons, it is expected that construction fuel consumption associated with project construction will not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature within Sutter County. There are no unusual project characteristics or construction processes that will require the use of equipment that will be more energy intensive than is used for comparable activities or use of equipment that will not conform to current emissions standards and related fuel efficiencies.

Future construction at the site is required to comply with the energy requirements of the State Building Codes, including California's energy code, Title 24, and will not result in a wasteful, inefficient, or unnecessary consumption of energy resources because the energy efficiency standards of the State of California are some of the most stringent codes in the nation. Most of site will be developed with non-heated or cooled storage units. The proposed office will be designed consistent with California's Title 24 and this will be demonstrated at the time of building permit. With compliance with existing energy requirements, a less than significant impact is anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Responses:

a) **Less than significant impact.** This project will not directly or indirectly cause potential substantial adverse effects from rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides because the subject property is not located in an Alquist-Priolo Earthquake Fault Zone and will involve minor grading activities that will not exacerbate existing seismic hazards in the region. Figure 5.1-1 in the General Plan Technical Background Report does not identify any active earthquake faults in Sutter County as defined by the California Mining and Geology Board. The faults identified in Sutter County include the Quaternary Faults, located in the northern section of the County within the Sutter Buttes, and the Pre-Quaternary Fault, located in the southeastern corner of the County, just east of where Highway 70 enters the County (Figure 5.1-1 of the General Plan Technical Background Report). Both faults are listed as non-active faults but have the potential for seismic activity. The project site is relatively level with no significant slope. Therefore, the potential for earthquakes, liquefaction, or landslides is unlikely and a less than significant impact is anticipated.

b) **Less than significant with mitigation incorporated.** This project will not result in substantial soil erosion or the loss of topsoil. According to the USDA Soil Conservation Service Soil Survey of the County, on-site soils consist of San Joaquin sandy loam, 0 to 2 percent slopes, and Cometa loam, 0 to 2 percent slopes. These soils are unlikely to cause erosion because runoff is very slow with only a slight hazard of water erosion. The General Plan Technical Background Report indicates that soils with a 0 to 9 percent slope have slight erodibility.

Subsequent site grading has the potential to result in soil erosion. Since the project size is more than one acre, the applicant is required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and obtain a National Pollution Discharge Elimination System (NPDES) General Construction Permit through the Regional Water Quality Control Board (RWQCB) to ensure that soil is not released in storm water from the project site. To ensure that a less than significant impact occurs, the following mitigation measure is included.

> **Mitigation Measure No. 8 (Geology and Soils):** STORM WATER QUALITY PROTECTION – DURING CONSTRUCTION.
>
> SWPPP – Prior to construction the applicant shall prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) to be executed through all phases of grading and project construction. The SWPPP shall incorporate Best Management Practices (BMPs) to ensure that potential water quality impacts during construction phases are minimized. These measures shall be consistent with the County's Improvement Standards and Land

Grading and Erosion Control Ordinance and the requirements of the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The SWPPP shall be submitted to the County for review and to the Central Valley Regional Water Quality Control Board as required by the NPDES General Permit in effect during construction. During construction, the applicant shall implement actions and procedures established to reduce the pollutant loadings in storm drain systems. The project applicant shall implement BMPs in accordance with the SWPPP and the County's Improvement Standards. The project applicant(s) shall submit a state storm water permit Waste Discharger Identification (WDID) number for each construction project.

NPDES GENERAL CONSTRUCTION PERMIT - Since the project size is more than one acre, prior to construction the applicant shall file a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board to obtain coverage under the California State Water Resources - General Construction Activity Storm Water Permit. Permits are issued by the State Water Resources Control Board, which can provide all information necessary to complete and file the necessary documents. Applicant shall comply with the terms of the General Construction Permit, the County's ordinances, and the NPDES Waste Discharge Requirements for the Sutter County Phase II NPDES Permit.

c) **Less than significant impact.** This project is not located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. As stated above in b), soils at the site have a 0 to 2 percent slope with only a slight hazard of water erosion. The General Plan Technical Background Report indicates that soils with a 0 to 9 percent slope have slight erodibility. In addition, the project is not located in the Sutter Buttes, the only area identified by the General Plan Technical Background Report as having landslide potential in the County. A less than significant impact is anticipated.

d) **Less than significant impact.** This project is not located on expansive soil creating substantial direct or indirect risks to life or property. The soil types on the project site, as stated above in b), have a low to high shrink-swell potential. All future construction is required to comply with the adopted California Building Code, specifically Chapter 18 for soils conditions and foundation systems, to address potential expansive soils that may require special foundation design, a geotechnical survey, and engineering for foundation design. The Building Inspection Division will implement these standards as part of the building permit process. A less than significant impact is anticipated.

e) **Less than significant impact.** This project does not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Properties in the area of the project rely on the use of onsite septic tanks and leach field systems for the disposal of wastewater, as there is no sewer system available in the area. The property has an existing septic system located on the east side of the existing residence. The applicant has identified a 5,400 square foot and 6,500 square foot Minimum Usable Sewage Disposal Area (MUSDA) on the site plan adjacent to the residence that will be required to remain undeveloped to provide replacement area should the existing sewage disposal system fail. The Development Services Environmental Health Division has stated the MUSDA also mitigates nitrate pollution of neighboring properties by providing sufficient surface area for infiltration of rainfall. The applicant has identified a 20,000 square foot MUSDA on the site plan at the southwest corner of Parcel 1.

The proposed office building will also be served by an onsite septic system. The Environmental Health Division stated the office can be served by the existing septic system or installation of a new septic system can be proposed north of the office building. The applicant has identified a 15,000 square foot MUSDA on the site plan north of the proposed office. Any new septic system will need to be designed by an authorized professional and installed under permit from the Environmental Health Division. The Environmental Health Division reviewed this project and stated that all wastewater shall be disposed into an approved on-site sewage system. As a result, a less than significant impact is anticipated.

f) **Less than significant impact.** The proposed project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. There are no known unique paleontological resources or unique geologic features located in the vicinity of the project. The property has been extensively disturbed to varying depths due to agricultural uses. A less than significant impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)
(USDA Soil Conservation Service, Sutter County Soil Survey. 1988)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Responses:

a) **Less than significant impact.** This project will not generate additional greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. The Sutter County Climate Action Plan (CAP) was prepared and adopted in 2010 as part of the General Plan to ensure compliance with AB 32, also known as the Global Warming Solutions Act. Sutter County's CAP includes a GHG inventory, an emission reduction target, and reduction measures to reach the target. The CAP also includes screening tables used to assign points for GHG mitigation measures. Projects that achieve 100 points or more do not need to quantify GHG emissions and are assumed to have a less than significant impact.

Sutter County's screening tables apply to all project sizes. Small projects with little or no proposed development and minor levels of GHG emissions typically cannot achieve the 100-point threshold and therefore must quantify GHG emission impacts using other methods, an approach that consumes time and resources with no substantive contribution to achieving the CAP reduction target.

Since the adoption of the CAP, further analysis to determine if a project can be too small to provide the level of GHG emissions reductions expected from the screening tables or alternative

emissions analysis methods has been performed. In that study, emissions were estimated for each project within the Governor's Office of Planning and Research (OPR) database. The analysis found that 90 percent of carbon dioxide equivalent (CO_2e) emissions are from CEQA projects that exceed 3,000 metric tons CO_2e per year. Both cumulatively and individually, projects that generate less than 3,000 metric tons CO_2e per year have a negligible contribution to overall emissions.

Sutter County has concluded that projects generating less than 3,000 metric tons of CO_2e per year are not required to be evaluated using Sutter County's screening tables (Greenhouse Gas Pre-Screening Measures for Sutter County, 2016). Such projects require no further GHG emissions analysis and are assumed to have a less than significant impact.

The project site currently consists of strawberry fields, a fruit stand, and a residence. These uses are pre-screened out as per the Greenhouse Gas Pre-Screening Measures because they have been determined not to exceed 3,000 metric tons of CO_2e per year. This project proposes the development of a self-storage complex, which includes storage buildings, an office, and RV storage. This use is classified as a "personal storage" and "recreational vehicle storage" use type. These use types have also been pre-screened out as per the Greenhouse Gas Pre-Screening Measures because this type of use has been determined not to exceed 3,000 metric tons of CO_2e per year. As a result, no mitigation measures are necessary, and a less than significant impact is anticipated.

b) **Less than significant impact**. This project will not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The project is within the boundaries of the Feather River Air Quality Management District (FRAQMD), which has not individually adopted any plans or regulations for reducing greenhouse gas emissions. However, FRAQMD adopted a document on August 7, 2015, through the Northern Sacramento Valley Planning Area and in collaboration with Butte County AQMD, Colusa County Air Pollution Control District (APCD), Glenn County APCD, Shasta County AQMD, and Tehama County APCD, titled the 2015 Triennial Air Quality Attainment Plan. This document provides thresholds given by some of the AQMDs and APCDs, and the thresholds given by FRAQMD from 2010, which are described and analyzed in the Air Quality impact section, still apply to Sutter County. In addition, the County has adopted a Climate Action Plan (CAP) that details methods to reduce greenhouse gas emissions. This project will not conflict with the CAP because it was determined to be exempt from its requirements as discussed in Section a) above so a less than significant impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)
(County of Sutter, General Plan 2030 Climate Action Plan. 2011)
(County of Sutter, Greenhouse Gas Pre-Screening Measures for Sutter County. June 28, 2016.)
(Sacramento Valley Air Quality Engineering and Enforcement Professionals (SVAQEEP), Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan. 2015)

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

Responses:

a-b) **Less than significant impact.** This project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The Development Services Environmental Health Division is the Certified Unified Program Agency (CUPA) for Sutter County with responsibility for the administration of the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). Elements of this program include hazardous waste generators and hazardous waste on-site treatment, underground storage tanks, above-ground storage tanks, hazardous material release response plans and inventories, risk management and prevention program, and Uniform Fire Code hazardous materials management plans and inventories. All uses involving the storage and handling of hazardous materials are monitored by CUPA. CUPA has reviewed this

project and did not provide any comments. The proposed project is for the development of a self-storage complex. This project does not involve the use, transport, or disposal of hazardous materials. The proposed project does not propose or facilitate any activity involving significant use, transport, or disposal of hazardous materials as part of the self-storage use.

Pesticide exposure is a risk in areas located in the vicinity of agriculture. Sources of exposure include drift from spray applications. Application of sprays is strictly controlled by the Agricultural Commissioner and can only be accomplished after first obtaining permits. According to the office of the Agricultural Commissioner, pesticides have not been used on the site for the proposed self-storage complex as there are no pesticide use reports for that site (Lisa Herbert, email to planning staff 1/24/2022). Therefore, grading of the site is not anticipated to result in the removal of contaminated soil from pesticides. As a result, a less than significant impact is anticipated.

c) **No impact.** This project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. There are no existing or proposed schools within one-quarter mile of the project site. The closest existing school is Alpha Technology Middle School in Sacramento County located approximately 1.5 miles southeast of the project site. The closest existing school within Sutter County is Pleasant Grove Elementary School located approximately five miles north of the project site; therefore, no impact is anticipated.

d) **No impact.** This project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. As a result, the project will not create a hazard to the public or the environment; therefore, no impact is anticipated.

e) **Less than significant impact**. This project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport; therefore, this project will not result in a safety hazard or excessive noise for people residing or working in the project area. The nearest public airport is the Sacramento International Airport, which is located over six miles southwest of the project site. Due to the project's distance from these facilities, a less than significant impact is anticipated.

f) **Less than significant impact.** This project will not impact the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan because the project site has adequate frontage on Riego Road and Pleasant Grove Road, which are of sufficient size to not impede necessary emergency responses. This proposed project does not pose a unique or unusual use or activity that would impair the effective and efficient implementation of an adopted emergency response or evacuation plan. The proposed driveway will be established under an encroachment permit to assure access standards are complied with and that it is of sufficient size to not impede necessary emergency responses. A less than significant impact is anticipated.

g) **Less than significant impact.** This project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. The General Plan indicates the Sutter Buttes and the "river bottoms," or those areas along the Sacramento, Feather, and Bear Rivers within the levee system, are susceptible to wildfires since much of the areas inside the levees are left in a natural state, thereby allowing combustible fuels to accumulate over long periods of time. Parcels in the area are developed and the area has existing fire protection services. Since this property is not located in the Sutter

Buttes or “river bottom” areas, a significant risk of loss, injury, or death associated with wildland fires as a result of the proposed project is not anticipated and is considered less than significant.

(County of Sutter, General Plan Technical Background Report. 2008)
(California Department of Toxic Substances Control, Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). 2021)

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

Responses:

a) **Less than significant impact.** This project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. The property has an existing septic system located on the east side of the existing residence that it serves. The applicant has identified a 5,400 square foot and 6,500 square foot

Minimum Usable Sewage Disposal Area (MUSDA) on the site plan adjacent to the residence that will be required to remain undeveloped to provide replacement area should the existing sewage disposal system serving the residence fail. The Development Services Environmental Health Division has stated the MUSDA also mitigates nitrate pollution of neighboring properties by providing sufficient surface area for infiltration of rainfall. Separately, the applicant has identified a 20,000 square foot MUSDA on the site plan at the southwest corner of Parcel 1.

Restrooms are proposed inside the proposed office building for use by employees and customers. Soil testing has been performed on the project site. The proposed office building will be served by a septic system. The Environmental Health Division stated the office can be served by the existing septic system or installation of a new septic system can be proposed north of the office building. The applicant has identified a 15,000 square foot MUSDA on the site plan north of the proposed office. Any new septic system will need to be designed by an authorized professional and installed under permit from the Environmental Health Division to ensure compliance with applicable water quality standards at the time of installation. The Environmental Health Division reviewed this project and stated that all wastewater shall be disposed into an approved on-site sewage system. Additionally, the water well location has also been identified to ensure the required setback from the septic system is maintained.

Since the total land area of the project will exceed one acre, the applicant is required to obtain coverage under the State Construction General Permit, under the National Pollutant Discharge Elimination System (NPDES) program (Mitigation Measure 8). This program requires implementation of erosion control measures designed to avoid significant erosion. The NPDES construction permit requires implementation of a Storm Water Pollution Prevention Program (SWPPP) that includes storm water best management practices to control runoff, erosion, and sedimentation from the site.

Mitigation Measure No. 6 is proposed in the Biological Resources Section (Section 4) above regarding impacts on potentially jurisdictional wetlands and other waters of the U.S. This project is not expected to violate water quality standards or waste discharge requirements. Compliance with applicable requirements and water quality standards will minimize the project's impact to water quality. No aspect of the proposed facility involving water quality or discharge standards will be allowed to operate until they have complied with all state and local standards. No additional mitigation is necessary, and a less than significant impact is anticipated.

b) **Less than significant impact.** This project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The General Plan Technical Background Report indicates the property is provided with groundwater by the North American Subbasin. The project site is not located in an area that is served by a public water provider. Water is provided by an on-site water well located west of the existing residence. The Development Services Environmental Health Division reviewed this project and stated the existing well will not serve more than 25 persons a day at least 60 days per year; therefore, water will be supplied by the private well and will not be considered a Public Drinking Water System. No additional wells are proposed as part of this project; however, any future wells established on the property will be required to obtain permits from the Environmental Health Division. Water necessary for project construction will be delivered to the project site via water truck.

This project is not anticipated to substantially increase the amount of water used onsite beyond what is currently used. Water is currently utilized for residential use and growing field crops. As part of the building permit process, the project will be required to conform to the water efficiency

requirements in the California Plumbing and Green Building codes, which mandate water efficiency for structures including plumbing fixtures.

The proposed landscape plan for this project has demonstrated compliance with the State's current Model Water Efficient Landscaping Ordinance prepared by the California Department of Water Resources. Water use for the proposed project is minimal and will not adversely affect groundwater recharge or groundwater supplies. As a result, a less than significant impact is anticipated.

c) **Less than significant with mitigation incorporated**. This project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site or substantially increase the rate or amount of surface runoff in a manner resulting in flooding on or off-site. This project will also not contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect flood flows.

There are no streams or rivers on or in the immediate vicinity of the project site that could be altered by this project. The property is not located in an area served by a public stormwater drainage system. Drainage is proposed to be handled by retention underground High-Density Polyethylene chambers located at the south end of the parcel and is designed to hold the runoff of a 100-year storm for a cumulative six-month period. RV parking is proposed over the retention chambers area. On-site, underground stormwater retention accomplishes the capture and storage of stormwater collected from surrounding impervious areas. Riser pipes or curb cuts lead surface stormwater to subsurface vaults or systems of large diameter interconnected storage pipes or chambers. Stored water is then released directly through an outlet pipe back into natural waters at rates designed to reduce peak water flows during storms to mimic pre-development conditions. In some cases, stored water can be allowed to infiltrate to recharge groundwater (if soil types are suitable and the groundwater table is located sufficiently below the water storage units). A final detailed drainage design of all proposed improvements is proposed to be submitted at the time of building permit submittal. The final design will include the on-site pipe collection system transferring all on-site runoff from this development to the retention chambers. The applicant has submitted drainage calculations, which have been approved by the Development Services Engineering Division. They have determined the size of the proposed retention area is adequate. The Development Services Engineering Division has reviewed this proposed project and has provided comments regarding the drainage of this project. Based on these comments, the following mitigation measures are recommended:

> **Mitigation Measure No. 9 (Hydrology and Water Quality):** DRAINAGE STUDY, GRADING AND CONSTRUCTION. Prior to recordation of a map, issuance of a building, grading, or encroachment permit, the applicant shall obtain approval from the Director of a final detailed drainage design that is based on the initial drainage study approved as part of the initial review of the project. Final Drainage Design must be in compliance with design conditions for the proposed project per County Standards. The Drainage Design shall be completed and stamped by a Professional Engineer and determined by the County to be comprehensive, accurate, and adequate. (SCIS Section 9)
>
> All impacts to the site must be mitigated in the project area or lands acquired for mitigation by the project. Any Grading or Site Improvements shall be done per an approved plan and in accordance with Sutter County Development Standards. Plans shall be reviewed and

approved for construction by the Director of Development Services prior to the start of construction.

Mitigation Measure No. 10 (Hydrology and Water Quality): PRIVATE DRAINAGE IMPROVEMENTS. The applicant shall construct private onsite drainage ditches/basins that provide storm water retention per a County Approved Drainage Study for this Project. Owner shall limit maximum discharge rates, where applicable, to pre-project "existing" conditions for peak 10- and 100-year storms per an approved onsite drainage study for the project. The drainage ditches/basins shall not be connected to the roadside swales. The applicant must obtain a grading permit from the County prior to any grading for storm water retention / detention ditches or basins. The applicant shall provide an as-built drawing of the drainage improvements, that is stamped and signed by a licensed Engineer verifying that what was constructed complies with the approved plan for the site.

PRIVATE DRAINAGE FACILITIES MAINTENANCE AGREEMENT - The property owner shall enter into an agreement with Sutter County committing the property owners and all successors in interest to maintain the private drainage facilities (including on-site peak flow attenuation basins) in perpetuity in a manner to preserve storage capacity, drainage patterns, ultimate discharge points and quantities, and water quality treatment controls for stormwater discharges as identified in the drainage study and approved by Sutter County.

The applicant will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) as a component of the General Construction Permit for storm water discharges (Mitigation Measure 8). This plan will be implemented during the construction phase of the project and will reduce erosion and stormwater pollution.

The project site is located within Flood Zone "X" according to Flood Insurance Rate Map (FIRM) No. 0603940840F and 0603940880F, dated June 15, 2015, issued by the Federal Emergency Management Agency (FEMA). Flood Zone "X" depicts areas of minimal flood hazard. A less than significant impact is anticipated with the proposed mitigation measures incorporated into the project.

d) **Less than significant impact.** This project will not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. The proposed project is not located within a flood hazard zone. There is no anticipated impact to this project site resulting from tsunamis and seiches because the land is not located adjacent to or near any water bodies of sufficient size to create such situations. A less than significant impact is anticipated.

e) **No Impact.** This project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There are no currently adopted water quality control plans or sustainable groundwater management plans for the subject area. No impact is anticipated.

(California Department of Water Resources (DWR), California's Groundwater – Bulletin 118 (Update 2003). 2003)
(County of Sutter, General Plan Technical Background Report. 2008)
(Federal Emergency Management Agency, Flood Insurance Rate Map. 2015)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Responses:

a) **No impact.** This project will not physically divide an established community because the project is located outside the Live Oak and Yuba City spheres of influence and the County's recognized rural communities. This project is located in the southern portion of the County within an area identified by the 2030 General Plan for agricultural uses but located between the urbanization approved in the Sutter Pointe Specific Plan and approved developments in Placer County. This rural area is dominated by agricultural pursuits, businesses, and rural residential uses. This site is located approximately 0.4 miles east of the Sutter Pointe Specific Plan and approximately 0.5 miles northwest of and 1.5 miles west of the urban area of the Placer Vineyards Specific Plan located in Placer County. This project will not result in a physical barrier that will divide a community, so no impact is anticipated.

b) **Less than significant impact.** This project will not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect because this project involves the necessary entitlements to allow for this project. As discussed previously under Agriculture and Forestry Resources (Section II b), approval of a use permit is required to allow for a reduced agricultural buffer from adjacent agricultural land. Where necessary, mitigation has been incorporated into the project and no additional mitigation measures are necessary. A less than significant impact is anticipated.

(County of Sutter, General Plan 2030. 2011)
(County of Sutter, General Plan Technical Background Report. 2008)
(County of Sutter, Zoning Code. 2021)

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

Responses:

a-b) **No impact.** This project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The General Plan and State of California Division of Mines and Geology Special Publication 132 do not list the site as having any substantial mineral deposits of a significant or substantial nature, nor is the site located in the vicinity of any existing surface mines. No impact is anticipated.

(California Department of Conservation, Division of Mines and Geology, Special Report 132: Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Yuba City-Marysville Production-Consumption Region. 1988)
(County of Sutter, General Plan Technical Background Report. 2008)

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

Responses:

a-b) **Less than significant with mitigation incorporated.** This project will not result in a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of standards established in the local general plan or noise ordinances, or applicable standards of other agencies. This project will also not result in excessive groundborne vibration or groundborne noise levels. The Sutter County General Plan Noise Element provides a basis for local policies to control and abate environmental noise and to protect the citizens of Sutter County from excessive noise exposure. The Sutter County Noise Ordinance (Article 21.5 of the Zoning Code) establishes standards and procedures to protect the health and safety of County residents from the harmful effects of exposure to excessive, unnecessary, or offensive noise. The proposed project is required to operate business in a manner that complies with the noise ordinance.

The 15.44± acre project site is located in south Sutter County at the southwest corner of Riego Road and Pleasant Grove Road. The surrounding area is largely rural in nature. The project site and parcels to the north, west, and south are zoned AG (Agriculture) and General Planned AG-80. Riego Road, ryegrass, and rural residential uses are located to the north. Uncultivated annual grassland and rural residential uses are located to the west. Uncultivated agricultural land and rural residential uses are located to the south. Property to the east on the east side of Pleasant Grove Road is within Placer County. A mini market business is located at the southeast corner of Riego Road and Pleasant Grove Road on land zoned C1 (Neighborhood Commercial). A self-storage facility is located on Pleasant Grove Road approximately one mile south of the project site on land zoned IN (Industrial) in Placer County. Other parcels located to the east, in Placer County, consist of rural residential uses and are zoned RA (Residential-agricultural). An indoor and outdoor storage facility for boats, RVs, and trailers is located on Riego Road approximately 0.15 miles northeast of the project site. The area surrounding the project site has moderate levels of ambient noise predominately from vehicles on Riego Road and Pleasant Grove Road and from residential, commercial, and agricultural uses.

The project site is impacted by existing traffic noise from Riego Road to the north and Pleasant Grove Road on the east. According to Figure 11-1 (2009 Noise Levels) of the Sutter County General Plan, existing noise levels along this segment of Riego Road are between 60 dB and 64.9 dB. According to Figure 11-2 (2030 Noise Levels) of the Sutter County General Plan, noise levels along this segment of Riego Road are projected to be above 70 dB by 2030. The site already experiences elevated noise levels due to the proximity of the site to Riego Road. This project does not propose a noise sensitive use.

The proposed self-storage complex is proposed to operate from 7:00 a.m. to 7:00 p.m., seven days a week and customers will only be able to access the site during these hours. Therefore, all operational noise generated from the proposed project will not occur during the evening or early morning hours. In addition, sound levels can be attenuated by manmade or natural barriers. The self-storage complex is proposed to be surrounded by a solid six-foot-tall block wall that will consist of CMU split face and CMU precision block with a rounded concrete cap. Self-storage buildings with an approximate height of 14 feet will also be located around the perimeter of the complex. There is a linear grove of mature eucalyptus trees along the southern property boundary. A 10-foot-wide landscape planter is proposed to be located along the project's Pleasant Grove Road frontage. The proposed block wall and self-storage buildings along with proposed and existing landscaping will attenuate sound levels from within the self-storage complex.

Construction activity will be phased and will temporarily increase noise levels in the project vicinity during the construction period. Construction activities, including site clearing, excavation, grading, building construction, and paving, would be considered an intermittent noise impact throughout the construction period of the project. Noise levels would fluctuate depending upon construction activity, equipment type, and duration of use, and the distance between noise source and receiver.

General Plan Policy N 1.6 requires discretionary projects to limit noise-generating construction activities within 1,000 feet of noise-sensitive uses, such as residences, to specific daytime hours during weekdays and on Saturdays, and prohibits construction on Sundays and holidays unless permission for the latter has been applied for and granted by the County. The proposed project will result in temporary site construction noise associated with proposed and required improvements. Fourteen residences reside within 1,000 feet of the project site. To ensure compliance with General Plan Policy N 1.6, the following mitigation measure is proposed:

Mitigation Measure No. 11 (Noise): During construction, the applicant shall ensure that all project related noise-generating construction activities are limited to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays, 8:00 a.m. and 5:00 p.m. on Saturdays, and are prohibited on Sundays and holidays unless permission for the latter has been applied for and granted by the County.

The proposed project is not anticipated to result in a significant new source of substantial noise beyond the existing uses of the site. Noise impacts at the site are minimized due to its location in a rural area, the proposed perimeter wall, buildings, and landscaping, and uses operating during daylight hours. This project is not anticipated to significantly increase noise beyond the conditions which already exist in this area; therefore, a less than significant impact is anticipated with the above mitigation measures in place.

c) **Less than significant impact.** This project is not located within the vicinity of a private airstrip, public airport, or public use airport; therefore, it will not result in excessive noise levels for people residing or working in the project area. The nearest public airport is the Sacramento International Airport, which is located over six miles southwest of the project site. The closest private airstrip is located over one mile east of the project site. Due to the project's distance from these facilities, a less than significant impact is anticipated.

(County of Sutter, General Plan 2030. 2011)
(County of Sutter, General Plan Technical Background Report. 2008)

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

Responses:

a) **Less than significant impact.** This project will not induce substantial unplanned population growth in an area, directly or indirectly. According to the applicant, the existing fruit stand employs three employees, and the proposed self-storage complex is proposed to employ 5-7 employees. It is anticipated that these employees will come from the local area; therefore, they will not create a direct increase in population. No new residential use is proposed with this project. As a result, the amount of population growth in the area will be negligible and a less than significant impact is anticipated.

b) **No impact.** This project will not displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere. The proposed project will not

expand beyond the property boundaries and will not displace any housing or people. A residence resides at the project site, which will be used as a caretaker residence for the proposed self-storage complex. There are no other residences existing on the subject parcel and no residences are proposed. No impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

Responses:

i) **Less than significant impact.** This project will have a less than significant impact upon fire protection that is provided by County Service Area (CSA) D. The nearest fire station is Pleasant Grove (Station 2) located at 3489 Sankey Road, which is approximately two miles north of the project site. Response time will not be affected by the proposed project. Access roads will provide adequate transportation routes to reach the project site in the event of a fire. During the building permit review process for the proposed self-storage complex, the Fire Services Division will review the project for compliance with applicable fire codes. Potential impacts to fire services will be mitigated through the collection of the County's development impact fee for fire protection during the building permit process. Development impact fees for fire protection will be collected for the proposed 1,363 square foot office and 123,709 square feet of self-storage buildings to offset potential impacts. Using the County's currently adopted impact fee for fire protection of $0.2880 per square foot for office use and $0.1009 per square foot for industrial use, this project will result in the collection of $12,874.78 in fire impact fees at build-out. No comments were provided by Fire Services indicating this project will result in a significant impact. As a result, a less than significant impact is anticipated.

ii) **Less than significant impact.** This project will not have a significant impact on police protection. Law enforcement for unincorporated portions of Sutter County is provided by the

Sutter County Sheriff's Department and traffic investigation services by the California Highway Patrol. The Sheriff's Department has reviewed this project and had no comments. Response time will not be affected by the proposed project. Existing County roads will provide adequate transportation routes to reach the project site in the event of an emergency. Potential impacts to the Sutter County Sheriff's Department will be mitigated through the collection of the County's current development impact fee in the "Sheriff" and "Criminal Justice" impact fee categories during the building permit process. Development impact fees for "Sheriff" and "Criminal Justice" will be collected for the proposed 1,363 square foot office and 123,709 square feet of self-storage buildings to offset potential impacts. Using the County's currently adopted impact fee for "Sheriff" and "Criminal Justice" of $0.482 per square foot for office uses and $0.1689 per square foot for industrial uses, this project will result in the collection of $21,551.42 in law enforcement impact fees at build-out. As a result, a less than significant impact is anticipated.

iii) **Less than significant impact.** This project will not have a significant impact on schools because this project will not generate additional demand for school services. At the time of building permit issuance for the proposed 1,363 square foot office and 123,709 square feet of self-storage buildings, school impact fees will be collected by the Pleasant Grove School District to offset potential impacts. No comments were provided by the Pleasant Grove School District indicating this project will result in a significant impact. A less than significant impact is anticipated.

iv) **Less than significant impact.** This project will not have a significant impact upon parks because it will not generate a need for additional park land or create an additional impact upon existing parks in the region. This project will not have a significant impact on parks countywide. This project will not result in any new residences which require park services; therefore, a less than significant impact is anticipated.

v) **Less than significant impact.** There are a limited number of other public facilities in the area that may be impacted by this project; however, potential impacts to general government and health and social services will be mitigated through the collection of the County's current adopted development impact fees during the building permit process. Development impact fees for "General Government" and "Health and Social Services" will be collected for the proposed 1,363 square foot office and 123,709 square feet of self-storage buildings to offset potential impacts. Using the currently adopted impact fees for the "General Government" and Health and Social Services" categories, this project will result in the collection of $26,435.58 in impact fees at build-out. A less than significant impact is anticipated.

(County of Sutter, Zoning Code. 2021)
(County of Sutter, General Plan Technical Background Report. 2008)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				

Responses:

a-b) **No impact.** This project will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated nor will the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. This project will not result in new residential development. There are no existing neighborhood or regional parks in the project vicinity and this project does not propose recreational facilities or require the expansion of existing recreational facilities; therefore, no impacts are anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)

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

Responses:

a) **Less than significant impact.** This project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. This property is located in a rural area. The project area is not served by mass transit or bicycle paths. Given the rural location, personal vehicles will be the most likely form of transportation.

The project site has adequate frontage on Riego Road and Pleasant Grove Road, which are both County maintained roads. The proposed self-storage complex will be accessed by Pleasant Grove Road, which runs in a straight north-south direction along the front of the property. Entrance to the facility is proposed to be provided by a new 30-foot-wide paved

commercial driveway with two 14-foot-wide gates with an electronic keypad. Knox Boxes or other devises approved by the Fire Chief are proposed to be installed to provide first responder emergency access 24 hours a day. The applicant will be required to obtain an encroachment permit to improve the driveway to a County standard, which will be included as a proposed project condition.

To determine traffic impacts from the proposed project, a traffic study was completed by Wood Rodgers Inc. and is included as an attachment to this initial study. The analysis has been performed to determine any operational deficiencies this project may cause on surrounding transportation facilities and identify potential improvement measures that could be implemented to address any deficiencies. It evaluates project vehicle miles traveled (VMT) in the context of CEQA requirements for determining potential significant transportation impacts due to the project.

There have been modifications to the project description since the traffic study was completed, which include the addition of 50 RV parking stalls and a reduction in the gross floor area of the storage units of 22,641 square feet, for a total gross floor area of 123,709 square feet for the storage units. A trip generation comparison memorandum was submitted by Wood Rodger and is included as an attachment to this initial study. The memorandum was prepared to present the results of a trip generation comparison between the original project description and the current revised project description.

New trips generated by the proposed project were estimated using rates from the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition*. As illustrated in Table 1 in the memorandum, the current revised project is anticipated to generate a total of 178 daily trips, 16 AM peak hour trips (8 inbound, 8 outbound), and 19 PM peak hour trips (9 inbound, 10 outbound) under typical weekday traffic demand conditions. The current revised project will generate 25 fewer daily trips, 2 fewer AM peak hour trips, and 2 fewer PM peak hour trips than the original project trip generation contained in the traffic study. Therefore, the findings included in the traffic study will remain applicable to the current revised project. The current revised project is not projected to cause any transportation operational deficiencies or impacts. It is noted that the memorandum incorrectly stated that this project will include 60 RV parking stalls and not 50, which is what is proposed. Therefore, this project will generate slightly fewer trips then what is stated in the memorandum.

Some of the key findings as listed in the traffic study are presented below, which apply to this section. The traffic study provides additional analysis detail to support these findings.

The traffic study analyzed three (3) study intersections during AM and PM peak hour time periods under Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios using *Synchro 10* software and *Highway Capacity Manual, 6th Edition* methodologies. *California Manual on Uniform Traffic Control Devices* (CA MUTCD) based peak hour Signal Warrant #3 was also checked at all unsignalized study intersections.

The traffic study analyzed three (3) study roadway segments during weekday daily time periods under Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios using roadway capacity thresholds.

The following study intersections were projected to operate at unacceptable Level of Service (LOS) under Existing and Existing Plus Project conditions:

1. Pleasant Grove Road (North) / W Riego Road
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road

CA MUTCD Signal Warrant #3 is not projected to be met at the above intersections under any study condition.

All study roadway segments were found to operate at acceptable LOS under Existing and Existing Plus Project Conditions. All study intersections and roadway segments were found to operate at acceptable LOS under Cumulative and Cumulative Plus Project conditions.

This project was not found to cause operational deficiencies at the intersections operating at unacceptable LOS under Existing and Existing Plus Project conditions. However, as the project is shown to contribute to the unacceptable operations of the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections, and as there are planned signalizations of these intersections under future conditions, a project fair share percent contribution is provided for informational purposes in the traffic study. The Development Services Engineering Division has required the applicant to pay the project's fair share contribution for future traffic signals and improvements as discussed below. The project will not cause a deficiency at the study roadway segments.

The Development Services Engineering Division reviewed this project, including the traffic study, and has determined the applicant is required to pay the project's fair share contribution for future traffic signals and improvements required to install the signals on Riego Road as it intersects Pleasant Grove Road (North) and Pleasant Grove Road (South) when deemed necessary by the County. A reimbursement agreement is to be entered into between Sutter County and the applicant that guarantees the reimbursement for the cost of the improvements to install Signal Lights at Pleasant Grove Road (North) and Pleasant Grove Road (South) as they intersect Riego Road based on the costs of construction at the time of installation. The applicant's fair share percentage of the cost of the signal and all improvements to install the signal shall be as follows:

- Riego Rd. and Pleasant Grove Rd. (North) Signal = Project ADT/Existing ADT (Riego Rd) = 203/7664 = **2.65%**
- Riego Rd. and Pleasant Grove Rd. (South) Signal = Project ADT/ Existing ADT (Pleasant Grove Road South) = 203/1815 = **11.18%**

This requirement will be implemented through a project condition.

The Engineering Division determined the applicant is required to dedicate sufficient rights of way and/or public service easements as necessary to Sutter County. Pleasant Grove Road, a half-width right-of-way of 33 feet, requires dedication of a uniform 12.5-foot P.S.E. to the County. Riego Road, a half-width right-of-way of 72.5 feet, requires dedication of a 39.5-foot right-of-way and a uniform 12.5-foot P.S.E. to the County. The applicant is required to dedicate sufficient rights of way and/or public service easements as necessary to Sutter County to provide right of way and public service easement rounding at intersections. This requirement will be implemented through a project condition.

The Engineering Division has determined, pursuant to Sutter County Improvement Standards Section 2-2, complete plans and specifications for all proposed streets, bikeways, grading, drainage facilities, sewerage, street lighting, water distribution systems, industrial developments, commercial developments, and subdivisions, including any necessary dedications, easements,

and rights of entry, shall be submitted to the Development Services Department for approval prior to the beginning of construction of any such improvements. This requirement will be implemented as a project condition.

The Engineering Division has determined the applicant is required to construct improvements to Pleasant Grove Road that the project parcel fronts. Improvements are to be constructed for the half-street adjacent to the parcel and must meet current County Development Standards for the future road classification (Urban Collector). Road improvements will include, but are not limited to, curb, gutter, and sidewalk. The applicant must obtain an Encroachment Permit from the County prior to any work in the County Right of Way. This requirement will be included as a proposed project condition.

As stated in the traffic study, the proposed project will be consistent with the following applicable General Plan circulation goals and associated policies:

- **Goal M-2***: Provide for the long-range planning and development of the County's roadway system and the safe, efficient, and reliable movement of people and goods throughout Sutter County.*
    - The project will be consistent with General Plan Policies M 2.5: Level of Service on County Roads, M 2.6: Mitigation by New Development, and M 2.7: Regional Improvements as it is not projected to cause any LOS deficiencies and will provide fair share contributions towards future signalization improvements at the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections.
- **Goal M-7:** *Employ strategies that reduce the use of fossil fuels, reduce greenhouse gas emissions caused by transportation, and improve air quality.*
    - The project is consistent with General Plan Policies M 7.1: New Development, M 7.2: New Development, and M 7.3: Regional Objectives as it has a less-than-significant transportation impact on regional VMT and will provide local-serving retail services.

Based on the findings of the traffic study, a less than significant impact is anticipated.

b) **Less than significant impact.** This project will not conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b). This section of CEQA states that vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. This section also states VMT exceeding an applicable threshold of significance may indicate a significant impact.

The traffic study prepared by Wood Rodgers includes a VMT analysis. As the County has not currently adopted VMT significance criteria or guidelines, project VMT impact was analyzed using criteria outlined in the *County of Sacramento Transportation Analysis Guidelines* (dated September 10, 2020). The *County of Sacramento Transportation Analysis Guidelines* were selected as they represent guidelines developed for a similar, neighboring jurisdiction, and therefore were considered reasonably applicable in Sutter County.

As stated in the traffic study, based on Table 3-1 of the *County of Sacramento Transportation Analysis Guidelines,* projects that meet the following screening criteria are exempt from detailed CEQA transportation analysis and will be expected to result in a less-than-significant transportation impact:

- Small Projects – Project generating less than 237 ADT.

- Local-Serving Retail – Projects that are defined as “Retail” type projects in Appendix A of the *Transportation Analysis Guidelines* and that consist of 200,000 square feet of total gross floor area or less in a greenfield setting are considered local-serving retail projects.

As stated in the traffic study, the proposed project is estimated to generate 203 ADT. This number was reduced to 178 as stated in the trip generation comparison memorandum. Therefore, this project may be considered to be a “small project”. This project will develop approximately 125,424.75 square feet of total gross floor area. Appendix A of the *Transportation Analysis Guidelines* indicates that the “Mini Storage” use is a retail project type. As this project is under 200,000 square feet of total gross floor area and is being developed within a greenfield setting, this project may be considered “local-serving retail”. Therefore, the proposed project is exempt from a detailed CEQA transportation analysis and is expected to result in a less than significant transportation impact.

c-d) **Less than significant impact.** This project will not substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) nor will it result in inadequate emergency access. The project site has adequate frontage on Riego Road and Pleasant Grove Road, which are both County maintained roads. The proposed self-storage complex will be accessed by Pleasant Grove Road, which runs in a straight north-south direction along the frontage of the project site. Entrance to the facility is proposed to be provided by a new 30-foot-wide paved commercial driveway with two 14-foot-wide gates with an electronic keypad. Knox Boxes or other devises approved by the Fire Chief are proposed to be installed to provide first responder emergency access 24 hours a day. The applicant is required to obtain an encroachment permit to improve the driveway to a Commercial County standard.

As stated in the traffic study, the throat length of the proposed project access driveway is shown to be approximately 75 feet between the internal gate and edge of traveled way of Pleasant Grove Road. Egress queueing under "worst-case" cumulative plus project conditions was found to be less than one vehicle length (approximately 25 feet) during the PM peak hour and will therefore be contained within the provided driveway throat length without blocking internal circulation of the site. Proposed landscaping adjacent to the site driveway is required to be continuously maintained so as not to create a sight hazard for both left and right-turning vehicles existing the site, which will be included as a proposed project condition.

No impacts have been identified by the traffic study, Development Services Engineering Division, or Fire Services indicating an increased hazard will result. This project will be required to comply with all County roadway safety, emergency access, and design standards, and any associated General Plan policies. A less than significant impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)
(County of Sutter, General Plan 2030. 2011)
(Wood Rodgers, Pleasant Grove Road Self-Storage Sutter County, CA Transportation Impact Study. 2021)
(Wood Rodgers, Pleasant Grove Self-Storage Trip Generation Comparison Memorandum. 2021)

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

Responses:

i-ii) **Less than significant impact.** In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which added provisions to the Public Resources Code regarding the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. The County initiated AB 52 consultation through distribution of letters to seven Native American tribes provided by the Native American Heritage Commission (NAHC). Wilton Rancheria responded and stated they had no concerns regarding this project. Mooretown Rancheria responded and stated they are not aware of any known cultural resources on this site. No request for consultation or any other comments were received from Native American tribes. The project site is not located within the vicinity of the Bear River, Sacramento River, or Feather River. No resources have been identified by Native American tribes as being located on or near the project site. The property has been extensively disturbed to varying depths due to agricultural uses and residential development. There is no evidence on the project site indicating that tribal cultural resources exist. Mitigation Measure No. 7 is proposed in the cultural resources section to protect possible disturbance of human remains should they be encountered. With this mitigation measure in place, no additional mitigation is necessary. A less than significant impact to tribal cultural resources as a result of this project is anticipated.

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

Responses:

a) **Less than significant impact.** This project will not require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. This project will require no new water service. Water will be provided by an existing on-site well located west of the existing residence. Wastewater treatment will be provided by an existing septic system or installation of a new onsite septic system can be proposed north of the office building. Storm water drainage is proposed to be handled by retention underground High-Density Polyethylene chambers located at the south end of the parcel as discussed previously in the Hydrology and Water Quality section. The applicant is required to obtain coverage under the State Construction General Permit, under the National Pollutant Discharge Elimination System (NPDES) program (Mitigation Measure 8). This program requires implementation of erosion control measures designed to avoid significant erosion. The NPDES construction permit requires implementation of a Storm Water Pollution Prevention Program (SWPPP) that includes storm water best management practices to control runoff, erosion, and sedimentation from the site. This project was reviewed by the Pacific Gas and Electric Company (PG&E) and they did not provide any comments. Any additional utility needs would tie into existing utilities being provided to the area. A less than significant impact is anticipated.

b) **Less than significant impact.** This project will have sufficient water supplies available to serve the project and reasonably foreseeable future development. The proposed project is not located in an area that is served by a public water provider. Water is provided by an on-site well that is assumed to be sufficient to serve this project. The Development Services Environmental Health Division reviewed this project and stated the existing well will not serve more than 25 persons a day at least 60 days per year; therefore, water will be supplied by the private well and not be considered a Public Drinking Water System. A less than significant impact is anticipated.

c) **No impact.** This project will not result in a determination by a wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. This project is not located in an area that is served by a wastewater treatment provider. Individual onsite sewage disposal systems are currently the only method of providing sewage disposal for the project area. Therefore, a demand will not be placed on a local sanitary sewer system and no impact is anticipated.

d-e) **Less than significant impact.** This project will have a less than significant impact on solid waste. Solid waste from this project will be disposed of through the local waste disposal company in a sanitary landfill in Yuba County which has sufficient capacity to serve this project. Project disposal of solid waste into that facility will comply with all federal, state, and local statutes and regulations related to solid waste. As a result, a less than significant impact is anticipated.

(County of Sutter, General Plan Technical Background Report. 2008)

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

Responses:

a-d) **No impact.** The subject property is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, no impacts are anticipated.

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

Responses:

a) **Less than significant impact.** No environmental effects were identified in the initial study which indicate this project will have the ability to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Mitigation measures have been proposed in the biological resources section to mitigate impacts on biological resources. A mitigation measure is proposed in the cultural resources section to protect possible disturbance of human remains should they be encountered.

b) **Less than significant impact.** No environmental effects were identified in the initial study which indicates the project would have impacts that are individually limited, but cumulatively considerable.

c) **Less than significant impact**. No environmental effects which will cause substantial adverse effects on human beings either directly or indirectly were identified in the initial study.

MITIGATION MONITORING PROGRAM – Project #U-19-035 (Sills)

Mitigation Measure	Timing	Monitoring Agency
Mitigation Measure No. 1 (Air Quality): Prior to any on-site grading, landscaping, or construction activities, the applicant shall submit a Fugitive Dust Control Plan to the Feather River Air Quality Management District (FRAQMD) for review and approval. The applicant shall comply with all FRAQMD standards and construction phase measures. A copy of the approved plan shall be submitted to the Development Services Department.	Prior to any on-site grading, landscaping, or construction activities	FRAQMD / Development Services
Mitigation Measure No. 2 (Biological Resources): To avoid potential impacts to special status plants, pre-construction surveys for special status plants by a qualified biologist shall take place within 100 feet of all areas of ground disturbing work areas during a time period appropriate for field identification of dwarf downingia, Boggs Lake hedge-hyssop, and legenere, likely in early- to mid-spring. A copy of the survey report shall be provided to the Development Services Department. If special status plants are found and located in an area where potential impacts may occur, the survey report will identify the plant or plants, the potential impacts that could occur to those plants, and measures (such as avoidance, relocation, etc.) to minimize potential impacts as agreed upon by the California Department of Fish and Wildlife (CDFW).	Prior to any construction activities and in early- to mid-spring	Development Services / CDFW
Mitigation Measure No. 3 (Biological Resources): Pre-construction surveys by a qualified biologist following the guidelines of the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) shall be completed to determine the level of impact to the species and mitigate any impacts associated with this project. A copy of the survey report shall be provided to the Development Services Department. These measures state that no intensive new disturbances, such as heavy equipment operation associated with construction, shall be initiated within ¼ mile of an active Swainson's hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15. Currently, California Department of Fish and Wildlife (CDFW) recommends that impacts to suitable Swainson's hawk foraging habitat within 10 miles of an active nest should be mitigated by securing a conservation easement or fee title on suitable Swainson's hawk foraging habitat in the region. Sutter County and the project proponents, in coordination with CDFW, will determine what mitigation, if any, will be appropriate for impacts to Swainson's hawk foraging habitat.	Prior to any construction activities between March 1 and September 15	Development Services / CDFW
Mitigation Measure No. 4 (Biological Resources): A pre-construction survey by a qualified biologist for white-tailed kite shall occur no more than two weeks prior to project construction	No more than two weeks prior to project	Development Services / CDFW

Mitigation Measure	Timing	Monitoring Agency
if work occurs during the breeding period (March 1 to September 15). The survey shall encompass the project area and a 1/2-mile buffer. If nesting white-tailed kites or other raptors are found within 500 feet of the project area work locations, CDFW shall be contacted for guidance on establishing an appropriate protective "no work" buffer. The status of any active nests shall be monitored during construction by a qualified biologist to ensure that nesting raptors are not distressed by construction activities.	construction if work occurs during the breeding period (March 1 to September 15)	
Mitigation Measure No. 5 (Biological Resources): To comply with the Migratory Bird Treaty Act, pre-construction surveys for nesting birds by a qualified biologist shall take place within 300 feet of all project work areas within one week of the commencement of project construction if work occurs during the nesting bird season, which is generally accepted as February 1 to September 30. A copy of the survey report shall be provided to the Development Services Department. To avoid potential take under the Migratory Bird Treaty Act, construction activities shall not take place in the vicinity of any active bird nests. The recommended construction buffer zone around active bird nests varies by species and will need to be determined on an individual basis based on the opinion of the surveying biologist as agreed upon by the California Department of Fish and Wildlife (CDFW).	Within one week of the commencement of project construction if work occurs between February 1 and September 30	Development Services / CDFW
Mitigation Measure No. 6 (Biological Resources): The aquatic resources delineation identified potential Waters of the U.S. within the project area. If these features are verified as Waters of the U.S. by the US Army Corps of Engineers (USACE) and if disturbance will occur to Waters of the U.S. within the project, the following measures are required to minimize potential impacts to Waters of the U.S.: • Prior to construction, the project applicant shall obtain authorization to fill wetlands under the Section 404 of the federal CWA (Section 404 Permit) from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation measures will be developed as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit for the project shall be prepared and submitted to USACE, and shall include direct, avoided, and preserved acreages to Waters of the U.S. Mitigation for impacts to Waters of the U.S. typically consists of a minimum of a 1:1 ratio for direct impacts; however, final mitigation requirements shall be developed in consultation with USACE. The applicant shall implement all permit conditions as required by USACE. • Prior to construction, the project applicant shall obtain a Water Quality Certification or waiver pursuant to Section 401 of the CWA from the Central Valley Regional Water	Prior to any construction activities	USACE / CVRWQCB

Mitigation Measure	Timing	Monitoring Agency
Quality Control Board (CVRWQCB). The applicant shall implement all permit conditions as required by CVRWQCB.		
Mitigation Measure No. 7 (Cultural Resources): California Health and Safety Code §7050.5 states that when human remains are discovered, no further site disturbance can occur until the County Coroner has made the necessary findings as to the origin of the remains and their disposition pursuant to Public Resources Code §5097.98. If the remains are recognized to be those of a Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.	During construction activities	Development Services
Mitigation Measure No. 8 (Geology and Soils): STORM WATER QUALITY PROTECTION – DURING CONSTRUCTION. SWPPP – Prior to construction the applicant shall prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) to be executed through all phases of grading and project construction. The SWPPP shall incorporate Best Management Practices (BMPs) to ensure that potential water quality impacts during construction phases are minimized. These measures shall be consistent with the County's Improvement Standards and Land Grading and Erosion Control Ordinance and the requirements of the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The SWPPP shall be submitted to the County for review and to the Central Valley Regional Water Quality Control Board as required by the NPDES General Permit in effect during construction. During construction, the applicant shall implement actions and procedures established to reduce the pollutant loadings in storm drain systems. The project applicant shall implement BMPs in accordance with the SWPPP and the County's Improvement Standards. The project applicant(s) shall submit a state storm water permit Waste Discharger Identification (WDID) number for each construction project. NPDES GENERAL CONSTRUCTION PERMIT - Since the project size is more than one acre, prior to construction the applicant shall file a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board to obtain coverage under the California State Water Resources - General Construction Activity Storm Water Permit. Permits are issued by the State Water Resources Control Board, which can provide all information necessary to complete and file the necessary documents. Applicant shall comply with the terms of the General Construction Permit, the County's ordinances, and the NPDES Waste Discharge Requirements for the Sutter County Phase II NPDES Permit.	During and prior to completion of the project	RWQCB / Development Services Engineering Division

Mitigation Measure	Timing	Monitoring Agency
Mitigation Measure No. 9 (Hydrology and Water Quality): DRAINAGE STUDY, GRADING AND CONSTRUCTION. Prior to recordation of a map, issuance of a building, grading, or encroachment permit, the applicant shall obtain approval from the Director of a final detailed drainage design that is based on the initial drainage study approved as part of the initial review of the project. Final Drainage Design must be in compliance with design conditions for the proposed project per County Standards. The Drainage Design shall be completed and stamped by a Professional Engineer and determined by the County to be comprehensive, accurate, and adequate. (SCIS Section 9) All impacts to the site must be mitigated in the project area or lands acquired for mitigation by the project. Any Grading or Site Improvements shall be done per an approved plan and in accordance with Sutter County Development Standards. Plans shall be reviewed and approved for construction by the Director of Development Services prior to the start of construction.	Prior to issuance of a building permit or grading permit	Development Services Engineering Division
Mitigation Measure No. 10 (Hydrology and Water Quality): PRIVATE DRAINAGE IMPROVEMENTS. The applicant shall construct private onsite drainage ditches/basins that provide storm water retention per a County Approved Drainage Study for this Project. Owner shall limit maximum discharge rates, where applicable, to pre-project "existing" conditions for peak 10- and 100-year storms per an approved onsite drainage study for the project. The drainage ditches/basins shall not be connected to the roadside swales. The applicant must obtain a grading permit from the County prior to any grading for storm water retention / detention ditches or basins. The applicant shall provide an as-built drawing of the drainage improvements, that is stamped and signed by a licensed Engineer verifying that what was constructed complies with the approved plan for the site. PRIVATE DRAINAGE FACILITIES MAINTENANCE AGREEMENT - The property owner shall enter into an agreement with Sutter County committing the property owners and all successors in interest to maintain the private drainage facilities (including on-site peak flow attenuation basins) in perpetuity in a manner to preserve storage capacity, drainage patterns, ultimate discharge points and quantities, and water quality treatment controls for stormwater discharges as identified in the drainage study and approved by Sutter County.	Prior to certificate of occupancy	Development Services Engineering Division
Mitigation Measure No. 11 (Noise): During construction, the applicant shall ensure that all project related noise-generating construction activities are limited to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays, 8:00 a.m. and 5:00 p.m. on Saturdays, and are prohibited on Sundays and holidays unless permission for the latter has been applied for and granted by the County.	During construction activities	Development Services

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Wood Rodgers. 2021. *Pleasant Grove Self-Storage Trip Generation Comparison Memorandum*

Attachments:

1. Bargas Environmental Consulting, Final Reconnaissance-Level Biological Site Assessment Survey Report
2. Bargas Environmental Consulting, Biological Resources Assessment
3. Wood Rodgers, Trip Generation Comparison Memorandum
4. Wood Rodgers, Transportation Impact Study

ATTACHMENT 1

Bargas Environmental Consulting
Final Reconnaissance-Level Biological Site Assessment Survey Report

BARGAS
Environmental Consulting

06/11/18

Mr. James Wristen
8139 Pleasant Grove Road
Elverta, CA 95626

cc:
Mr. Nicholas S. Avdis
Thomas Law Group
455 Capital Mall, Suite 801
Sacramento, California 94612

Subject: FINAL Reconnaissance-level biological site assessment survey for the +/- 17.5-acre Riego Road Development Proposal, Sutter County, California

Mr. Wristen:

This report summarizes the results of the reconnaissance-level biological site assessment survey conducted by a Bargas Environmental Consulting (Bargas) biologist for the Riego Road Development Proposal. The project is located on an approximately 17.5 acres property parcel located at 8139 Pleasant Grove Road (Rd) in Sutter County, California, and comprised of parcel APN 035-280-021 at the corner of Riego Rd and Pleasant Grove Rd (**Figures 1** and **2**). The survey was conducted on 14 December 2017, focusing on the following items:

- Presence of suitable habitat that may support special-status species and nesting migratory birds.
- Presence of wetland habitat that may be under the jurisdiction of federal or state agencies.

Methods

Prior to conducting the survey of the site, and per accepted protocol, a thorough review of habitat, special-status species, and jurisdictional wetland databases was performed. The databases queried to obtain background information for the site included; the Natural Resources Conservation Service Soil Survey, California Department of Fish and Wildlife Natural Diversity Database (CNDDB), US Fish and Wildlife Service Information Planning and Conservation (IPaC) and Critical Habitat Mapper, and the US Environmental Protection Agency National Wetlands Inventory (NWI). The CNDDB/Bios data was drawn from the Rio Linda, Taylor Monument, Verona, and Pleasant Grove USGS 7.5-minute quadrangles. The IPaC compiles a list of species from Sutter County.

Bargas biologist Krystal Pulsipher conducted a reconnaissance-level survey of the site on 14 December from 9:30 am to 12:15 pm. Weather conditions were characterized by clear skies with temperatures from 70-82°F and winds from 2-5 mph. The pedestrian survey consisted of meandering transects throughout

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the site with an evaluation of; current site conditions, potential habitat for special-status species, potential nesting bird habitat, presence of wetlands and waterways, and identification of vegetation. Photos were taken throughout the project area (**Photos 1** through **17**). Location of site photos are labelled in **Figure 2**.

Results

Table 1: Summary of the preliminary database review.

Database	Summary of Results
NRCS Soil Survey	Cometa loam, 0 – 2% slopes (approximately 3.7 acres, 19.8% of site): Classified as farmland of statewide importance. Well drained soils with an abrupt textural change occurring at a depth of approximately 16 inches. Parent material is mixed clayey alluvium and is non-saline to very slightly saline. Very low availability for water storage, approximately 2.4 inches. Approximate depth to the water table is more than 80 inches. San Joaquin sandy loam, 0 – 2% slopes (approximately 14.8 acres, 80.2% of site): Classified as farmland of statewide importance. Well drained soil with an abrupt textural change occurring at a depth of approximately 16 inches and a durapan present at a depth of approximately 20 – 40 inches. Parent material is alluvium derived from granite and is non-saline to very slightly saline. Very low availability for water storage, approximately 1.9 inches. Approximate depth to the water table is more than 80 inches.
CDFW CNDDB (within a 4-quad area)	There are no CNDDB occurrences within the project site. Animals: western spadefoot toad, bank swallow, burrowing owl, purple martin, song sparrow, Swainson's hawk, tricolored blackbird, western yellow-billed cuckoo, white-tailed kite, vernal pool fairy shrimp, vernal pool tadpole shrimp, chinook salmon – Central Valley spring-run ESU, longfin smelt, Sacramento splittail, steelhead – Central Valley DPS, valley elderberry longhorn beetle, giant gartersnake, western pond turtle. Plants: Bogg's Lake hedge hyssop, dwarf downingia, legenere, Sanford's arrowhead.
USFWS IPaC (within Sutter County)	Giant gartersnake, California red-legged frog, California tiger salamander, Delta smelt, valley elderberry longhorn beetle, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp.
USEPA NWI	There are no features currently mapped on the property within the NWI.
USFWS Critical Habitat Mapper	No USFWS designated critical habitats within proximity of the site.

Site Conditions

The project area is bordered by Pleasant Grove Rd to the east, a rural residential residence to the south, undeveloped annual grassland to the west, and Riego Rd to the north. The project area currently contains an occupied rural residence (**Photo 1**) and fruit stand, both with adjacent mature trees and shrubs

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including coast redwood, willow, oleander, bamboo, other landscaped trees, and an ornamental lawn (**Photo 2**). The majority of the project area is composed of crop plots, primarily strawberries, currently being actively cultivated (**Photo 3**) or fallowed (**Photo 4**). There is a linear grove of mature eucalyptus trees along the southern property border.

The terrain is open and relatively flat with very gentle/shallow slopes, especially in the northwest corner of the project area. The fruit stand at the northeast corner (Riego Rd and Pleasant Grove Rd) contains a graveled parking area approximately 0.5 acre in size (**Photo 5**). There is a gravel driveway that provides access to the rural residence from Pleasant Grove Rd, approximately 700 feet south of Riego Rd. Dirt farm roads are present around the crop plot in the southeast corner of the project area, roughly in the center of the project area connecting the fruit stand and the rural residence, and along the west border of the project area. In the absence of a dirt road along the west border, there is a tilled and mowed firebreak.

Habitat and Wildlife Observations

Due to the timing of the survey, not all annual species of plants were currently growing at a stage that could be identified to genera or species. Vegetation that could be identified to genera or species on site ranged in size, and all trees/shrubs with a diameter at breast height (dbh) greater than 6 inches were noted. Species identified on site included:

- Gum tree (*Eucalyptus* sp.)
- Coast redwood (*Sequoia sempervirens*)
- Willow (*Salix* sp.)
- Chinese pistache (*Pistacia chinensis*)
- Lawn grass (*Festuca* sp.)
- Bermuda grass (*Cynodon dactylon*)
- Crabgrass (*Digitaria* sp.)
- Wild oats (*Avina fatua*)
- Italian rye grass (*Festuca perennis*)
- Ripgut brome (*Bromus diandrus*)
- Medusa head grass (*Elymus caput-medusae*)
- Rush (*Juncus* sp.)
- Skeleton weed (*Chondrilla juncea*
- Bamboo (*Phyllostachys* sp.).
- Vetch (*Vicia* sp.)
- Beggartick (*Bidens* sp.)
- English plantain (*Plantago lanceolate*)
- Prickly lettuce (*Lactuca serriola*)
- Curly dock (*Rumex crispus*)
- Doveweed (*Croton setiger*)
- Milk thistle (*Silybum marianum*)
- Smooth cat's ear (*Hypochaeris glabra*)

Eight species of birds were observed in the project area and adjacent lands. Sign of two mammals were observed, but individuals were not observed. Species included:

- Killdeer (*Charadrius vociferous*)
- Brewer's blackbird (*Euphagus cyanocephalus*)
- Red-tailed hawk (*Buteo jamaicensis*)
- Northern flicker (*Colaptes auratus*)
- White-tailed kite (*Elanus leucurus*)
- American crow (*Corvus brachyrhynchos*)
- Western meadowlark (*Sturnella neglecta*)
- European starling (*Sturnus vulgaris*)
- Coyote (*Canis latrans*) – scat observed
- Botta's pocketgopher (*Thomomys bottae*) – mounds and burrows observed

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Four categories of areas of interest (AOI) were identified in the project area and their approximate locations drawn n Google Earth as depicted in **Figure 3**. These include AOI-1, a complex of seasonal wetlands; AOI-2, seasonal wetland swales; AOI-3, roadside drainage swales; and AOI-4, groups of mature trees and shrubs that provide suitable nesting habitat for raptors and migratory birds. Each AOI is described below.

AOI-1: Seasonal Wetlands

A complex of seasonal wetlands is evident in the northwest corner of the project area, along the west property border. The complex is composed of three smaller seasonal wetlands connected to a larger seasonal wetland by seasonal wetland swales. The smaller seasonal wetlands, from west to east, roughly measure approximately 20 feet in diameter (**Photo 6**), 20 feet wide by 50 feet long (**Photo 7**), and 20 feet wide by 9 feet long (**Photo 8**). These smaller seasonal wetlands are very shallow concave and had unidentified herbs and grasses sprouting within them with doveweed and wild oats sparsely scattered within their borders. Per the topography, the seasonal wetlands receive water from the adjacent uplands and a seasonal wetland swale from the east, the general direction of water flow being east southeast to north northwest.

The larger seasonal wetland is located partially within the project area and on the adjacent property to the west (**Photo 9**). The portion located in the project area roughly measures approximately 70 feet wide by 175 feet long. This larger seasonal wetland is deeper and more concave than the three smaller seasonal wetlands described above. The sloped edges of the seasonal wetland contained Italian rye grass while the interior contained dead patches of an unidentified rush species. There were unidentified herbs and grasses sprouting within the seasonal wetland and doveweed was sparsely scattered throughout. Per the topography, the larger seasonal wetland receives water from the adjacent uplands and the smaller seasonal wetlands via short seasonal wetland swales. Further, this seasonal wetland also receives water from outside the project area via roadside drainage swales along the south side of Riego Rd through direct discharge and the north side of the road through a steel culvert.

AOI-2: Seasonal Wetland Swales

There are two seasonal wetland swales within the northern third of the project area. The first begins at the roadside drainage swale across from a culvert at Pleasant Grove Rd and flows roughly west to terminate on the east edge of the dirt farm road (**Photos 10** and **11**). The second starts at the west edge of the dirt farm road, opposite the first swale, and flows roughly west northwest to discharge into the seasonal wetland complex (**Photo 12**). A culvert was not observed crossing under the dirt farm road to connect the two seasonal wetland swales. However, one may be present but not visible due to being buried by sediment. The swales ranged in width from approximately 3 to 10 feet and may have historically been an agricultural ditch that eroded over time and began flooding overland. The swales contained unidentified sprouting herbs and grasses, scattered curly dock, and Italian rye grass. These seasonal wetland swales receive water from the adjacent uplands. Additionally, the eastern swale receives water from seasonal wetlands on the rural properties east of Pleasant Grove Rd via a series of steel culverts as well as the roadside drainage swales along Pleasant Grove Rd.

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AOI-3: Roadside Drainage Swales

There are roadside drainage swales present along the entire east and north borders of the project area, adjacent to Pleasant Grove Rd and Riego Rd, and are continuous due to the presence of culverts that cross under the driveways to the house and fruit stand (**Photos 13** through **16**). In the northeast corner of the project area, the roadside drainage swale separates the graveled parking area and the grassy areas by the farm stand. The roadside drainage swales contain unidentified sprouting herbs and grasses, doveweed, wild oats, and Italian rye grass.

AOI-4: Suitable Nesting Habitat for Raptors and Migratory Birds

Although there is suitable habitat for ground-nesting birds, such as killdeer, throughout the areas not actively being cultivated, there are four separate concentrated areas of mature trees and shrubs that provide suitable nesting habitat for raptors and other migratory birds. There is a grove of gum trees along the south property line, coast redwoods, oleander shrubs, and other landscaped trees on the west and east side of the house, and willows and bamboo by the fruit stand. The survey was conducted outside of the general nesting season and pre-existing nests were not observed.

Suitable Habitat for Special-Status Species

Of the animals and plants identified in the preliminary database review (**Table 1**), potentially suitable habitat for three plant species, two crustaceans, and two bird species were identified in the project area.

Table 2: Special-status species with potentially suitable habitat present within the project area.

Common Name	Scientific Name	Listing
Bogg's Lake hedge hyssop	*Gratiola heterosepala*	State Threatened, California Rare-Plant Ranking (CRPR) 1B.2
Dwarf downingia	*Downingia pusilla*	CRPR 2B.1
Legenere	*Legenere limosa*	CRPR 1B.1
Vernal pool fairy shrimp	*Branchinecta lynchi*	Federal Threatened
Vernal pool tadpole shrimp	*Lepidurus* packardi	Federal Endangered
Swainson's hawk	*Buteo swainsoni*	State Threatened
White-tailed kite	*Elanus leucurus*	State Fully Protected

The seasonal wetlands and seasonal wetland swales provide potentially suitable habitat for Bogg's Lake hedge hyssop, dwarf downingia, legenere, vernal pool fairy shrimp, and vernal pool tadpole shrimp. These special status plant and crustacean species require vernal pools or other seasonal wetlands as habitat. The seasonal wetland swales and smaller seasonal wetlands observed in the project area unlikely to remain inundated long enough for vernal pool fairy shrimp and vernal pool tadpole shrimp to complete their life cycles. However, the larger seasonal wetland may remain inundated for the required length as it is larger and deeper than the others. There are two CNDDB occurrences for Bogg's Lake hedge hyssop within the 4-quadrangle area surrounding the project area (search area), the nearest

being approximately 3.5 miles southeast of the project area. There are two CNDDB occurrences for dwarf downingia within the search area, the nearest being approximately 2.7 miles southeast of the project area. There is one CNDDB occurrence for legenere within the search area, the nearest being approximately 4.5 miles southeast of the project area. There are six CNDDB occurrences for vernal pool fairy shrimp within the 4-quadrangle area surrounding the search area, the nearest being approximately 0.5 mile north of the project area. There are three CNDDB occurrences for vernal pool tadpole shrimp within the search area, the nearest being 1.7 miles northwest of the project area.

The mature trees located in AOI-4 in the project area provide potentially suitable nesting habitat for both Swainson's hawk and white-tailed kite. Swainson's hawks nest either in solitary trees or in groups of trees along waterways, but always near grasslands and open agricultural fields (e.g. alfalfa, rice, cereal crops) where they forage. There are three CNDDB occurrences for Swainson's hawk within the search area, the nearest being approximately 160 feet south of the project area on the neighboring property. White-tailed kites in trees with dense canopy for cover. There is one CNDDB occurrence for white-tailed kite within the search area, located approximately 7.8 miles southeast of the project area.

Conclusions

Due to the habitat observed to be present within the project area and the special-status species that may utilize this habitat, the following recommendations are being provided to assist with either avoiding, minimizing, or mitigating impacts to special-status species and wetlands.

- Prior to any construction activities being conducted, a full wetland delineation should be completed in order to identify, map, and quantify waters of the United States (US) and other waters that may be present within the project area. If waters of the US or other waters are determined to be present, they may fall under the jurisdiction of the US Army Corps of Engineers. This would require compliance with Section 404 and Section 401 of the Clean Water Act. Wetland delineation surveys are recommended to be conducted prior to the heavy rain events to minimize the occurrence of temporary sheet flow on the property being mapped.
- Although there was no evidence of active nesting birds or existing nests, compliance with CEQA may require that surveys be conducted for active use within 60 days of the construction start date.
- Due to the presence of potential wetland features, a botanical survey is also recommended to identify special-status plant species associated with seasonal wetlands. Furthermore, fairy shrimp surveys are also recommended to identify special-status crustacean species associated with seasonal wetlands, especially vernal pools. The preferred time of the year to conduct these surveys is late winter / early spring.

Should you have any questions or comments regarding this report, please do not hesitate to contact James Stewart (jstewart@bargasconsulting.com) or (kpulsipher@bargasconsulting.com) at our listed emails, or the office at (916) 993-9218.

Sincerely,

Krystal Pulsipher
Biologist – Assistant Project Manager

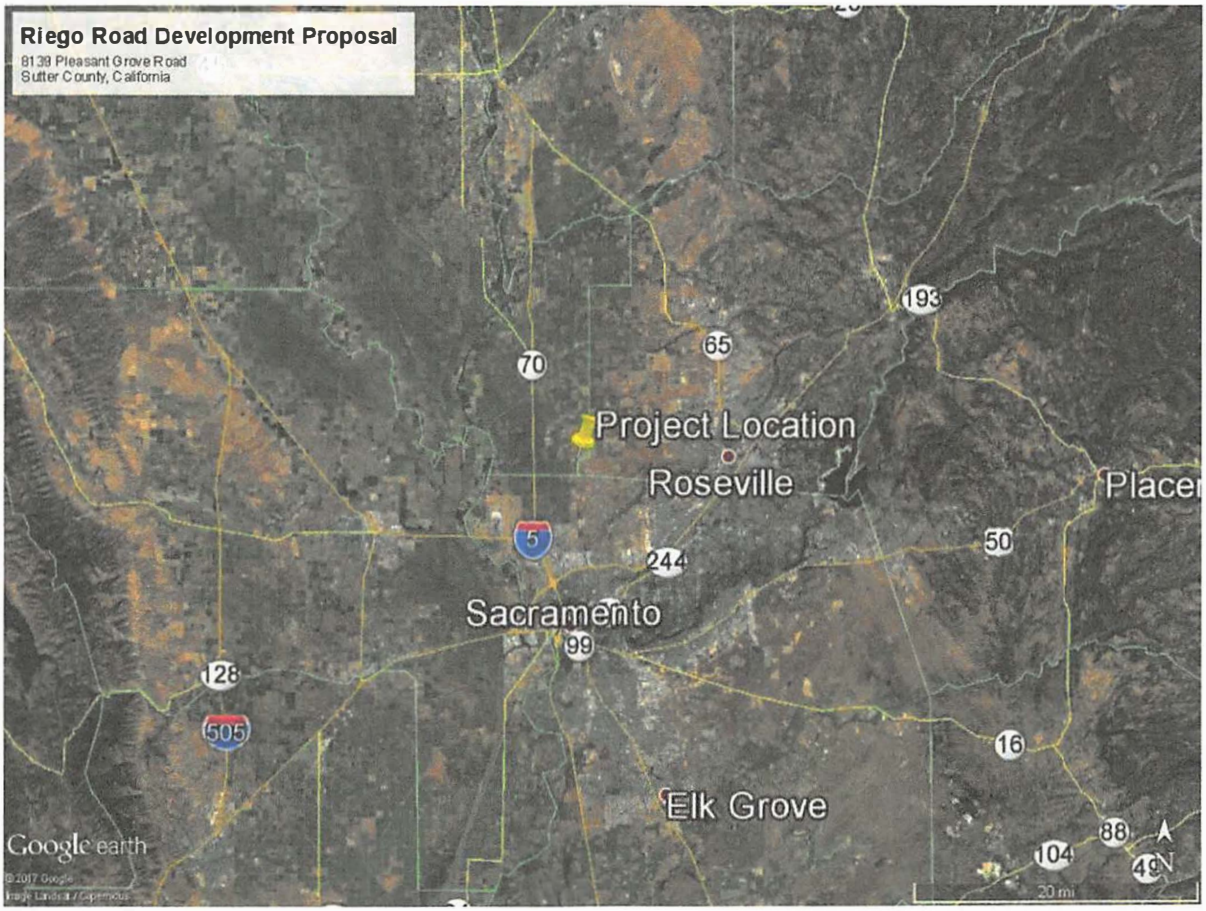

Figure 1: Aerial image of the vicinity of the site located at the corner of Riego Rd and Pleasant Grove Rd, Sutter County, California.

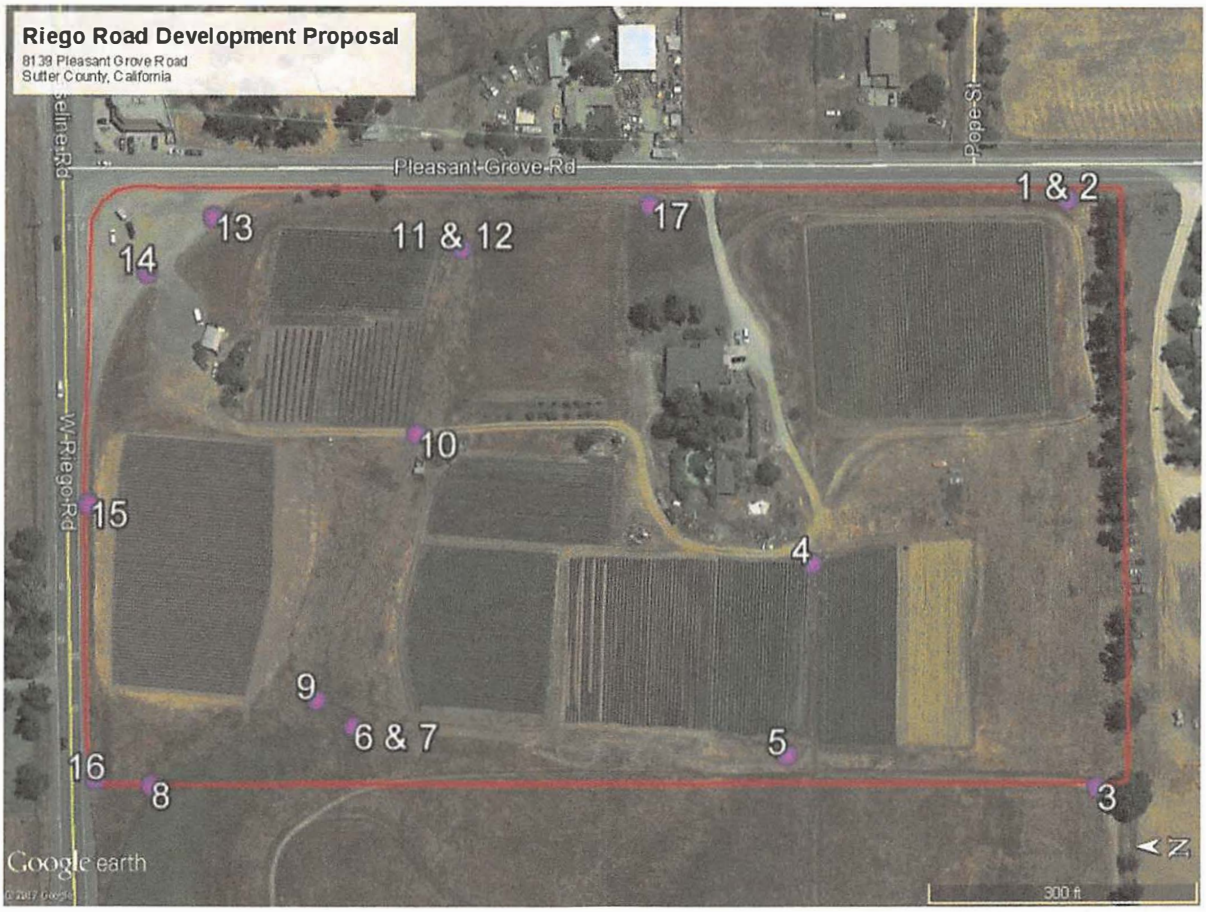

Figure 2: Aerial image of the site located at the corner of Riego Rd and Pleasant Grove Rd, Sutter County, California, labelled with corresponding photo numbers from images taken during the 14 December 2017 site survey.

Figure 3: Aerial image of the site located at the corner of Riego Rd and Pleasant Grove Rd, Sutter County, California, labelled with the potential wetland features and suitable nesting habitat for raptors, identified during the 12 September 2017 site survey. Legend: Red polygon = Survey area; Green polygons = Groups of trees/shrubs providing suitable nesting habitat for birds and/or raptors; Light blue polygons = Potential seasonal wetland; Darker blue polygons = Potential seasonal wetland swale; Pink line = Roadside drainage swale; Pink rings = Existing culverts.

Photo 1: The house present within the east central portion of the project area. Photo taken from west of the dirt farm road looking east.

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Photo 2: The landscaped lawn area east of the house within the east central portion of the project area. Photo taken from Pleasant Grove Rd looking west.

Photo 3: A strawberry field in active cultivation located in the west central portion of the project area. Photo taken from the west border looking east.

Photo 4: A fallowed strawberry field located in the southwest corner of the project area. Photo taken from the west border of the project area looking northeast.

Photo 5: The gravel parking area in the northeast corner of the project area. Photo taken from the northwest corner of the gravel parking area looking east.

Photo 6: The western-most small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 290 feet south of Riego Rd looking northwest.

Photo 7: The middle small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 290 feet south of Riego Rd looking north.

Photo 8: The eastern-most small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 250 feet south of Riego Rd looking east.

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Photo 9: The large seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 65 feet south of Riego Rd looking southeast.

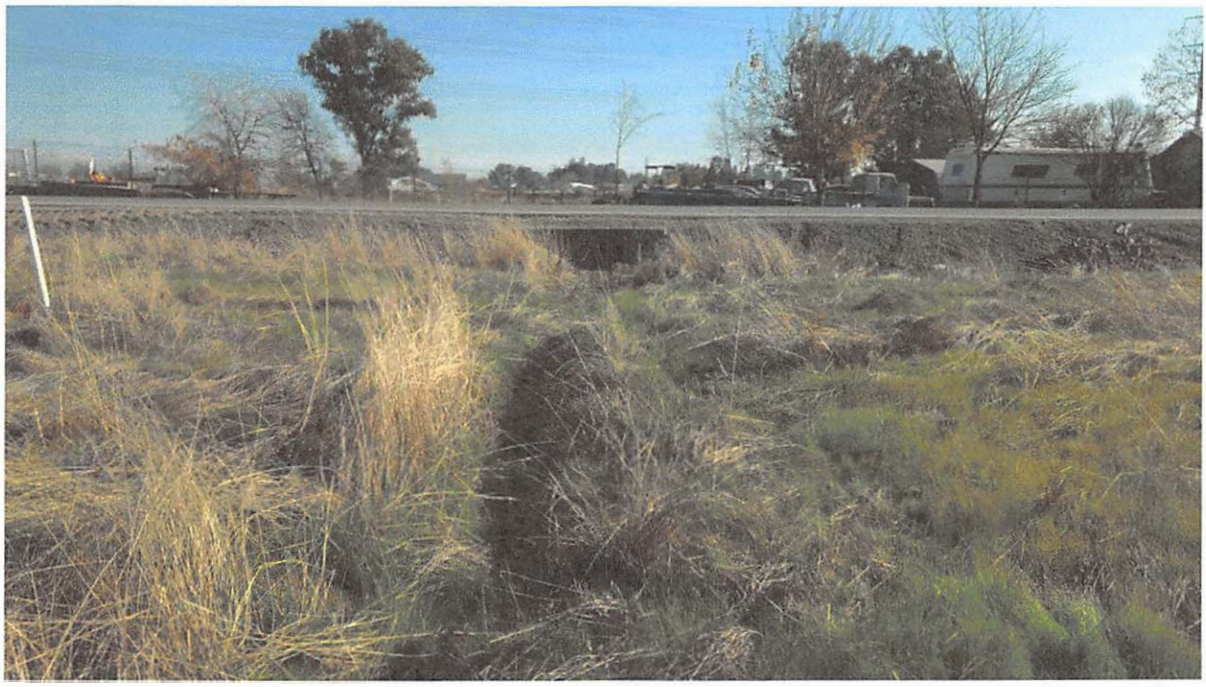

Photo 10: The starting point of the seasonal wetland swale east of the dirt farm road, part of AOI-2. Photo taken from approximately 50 feet west of Pleasant Grove Rd looking east.

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Photo 11: The seasonal wetland swale east of the dirt farm road, part of AOI-2. Photo taken from approximately 50 feet west of Pleasant Grove Rd looking west.

Photo 12: The seasonal wetland swale west of the dirt farm road, part of AOI-2. Photo taken from the dirt farm road, looking west.

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Photo 13: The roadside drainage swale along Pleasant Grove Rd, part of AOI-3. Photo taken from just south of the gravel parking area looking south.

Photo 14: The roadside drainage swale in the northeast corner of the project area, part of AOI-3. Photo taken in the gravel parking area, looking northwest.

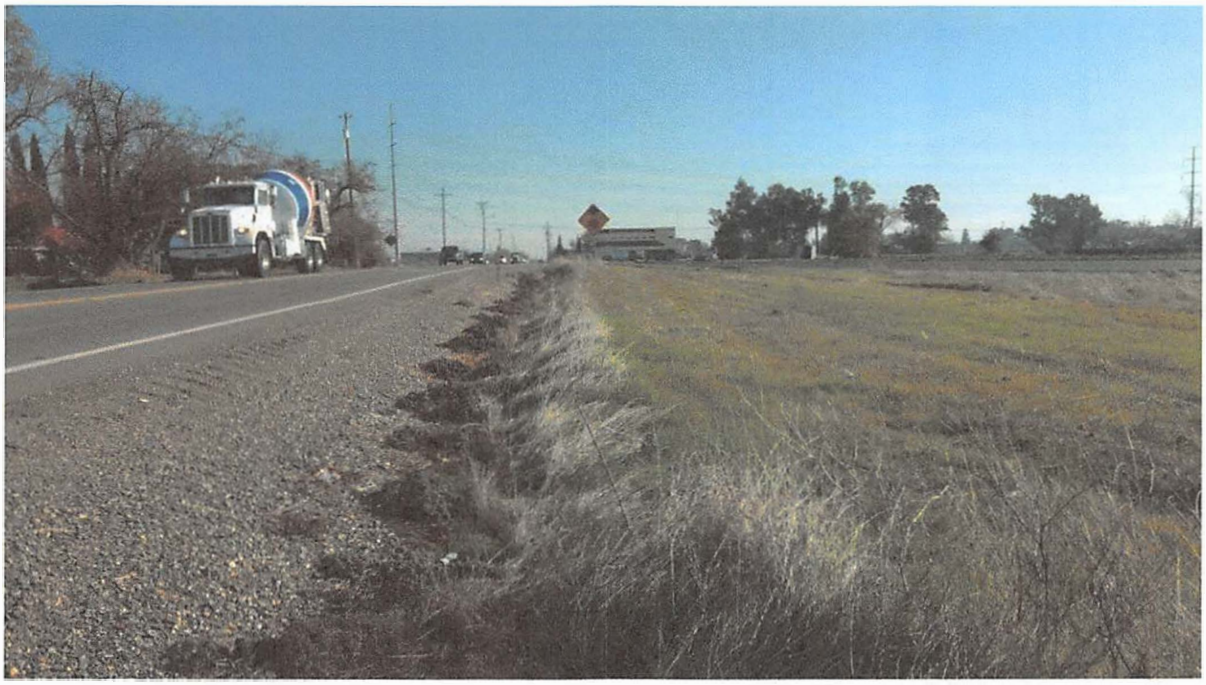

Photo 15: The roadside drainage swale present along the north border of the project area, part of AOI-3. Photo taken along Riego Rd in the northwest corner of the project area, looking east.

Photo 16: The roadside drainage swale along the east border of the project area, part of AOI-3. Photo taken from along Pleasant Grove Rd in the southeast corner of the project area, looking north.

Photo 17: The mature stand of blue gum trees along the south border of the project area, part of AOI-4. Photo taken from Pleasant Grove Rd, looking southwest.

ATTACHMENT 2

Bargas Environmental Consulting
Biological Resources Assessment

Biological Resources Assessment

Pleasant Grove Self Storage Project
Sutter County, California

Prepared For: Valerie Sills
8139 Pleasant Grove Road
Elverta, California 95626

Report Date: February 2021

Revised December 2021

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Environmental Consulting

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Recommended Citation: Bargas Environmental Consulting. 2021. Biological Resources Assessment – Pleasant Grove Self Storage Project, Sutter County, California. Report prepared for Valerie Sills.

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Appendices

1 Introduction

The Project proponents seek to divide an existing parcel currently zoned as agricultural (AG) for other uses. The proposed division would create an approximate 5.32-acre parcel at the north end of the existing parcel and an approximately 10.12-acre parcel at the south end of the existing parcel. Both parcels would be rezoned Commercial-Industrial-Planned Development (CM-PD).

Sutter County has requested a biological resource assessment which analyzes the potential impacts of the Project on sensitive plant and wildlife species that may be present. This biological resources assessment was prepared by Bargas Environmental Consulting (Bargas) in order to fulfill that request.

1.1 Project Location and Description

The Project is located at 8139 Pleasant Grove Road north of Rio Linda in Sutter County, California (**Figure 1**). The Study Area for this assessment includes the approximately 15.44-acre Project parcel (APN 035-280-021) at the corner of Riego Road and Pleasant Grove Road. The Biological Study Area (Study Area) is situated on Section 1, Township 10 North, Range 4 East, split between the *Pleasant Grove* and *Rio Linda, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), Mt. Diablo Meridian (USGS 1980), with an approximate Study Area center point at 38.749620° North, -121.485672° West. The Study Area can be accessed from a gravel parking area at the corner of Riego Road and Pleasant Grove Road. From Sacramento, proceed north on Interstate 5, exit 311 for Riego Road, follow Riego Road for three miles to Pleasant Grove Road.

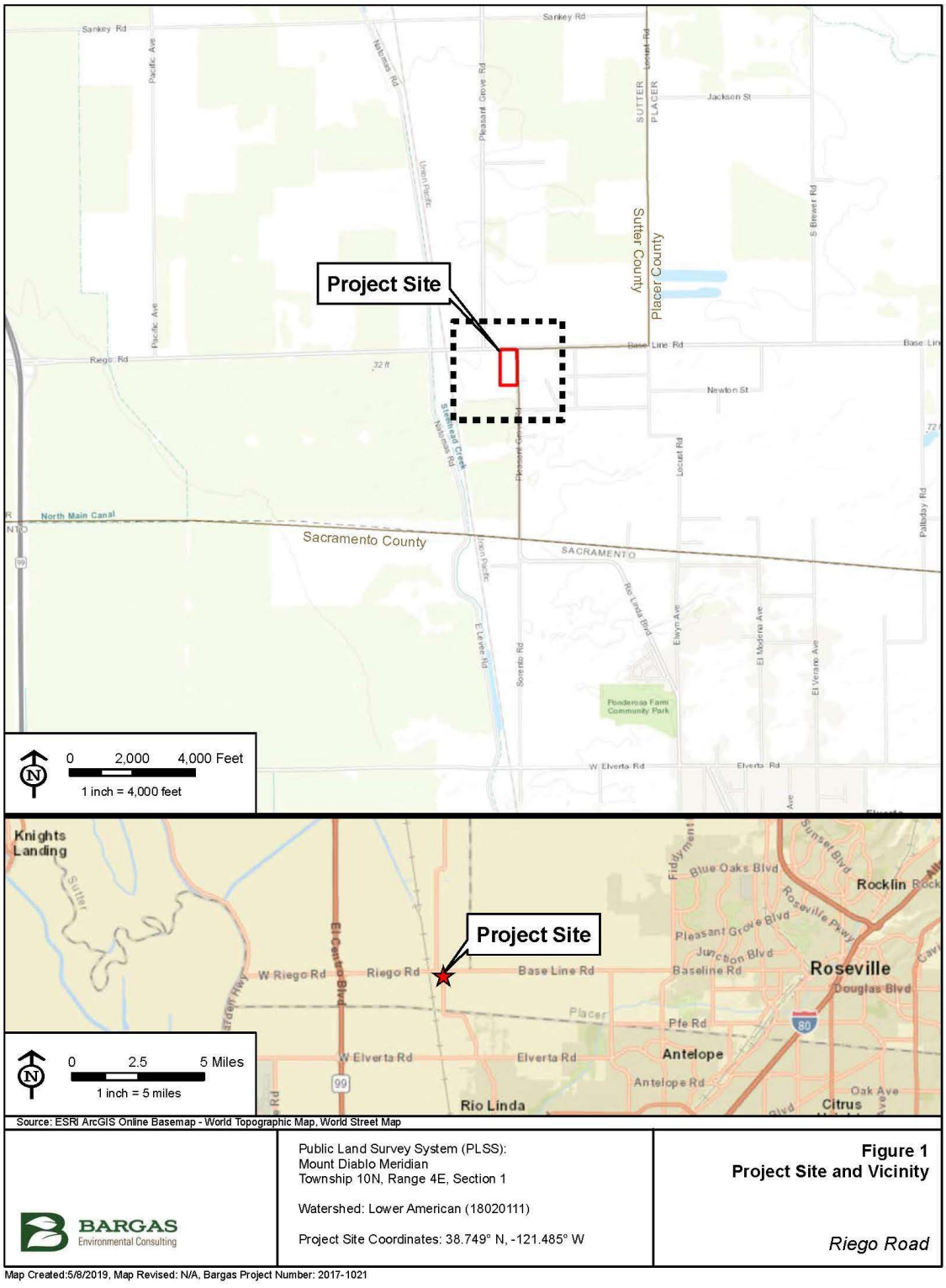
The northern 5.32-acre parcel located at the southwest corner of Riego Road and Pleasant Grove Road will remain as a fruit stand and strawberry field. The southern 10.12-acre parcel is proposed to be developed with a self-storage complex. No residential uses are proposed. There is a single existing residence on the southern parcel that will be used as a caretaker residence for the proposed self-storage facility. No RV storage is proposed. Both parcels will be zoned as CM-PD.

1.2 Biological Setting

The Project area is bordered by Pleasant Grove Road to the east, a rural residence to the south, undeveloped annual grassland to the west, and Riego Road to the north. The Project area currently contains an occupied rural residence and fruit stand, both with adjacent mature trees and shrubs including Coast Redwood (*Sequoia sempervirens*), willow (*Salix* sp.), Oleander (*Nerium oleander*), bamboo (Poaceae), other landscape trees, and an ornamental lawn. The majority of the Project area is composed of crop plots, primarily strawberries, currently being actively cultivated or fallowed. There is a linear grove of mature eucalyptus (*Eucalyptus* sp.) trees along the southern property border.

The terrain is open and relatively flat with very gentle/shallow slopes, especially in the northwest corner of the Project area. The fruit stand at the northeast corner (Riego Road and Pleasant Grove Road) contains a graveled parking area approximately 0.5 acre in size. There is a gravel driveway that provides access to the rural residence from Pleasant Grove Road, approximately 700 feet south of Riego Road. Dirt farm roads are present around the crop plot in the southeast corner of the Project area, roughly in the center of the Project area connecting the fruit stand and the rural residence, and along the west border of the Project area. In the absence of a dirt road along the west border, there is a tilled and mowed firebreak. Photographs of the site can be found in **Appendix C**.

Figure 1:Project Site and Vicinity



2 Methods

Bargas' assessment of biological resources on and in the vicinity of the Project site included two primary components: desktop analysis and a field survey. This section of this Biological Resources Assessment discusses the methods used for both components, as well as other considerations in the preparation of this report.

2.1 Desktop Analysis

2.1.1 Data Sources

Before conducting the field assessment of the Project site, Bargas biologists performed an initial review of literature and data sources to characterize the biological conditions on the Project site and to compile records of sensitive biological resources, including occurrences of special status species, in the Project vicinity. The following resources were reviewed before the field survey:

- U.S. Fish and Wildlife Service's (USFWS) *Information for Planning and Consultation* portal (IPaC; USFWS 2020a) for a list of federally listed species and designated critical habitat as provided by uploading a shapefile depicting the limits of the Project site;
- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) for special status species and habitat records within a 5-mile buffer of the Project site;
- Critical habitat (CH) layers provided by the USFWS to determine the occurrence of critical habitat for federally listed species within five miles of the Project site;
- USFWS National Wetlands Inventory (USFWS 2020b) to determine if surface waters and wetlands have been mapped on or adjacent to the Project site;
- National Resource Conservation Service (NRCS) soil survey maps and unit descriptions (NRCS 2020) to map and describe soil(s) on the Project site; and
- Google Earth Pro aerial map images of the Project site and the vicinity, including historical aerial images.

For some species, records were also reviewed in the iNaturalist (iNaturalist 2020) and eBird (eBird 2020) databases. The information compiled in the literature and database search provided a basis for further characterization of the Project site during a field survey.

2.1.2 Special Status Designations Considered

A variety of agencies and respected non-profit organizations assess the conservation status of plant and wildlife species. The following designations are considered when discussing species in this assessment:

- **Federal:** Species listed as **Endangered (FE)**, **Threatened (FT)**, or as a **Candidate (FC)** for listing as Endangered or Threatened under the Federal Endangered Species Act.
- **California:** Species listed as **Endangered (SE)**, **Threatened (ST)**, or as a **Candidate (SC)** for listing as Endangered or Threatened under the California Endangered Species Act as well as species listed as **Fully Protected (FP)** or as a **California Species of Special Concern (SSC)**.
- **Plants Only:** Species listed in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2020). CNPS status codes are described in Section 3.4.
- Any vegetation community, plant, or wildlife taxon with records in the area analyzed for the CNDDB.

2.2 Taxonomy and Nomenclature

Every effort was made to use naming standards that are recognized by the scientific community, with the understanding that – for many wildlife groups – scientists may not always agree on a standard source. Because of this, some common names used in this report may not be the same as those used by the underlying data sources for species records. Bargas maintains a yearly-updated reference species list which uses the following taxonomic sources:

- **Birds** – American Ornithological Society Check-list and Supplements (AOS 1998).
- **Mammals** – The reference list in the California Department of Fish and Wildlife's *California Wildlife Habitats Relationships Database* (CDFW 2014), with updates based on the American Society of Mammalogists *Mammal Diversity Database* (2020).
- **Reptiles and Amphibians** – The technical website *californiaherps.com*, which is regularly updated based on the latest taxonomic literature.
- **Fish** – *Common and Scientific Names of Fishes from the United States, Canada, and Mexico*, 7th edition (AFS 2013).
- **Invertebrates** – no naming standard was identified that was current and applicable to freshwater and terrestrial invertebrates. Names used by the underlying data sources when a species was first identified were retained.
- **Plants** – the Jepson eFlora (Jepson Flora Project 2020).
- **Vegetation Communities** – in general, special status vegetation community discussions are based on records in the CNDDB (CDFW 2020) and those names are retained. Otherwise, vegetation is assessed using both the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) and *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986).

Birds have the most well-established naming standards of all taxonomic groups. These standards include instructions for the proper use of capitalization for common names in order to make clear that, for example, someone mentioning a Blue-winged Teal is referring to the species "Blue-winged Teal" and not any species of teal with blue wings. The capitalization standards used for birds have been used with other taxa as well throughout this report.

2.3 Field Survey

The Study Area corresponds to the Project site and a 100-foot buffer. A pedestrian survey was conducted by Bargas biologist Krystal Pulsipher on November 14, 2017, from 09:30 – 12:15. Weather conditions were ideal for the survey with temperatures ranging from 55 to 70°F and light winds out of the southeast. The survey consisted of meandering transects through the Study Area to assess the current site conditions, characterize the vegetative communities present, document plant and wildlife species observed, and identify presence of pre-existing bird or raptor nests and habitat that could potentially support special-status species.

An aquatic resources delineation was conducted by Bargas during a separate survey of the Study Area on April 8, 2020 (Appendix D) The presence of wetlands or waterways was assessed using the US Army Corps of Engineers (USACE) methodology. Where wetlands were suspected to be present based on suspect aerial signatures and conditions observed during the site assessment, soil pits were excavated to a depth of approximately 18 inches or until an impermeable layer was reached. The three wetland criteria (hydrophytic vegetation, hydric soils, and

wetland hydrology) were evaluated following the USACE protocol for the Arid West (USACE 1987, 2007, 2008a, 2008c). The locations of the soil pits, photo points, and wetland features were noted on aerial images of the Study Area. Mapped soil types in the Study Area were determined using the NRCS Web Soil Survey, Custom Soil Resource Report (NRCS 2019) and a standard Munsell® Soil Color Chart was used to determine soil matrix and mottle colors (Kollmorgen 2000) in the field. Where present, the ordinary high water mark (OHWM) for all potential non-wetland waters of the United States (U.S.) present were delineated. Plant nomenclature followed *Jepson eFlora* (Jepson Flora Project 2019). The *2016 Regional Wetland Plant List for the Arid West* (Lichvar et. al. 2016) was used to determine the status of observed plants as wetland indicator species.

Wetland boundaries and waters of the U.S. within the Study Area were surveyed and mapped using an EOS Arrow 100 Global Positioning System (GPS) technology receiver paired with the EOS Tools Pro and Environmental Systems Research Institute (ESRI) Collector applications. This GPS system is capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded through ArcGIS Online and converted into ESRI shape file format. The geographic coordinate system used to reference the data was Universal Transverse Mercator (UTM–Zone 10), North American Datum (NAD83) in meters.

Each wetland or water of the U.S. was assessed by setting up transects perpendicular to the suspect feature/upland edges and by observing the mandatory wetland indicators at selected points along each transect as defined by the 1987 Manual (USACE 1987), the Regional Supplemental Manual (USACE 2010), and Guide to OHWM (USACE 2014a). Potential wetland boundaries were mapped at a level of accuracy of less than one meter. Soil pits were hand-excavated to obtain soil data for wetlands or transects established and walked to obtain OHWM data for waters of the US, and their locations recorded with GPS. Data were overlaid on an aerial photograph (ESRI ArcGIS World Imagery, 2018). The ESRI data and GIS software were used to calculate the acreage of each polygon. Mapping requirements as set forth by the USACE under the guidance of *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (2016b) were followed.

2.4 Assessing Potential Occurrence

Following the literature and database review and field survey, Bargas assessed the potential for the occurrence of special status species on the Project site and its immediate vicinity. This consisted of assessing the biological conditions (vegetation communities, wildlife habitats, disturbances) on the Project site and its immediate vicinity and reviewing the habitat and life cycle requirements of special status species known to occur in the Project vicinity (within five miles). The preliminary assessment included reviewing this information against criteria contained in the following occurrence categories:

- **Present:** Species is known to occur on the Project site, based on recent (within 30 years) CNDDB or other records, and there is suitable habitat present on the Project site, or the species was observed on the Project site during the field visit. The presence of bird species was distinguished further into those that could: 1) nest on the Project site; 2) forage on the Project site; and/or 3) occur on the Project site only as transients during migratory flights or other dispersal events.
- **High Potential:** Species is known to occur in the Project vicinity, based on recent (within 30 years) CNDDB or other records and/or based on professional expertise specific to the Project site or species, and there is suitable habitat on the Project site. Alternatively, there is suitable habitat on the Project site, and the Project site is within the known range of the species.

- **Moderate Potential:** Species is known to occur in the Project vicinity, based on recent (within 30 years) CNDDB or other records and/or based on professional expertise specific to the Project site or species, and there is marginally suitable habitat on the Project site. Alternatively, there is marginally suitable habitat on the Project site, and the Project site is within the known range of the species.
- **Low Potential:** Species is known to occur in the Project vicinity; however, there is only very poor quality habitat on the Project site. If the species occurs at the Project site, it would likely be as a migrant, and the species is not likely to reproduce (breed or nest) within the Project site due to a lack of suitable habitat or because the Project site is outside of their known breeding range.
- **No Potential**: There are no suitable habitat elements needed to support the species (e.g., foraging, breeding, elevation, hydrology, disturbance, substrate, etc.) within the Project site. Alternatively, the Project site may support suitable habitat components, but the Project site is well outside of the known distributional range for the species.

2.5 Delineation of Aquatic Resources

This report has been prepared in accordance with the Regulatory Division of the Sacramento District, USACE minimum standards (2016a). The following manuals and guidance were used to delineate waters of the U.S. and wetlands that are potentially subject to USACE jurisdiction under Section 404 of the CWA:

- *U.S. Army Corps of Engineers Wetlands Delineation Manual* (USACE 1987)
- *Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0)* (USACE 2008a)
- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual*. (USACE 2008b)
- *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et. al. 1979); and
- *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE 2007).

3 Regulatory Setting

This section describes the legal protections in place for biological resources found on the Project site. Important terms used to classify the status of resources are highlighted where used, as they will be used elsewhere in this assessment.

3.1 Federal

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) is the federal government's tool to protect rare and declining plant and wildlife species. FESA is jointly implemented by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). FESA protects species using the following status designations:

- A federally **endangered** species is a species of invertebrate, plant, or wildlife formally listed by the U.S. Fish and Wildlife Service (USFWS) under FESA as facing extinction throughout all or a significant portion of its geographic range.
- A federally **threatened** species is one formally listed by the USFWS as likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- A **proposed** threatened or endangered species is one officially proposed by the USFWS for addition to the federal threatened or endangered species lists.

Other important designations include:

- **Candidate** species are "plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities"[1].
- A **Species of Concern** is defined by the NMFS as "a species or vertebrate population for which there is concern or great uncertainty about its status. Species of Concern are not listed or protected under the Endangered Species Act. Instead, one of the goals of identifying a Species of Concern is to take proactive measures to address conservation needs and hopefully prevent the species from needing protection under the Endangered Species Act"[2].

"Take" of a federally endangered or threatened species or its habitat is prohibited by federal law without a special permit. The term "take", under FESA, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Harm" is defined by the USFWS to encompass "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3).

Section 10(a)(1)(B) of the FESA allows for take of a threatened or endangered species incidental to development activities once a Habitat Conservation Plan (HCP) has been prepared to the satisfaction of the USFWS and a Section 10(a) incidental take permit has been issued to the applicant. For federal projects (including those involving

[1] https://www.fws.gov/endangered/esa-library/pdf/candidate_species.pdf
[2] https://www.fisheries.noaa.gov/region/west-coast

federal funding), Section 7 of the ESA allows for consultation between the affected agency and the USFWS to determine what measures may be necessary to compensate for the incidental take of a listed species. A "federal" project is any project that is proposed by a federal agency or is at least partially funded or authorized by a federal agency. Additionally, if the listed species or its habitat occurs in a portion of the project subject to federal jurisdiction (such as "Waters of the U.S."), then consultation under Section 7 of the Act is usually permissible and may be required.

FESA also requires the USFWS to consider whether there are areas of habitat essential to conservation for each listed species. **Critical habitat** designations protect these areas, including habitat that is currently unoccupied but may be essential to the recovery of a species. An area is designated as critical habitat after the Service publishes a proposed Federal regulation in the Federal Register and then receives and considers public comments on the proposal. The final boundaries of critical habitat are officially designated when published in the Federal Register.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is a federal law governing the taking, killing, possession, transportation, and importation of various birds, their eggs, parts, and nests. The take of any number of a bird species listed as protected on any one of four treaty lists is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent overutilization. The MBTA also prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, certain bird species, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11).

3.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." For purposes of the guidelines, "disturb" means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

3.1.4 Clean Water Act and Waters of the United States

Wetlands are defined under 33 C.F.R. 328.3(b) as:

> *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically*

> *adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

The limits of USACE jurisdiction in non-tidal waters extends to the Ordinary High Water Mark (OHWM) which is defined under 33 CFR 328.3(e) as:

> *…That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (USACE 2008c).*

Non-wetland features include:

> *…Upland and lowland areas that are neither deep water aquatic habitats, wetlands nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only a brief period of time during the growing season. If these features are vegetated, they normally support species that are predominantly adapted to aerobic soil conditions (USACE 1987).*

The US Environmental Protection Agency (EPA) and the Department of the Army published the "Navigable Waters Protection Rule" in the *Federal Registrar* on April 21, 2020, which officially went into effect on June 22, 2020. This rule redefines "Waters of the U.S." The local USACE District will be consulted regarding potential changes to jurisdiction of waters identified in the Study Area.

3.2 State of California

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (more commonly known by its acronym CEQA) was signed into law in 1970 shortly after the federal government codified the National Environmental Policy Act. CEQA requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible. The laws and rules governing the CEQA process are contained in the CEQA statute (Public Resources Code Section 21000 and following), the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 and following), published court decisions interpreting CEQA, and locally adopted CEQA procedures.

3.2.2 California Fish and Game Code

Section 1600 et seq. – Lake and Streambed Alteration Agreement. Section 1600 provides provisions for protecting riparian systems, including the bed, banks, and riparian habitat of lakes, seasonal and perennial streams, and rivers. This section requires an applicant to notify CDFW and obtain a Lake and Streambed Alteration Agreement (LSAA) if their project would divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake.

Section 2050 et seq. – California Endangered Species Act. The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA is administered by the CDFW and prohibits the take of any species that the California Fish and Game Commission determines to be a threatened or endangered species. The CESA also mandates that, "state

agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered species or threatened species," if reasonable and prudent alternatives are available that would avoid jeopardy. The CDFW administers the act and authorizes take through California Fish and Game Code Section (CFGC) 2081 Incidental Take Permits or through Section 2080.1 (for species also listed under FESA, consistency determination with Biological Opinion).

Section 3511 – Fully Protected Species. The legislature of the State of California designated certain species as "fully protected" prior to the creation of CESA. Section 3511 states that "fully protected" birds or parts thereof may not be taken or possessed at any time. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, mammals, amphibians and reptiles, and birds. Most fully protected species have since been listed as threatened or endangered under CESA and/or FESA.

Sections 3503, 3503.5, 3505, 3513 — Birds. These CFGC sections protect all birds, birds of prey, and all nongame birds, as well as their eggs and nests, for species that are not already listed as fully protected and that occur naturally within the state. Sections 3503 and 3503.5 of the CFGC stipulate the following regarding eggs and nests: Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by CFGC or any regulation made pursuant thereto; and Section 3503.5 states that is it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by CFGC or any regulation adopted pursuant thereto. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

3.2.3 CDFW Special Animals List

"Special Animals" is a broad term used to refer to all the animal taxa tracked by the CDFW's California Natural Diversity Database (CNDDB), regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." CDFW considers the taxa on this list to be those of greatest conservation need. In most cases, issues that will arise during construction will be associated with species protection under the MBTA and the CFGC sections pertaining to native birds. Therefore, the management strategies presented in this Plan focus on those species protected under these regulations.

3.2.4 Reaffirmation of Migratory Bird Protections

In response to reinterpretations of take and the MBTA by the USFWS in 2018 (USFWS 2018), the CDFW and the California Attorney General released a memorandum in November 2018 entitled Affirming California's Protections for Migratory Birds (CDFW and CAG 2018), reviewing the decisions of the USFWS and discussing the state's legal interpretations of "take" per the CFGC sections cited above. Specifically, they noted that "California courts have held that take includes incidental take and is not limited to hunting and fishing and other activities that are specifically intended to kill protected fish and wildlife."

3.2.5 Clean Water Act and Waters of the State

Waters of the State are defined in 23 CCR §3831(w) as:

> *…surface water and water bodies defined by EPA regulations (e.g. 40 CFR §122.2). All waters of the United States in California are also "waters of the state" (defined by the Porter-Cologne Water Quality Control Act as "any surface water or ground water, including saline waters, within the boundaries of the state." [Water Code Section 13050(e)]). Not all waters of the state (e.g., ground water) are waters of the United States.*

The state Water Boards further define a wetland as:

> *An area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

Waters of the state include natural wetlands; wetlands created by modification of a surface water of the state; and artificial wetlands that meet specific criteria.

3.3 Local Ordinances

3.3.1 Sutter County 2030 General Plan

The Sutter County 2030 General Plan (General Plan, adopted March 29, 2011 and effective April 28, 2011) has several goals and policies that pertain to the protection of biological resources. The General Plan states:

> *Sutter County values its environmental resources and is committed to the protection of its wildlife and habitat, minerals, water, scenic amenities, cultural resources, and air quality. Preservation of these resources and their quality is not only beneficial to current residents but is crucial to the sustainability of future generations.*

According to the current General Plan, the most significant ecological resources in Sutter County are special status species, as well as annual grasslands, oak woodlands, wetlands, and riparian habitat. Below is a list of the goals and policies that are in place to protect these ecological resource areas. Those vegetation and wildlife policies that pertain to the plant communities and wildlife habitats include:

Goal ER 1: Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.

Policies

> **ER 1.4 Resources Assessment.** Require discretionary development proposals that could potentially impact biological resources to conduct a biological resources assessment to determine if any resources will be adversely affected by the proposal and, if so, to identify appropriate measures to avoid or mitigate such impacts.
>
> **ER 1.5 Avoidance.** Ensure that new development projects avoid, to the extent feasible, significant biological resources (e.g. areas of rare, threatened or endangered species of plants, riparian areas, vernal pools), except where such projects are identified as "Authorized Development" within an adopted Habitat Conservation Plan.

ER 1.6 Mitigation. Mitigate biological and open space effects that cannot be avoided in accordance with an applicable Habitat Conservation Plan or federal, state, and local regulations.

ER 1.7 Permits. Require that new development secure all necessary state and federal resource permits/approvals prior to any development activity.

ER 1.8 Buffers. Ensure that new development incorporates buffers and other measures adequate to protect biological habitats that have been preserved, enhanced, and created.

ER 1.9 Funding. Identify and pursue economically viable methods and funding sources for the long-term maintenance and management of significant biological and open space resource areas, including state and federal programs.

Goal ER 2: Conserve, protect, and enhance Sutter County's significant natural wetland and riparian habitats.

Policies

ER 2.1 No Net Loss. Require new development to ensure no net loss of state and federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values through a combination of avoidance, restoration, and compensation.

ER 2.2 Resource Conservation District. Encourage and support the Sutter County Resource Conservation District's programs that facilitate preservation and restoration of natural wetland environments as long as these programs do not significantly affect Sutter County agricultural lands and flood control operations.

ER 2.3 Minimize Surface Runoff. Minimize direct discharge of surface runoff into wetland areas and design new development in such a manner that pollutants and siltation will not significantly affect jurisdictional wetlands.

ER 2.4 Wetland Mitigation Banks. Encourage the creation and use of regional wetland mitigation banks to the extent that they do not conflict with Sutter County agricultural lands and flood control operations.

Goal ER 3: Conserve, protect, and enhance Sutter County's varied wildlife and vegetation resources.

Policies

ER 3.1 Special Status Species. Preserve special status fish, wildlife, and plant species (e.g., rare, threatened, or endangered species) and habitats consistent with an applicable Habitat Conservation Plan or federal, state, and local regulations.

ER 3.2 Agency Coordination. Coordinate with federal, state, and local resource agencies (e.g., California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers) to protect special status species.

ER 3.3 Fisheries. Support the preservation and re-establishment of fisheries in the rivers and streams within Sutter County.

ER 3.4 Waterfowl Resources. Preserve and protect waterfowl resources along the Pacific Flyway Migration Corridor.

ER 3.5 Wildlife Corridors. Preserve and enhance wildlife movement corridors between natural habitat areas to maintain biodiversity and prevent the creation of biological islands. Preserve contiguous habitat areas when possible.

ER 3.6 Natural Vegetation. Preserve important areas of natural vegetation and the ecological integrity of these habitats, where feasible, including but not limited to riparian, vernal pool, marshes, oak woodlands and annual grasslands. *(ER 3-A)*

ER 3.7 Oak Trees. Preserve native oak trees when possible through the review of discretionary development projects and activities. Reduce the loss of oak trees through consideration of tree mitigation/replanting programs. *(ER 3-B/ER 3C)*

ER 3.8 Native Plant Use. Encourage the use of native and drought tolerant plant materials, including native tree species, in all public and private landscaping and revegetation projects. *(ER 3-D)*

Goal ER 4: Conserve, protect, and enhance Sutter County's unique natural open space lands, drainages, floodplains, and resources.

Policies

ER 4.1 Preserve Natural Resources. Preserve natural landforms, natural vegetation, and natural resources as open space to the extent feasible

ER 4.3 River Corridors. Preserve the Sacramento, Feather, and Bear River corridors as important habitat, recreation and open space resources. Support efforts to increase public access and recreational uses along the County's river corridors.

ER 4.4 Acquisition of Additional Open Space Areas. Support efforts to acquire additional open space adjoining protected natural resource areas to increase the size, connectivity, and buffering of existing habitat.

ER 4.5 Minimize New Development Impacts. Require new development to minimize encroachment onto open space areas and obtain an encroachment permit from the Central Valley Flood Protection Board (CVFPB) for development within CVFPB's designated floodplains and regulated streams in order to minimize flooding impacts. *(ER 4-B)*

ER 4.6 Mitigation for Other Jurisdictions. Prohibit land mitigation within Sutter County for projects within other jurisdictions unless there is a benefit to Sutter County. Benefits can include, but are not limited to, providing flood protection for Sutter County, providing opportunities for Sutter County projects' use of the area for mitigation, or making the natural resources available for the enjoyment of Sutter County residents.

3.4 California Native Plant Society

While not a government agency, the California Native Plant Society (CNPS) is a statewide resource conservation organization that has developed an inventory of California's special status plant species that is highly regarded by the agencies and biologists. This inventory is a summary of information on the distribution, rarity, and endangerment of California's vascular plants. Rare or potentially rare plant species are ranked using the following system:

- 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere.
- 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A: Plants Presumed Extirpated in California, But Common Elsewhere
- 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3: Plants About Which More Information is Needed - A Review List
- 4: Plants of Limited Distribution - A Watch List

After each rarity ranking, there is also a threat ranking:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4 Biological & Aquatic Resources

4.1 Vegetation Communities

4.1.1 General

The Study Area contains one occupied rural residential home and a fruit stand but is primarily comprised of agricultural fields including row crops, strawberries, and fallowed fields. Ruderal vegetation comprises the majority of the Study Area beyond the agricultural fields. There are also several species of ornamental trees and shrubs in addition to lawns around the home and the fruit stand. A linear grove of mature eucalyptus trees exists along the southern Study Area boundary.

The terrain is open and relatively flat at approximately 40 to 45 feet above mean sea level (MSL) in elevation. Per a review of Google Earth historic aerial imagery, the Study Area appears to have experienced some grading between May 1993 and August 1998 when the row crop or strawberry field plots and farm roads first appear in the available imagery (Google Earth Pro 2019). There are currently several dirt farm roads within the Study Area. The fruit stand at the northeast corner contains a graveled parking area. Representative site photographs of the Study Area and potentially jurisdictional wetland features and waters of the U.S. are presented in the report provided as **Attachment C**. Plant species observed in the Project area are described in Section 4.2. 1

4.1.2 Sensitive Vegetation Communities

There is Northern Hardpan Vernal Pool habitat located approximately 4.8 miles from the Study Area. This habitat is described by Holland (1986) as an amphibious, herbaceous community dominated by annual herbs and grasses. Germination and growth begin with winter rains, often continuing even when inundated. Rising spring temperatures evaporate the pools, leaving concentric bands of vegetation that colorfully encircle the drying pool.

Plant species characteristic of this habitat include Yellow Owl's Clover (*Castilleja campestris* ssp. *campestris*), Bristled Downingia (*Downingia bicornuta*), Coyote Thistle (*Eryngium vaseyi*), Red Bluff Dwarf Rush (*Juncus leiospermus*), White-headed Navarretia (*Navarretia leucocephala*), and Stalked Popcornflower (*Plagiobothrys stipitatus*), among others.

No evidence of this sensitive vegetation community was observed in the Study Area.

4.2 Plants

4.2.1 General

Observed plant diversity was relatively low. Due to the timing of the survey, not all annual species of plants were currently growing at a stage that could be identified to genera or species. Vegetation that could be identified to genera or species on site ranged in size, and all trees/shrubs with a diameter at breast height (dbh) greater than 6 inches were noted. Species identified on site included:

- Gum tree (*Eucalyptus* sp.)
- Coast Redwood (*Sequoia sempervirens*)
- Willow (*Salix* sp.)
- Chinese Pistache (*Pistacia chinensis*)
- Lawn grass (*Festuca* sp.)
- Rush (*Juncus* sp.)
- Skeleton Weed (*Chondrilla juncea*)
- Bamboo (*Phyllostachys* sp.).
- Vetch (*Vicia* sp.)
- Beggartick (*Bidens* sp.)

- Bermuda Grass (*Cynodon dactylon*)
- Crabgrass (*Digitaria* sp.)
- Wild Oats (*Avina fatua*)
- Italian Rye Grass (*Festuca perennis*)
- Ripgut Brome (*Bromus diandrus*)
- Medusa Head Grass (*Elymus caput-medusae*)
- English Plantain (*Plantago lanceolata*)
- Prickly Lettuce (*Lactuca serriola*)
- Curly Dock (*Rumex crispus*)
- Doveweed (*Croton setiger*)
- Milk Thistle (*Silybum marianum*)
- Smooth Cat's Ear (*Hypochaeris glabra*)

None of the species detected during the survey are considered sensitive or special status by CDFW, USFWS, or CNPS.

4.2.2 Special Status Plants

No special status plant species were determined to be Present, or to have a High or Moderate Potential to be present in the Project area. Three species were determined to have Low Potential to occur in the Project area. The ecology of all these species and their potential for occurrence are discussed below. All natural history information provided in the species accounts is derived from the California Native Plant Society *Inventory of Rare and Endangered Plants* (CNPS 2020).

4.2.2.1 Low Potential

The following three special status plant species were determined to have a Low Potential to occur on the Project site:

Dwarf Downingia (*Downingia pusilla*)

Inclusion Source(s) :	CNDDB
Special Status:	CRPR 2B.2
Lifeform:	Annual herb.
Blooming Period:	March to May.
Habitat:	Valley and foothill grassland and vernal pools, at elevations of 1-445 meters
Reason for Determination:	While the Project area provides potential habitat for this species, this species is unlikely to occur because of extensive site disturbance.

Boggs Lake hedge-hyssop (*Gratiola heterosepala*)

Inclusion Source(s):	CNDDB
Special Status:	CRPR 1B.2
Lifeform:	Annual herb.
Blooming Period:	April to August.
Habitat:	Marshes, swamps, and vernal pools at elevations of 10 - 2375 meters.
Reason for Determination:	While the Project area provides potential habitat for this species, this species is unlikely to occur because of extensive site disturbance.

Legenere (*Legenere limosa*)

Inclusion Source(s):	CNDDB
Special Status:	CRPR 1B.1
Lifeform:	Annual herb.
Blooming Period:	April to June.

Habitat:	Vernal pools at elevations of 1 -880 meters.
Reason for Determination:	While the Project area provides potential habitat for this species, this species is unlikely to occur because of extensive site disturbance.

4.3 Wildlife

4.3.1 General

Observed wildlife diversity during the survey was low. Eight species of birds were observed in the project area and adjacent lands. Sign of two mammals were observed, but individuals were not observed. Species included:

- Killdeer (*Charadrius vociferous*)
- Brewer's Blackbird (*Euphagus cyanocephalus*)
- Red-tailed Hawk (*Buteo jamaicensis*)
- Northern Flicker (*Colaptes auratus*)
- White-tailed Kite (*Elanus leucurus*)
- American crow (*Corvus brachyrhynchos*)
- Western Meadowlark (*Sturnella neglecta*)
- European Starling (*Sturnus vulgaris*)
- Coyote (*Canis latrans*) – scat observed
- Botta's Pocket Gopher (*Thomomys bottae*) – mounds and burrows observed

4.3.2 Special Status Wildlife

One special status species has been documented as Present in the Project area, with another having a High Potential to occur. Four species were determined to have a Low Potential to occur and eight species were determined to have No Potential to occur. The ecology of all these species and their potential for occurrence are discussed below. All natural history information provided in the species accounts below is derived from the California Wildlife Habitat Relationships database (CDFW 2014).

4.3.2.1 Present

The following species status wildlife species has been detected on the Project site.

White-tailed Kite (*Elanus leucurus*)

Inclusion Source(s):	CNDDB, observed in Project area
Special Status:	State Threatened
Habitat & Distribution:	Yearlong resident of the coastal and lowland valleys of California, usually associated with agricultural areas.
Reason for Determination:	Mature trees in the Project area provide potentially suitable nesting habitat for this species. A White-tailed Kite was observed during surveys of the Project area. White-tailed Kites nest in trees with dense canopy for cover. There is one CNDDB occurrence for White-tailed Kite within the search area, located approximately 7.8 miles southeast of the project area.

4.3.2.2 High Potential

The following special status wildlife species has been determined to have a High Potential to occur on the Project site.

Swainson's Hawk (*Buteo swainsoni*)

Inclusion Source(s):	CNDDB
Special Status:	State Threatened

Habitat & Distribution:	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County and Mojave Desert. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures.
Reason for Determination:	Mature trees in the Project area provide potentially suitable nesting habitat for this species. Swainson's Hawks nest either in solitary trees or in groups of trees along waterways, but always near grasslands and open agricultural fields (e.g. alfalfa, rice, cereal crops) where they forage. There are three CNDDB occurrences for Swainson's Hawk within the search area, the nearest being approximately 160 feet south of the project area on the neighboring property.

4.3.2.3 Low Potential

The following four special status wildlife species were determined to have Low Potential to occur on the Project site:

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Inclusion Source(s):	CNDDB
Special Status:	Federal Threatened
Habitat & Distribution:	Endemic to California and the Agate Desert of southern Oregon. The vernal pool fairy shrimp has an ephemeral life cycle and exists only in vernal pools or vernal pool-like habitats.
Reason for Determination:	Habitat in area is low quality with a large amount of anthropogenic disturbance. Most of the wetland habitat observed in the project area are unlikely to remain inundated long enough for this species to complete its lifecycle. However, the larger seasonal wetland may remain inundated for the required length as it is larger and deeper.

Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)

Inclusion Source(s):	CNDDB
Special Status:	Federal Endangered
Habitat & Distribution:	California and southern Oregon in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands.
Reason for Determination:	Habitat in area is low quality with a large amount of anthropogenic disturbance. Most of the wetland habitat observed in the project area are unlikely to remain inundated long enough for this species to complete its lifecycle. However, the larger seasonal wetland may remain inundated for the required length as it is larger and deeper.

Tricolored Blackbird (*Agelaius tricolor*)

Inclusion Source(s):	CNDDB
Special Status:	State Threatend
Habitat & Distribution:	Common locally throughout Central Valley and in coastal districts from Sonoma Co. south. Breeds near fresh water, preferably in emergent

	wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats.
Reason for Determination:	The wetland habitat in the Project area does not have the typical characteristics associated with occupancy by this species. The site is lacking tall emergent wetland vegetation of the requisite density for breeding. However, the Project area is adjacent to suitable foraging habitat and may see transient individuals of the species.

Burrowing Owl (*Athene cunicularia*)

Inclusion Source(s):	CNDDB
Special Status:	State Species of Special Concern
Habitat & Distribution:	Found in open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Formerly common in appropriate habitats throughout the state, excluding the humid northwest coastal forests and high mountains.
Reason for Determination:	No evidence of this species was observed during surveys. However, the project area contains suitable foraging habitat and CNDDB records indicate a positive identification of the species less than 3 miles from the Project area in 2007.

4.3.2.4 No Potential

The following eight special status wildlife species were determined to have No Potential to occur on the Project site:

Conservancy Fairy Shrimp (*Branchinecta conservatio*)

Inclusion Source(s):	IPaC
Special Status:	Federal Endangered
Habitat & Distribution:	Central Valley of California in large vernal pools with moderately turbid water with a hydroperiod lasting until June. Pools occupies by this species often have a barren clay bottom described as a playa.
Reason for Determination:	No suitable habitat for this species is present in the Project area.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

Inclusion Source(s):	IPaC
Special Status:	Federal Threatened
Habitat & Distribution:	Shasta to Madera counties below 200m elevation in riparian areas that support its host plant, elderberry (*Sambucus sp.*). Elderberry is the obligate larval host plant for this species and is most often found in riparian forest.
Reason for Determination:	No habitat and no CNDDB occurrences present in the Project area.

Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop. 11)

Inclusion Source(s):	CNDDB
Special Status:	Federal Endangered

Habitat & Distribution: Anadromous salmonid found throughout the Pacific coast of North America. Historically spawned in the tributaries of the Sacramento River and San Joaquin rivers from the San Francisco Bay to the foothills of the Sierra Nevada.
Reason for Determination: No habitat for this species is present in the Project area.

Delta Smelt (*Hypomesus transpacificus*)
Inclusion Source(s): IPaC
Special Status: Federal Threatened, State Endangered
Habitat & Distribution: Delta Smelt are found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties. Their historic range is thought to have extended from Suisun Bay upstream to at least the city of Sacramento on the Sacramento River and Mossdale on the San Joaquin River (USFWS 2020f).
Reason for Determination: No habitat for this species is present in the Project area.

California Red-legged Frog (*Rana draytonii*)
Inclusion Source(s): IPaC
Special Status: Federal Threatened, Species of Special Concern
Habitat & Distribution: The California Red-legged Frog inhabits quiet pools of streams, marshes, and occasionally ponds. Occurs along the Coast Ranges from Mendocino County south and in portions of the Sierra Nevada and Cascade ranges, usually below 1200 meters (3936 feet). This species was once a subspecies of *Rana aurora*, then known as the Red-legged Frog, and has been elevated to species-level status.
Reason for Determination: Aquatic habitat in the Project area lack the requisite characteristics, include depth and sufficient ponding duration, to support this species.

California Tiger Salamander (*Ambystoma californiense*)
Inclusion Source(s): IPaC
Special Status: Federal Threatened, State Threatened
Habitat & Distribution: Most commonly found in Annual Grassland habitat, but also occurs in the grassy understory of Valley-Foothill Hardwood habitats, and uncommonly along stream courses in Valley-Foothill Riparian habitats. The species occurs from near Petaluma, Sonoma County, east through the Central Valley to Yolo and Sacramento counties and south to Tulare County; and from the vicinity of San Francisco Bay south to Santa Barbara County. They occur at elevations from 3 meters up to 1,054 meters (3,200 feet).
Reason for Determination: Aquatic habitat in the Project area lack the requisite characteristics, include depth and sufficient ponding duration, to support this species.

Giant Gartersnake (*Thamnophis gigas*)
Inclusion Source(s): CNDDB, IPaC
Special Status: Federal Threatened, State Threatened

Habitat & Distribution:	Historically ranged in the Sacramento and San Joaquin valleys. Its current range is much reduced, and it is apparently extirpated south of Fresno County except for western Kern County. Primarily associated with marshes and sloughs, less with slow-moving creeks, and absent from larger rivers. Active from mid-March until October.
Reason for Determination:	No suitable habitat for this species is present in the Project area.

Yellow-billed Cuckoo (*Coccyzus americanus*)

Inclusion Source(s):	IPaC
Special Status:	Federal Threatened
Habitat & Distribution:	Uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Breeding is restricted to riverine and other mesic habitats. Typically found in extensive riparian forest with thick understory foliage, often in willow-dominant habitats.
Reason for Determination:	No habitat for this species is present in the Project area.

4.4 Wildlife Movement & Habitat Corridors

Effects on wildlife movement are an important consideration when assessing the potential impacts of any project. At a small enough scale, any project or activity can potentially affect the movement of wildlife if any wildlife are present at all. In general, however, the term "wildlife movement corridor" means an area of habitat that is important for the movement of wildlife between larger habitat areas. Wildlife movement corridors are important for maintaining population levels and genetic diversity. Given the generally low level of development and expansive surrounding agricultural land adjacent to the Project area, changes to the land use in the Project area are not expected to be significant impediments to wildlife movement. The introduction of paved or otherwise hardscaped surfaces, fencing, structures, or other physical barriers may represent impediments to wildlife movement through the site. However, the Project area does not represent a unique habitat type and is surrounded by similar land uses.

4.5 Nesting Birds

Bird species protected by the Migratory Bird Treaty Act can occur almost anywhere, including disturbed and heavily landscaped areas. Indeed, planting of non-native trees (such as those in areas near the Project site) can encourage nesting by species that may not otherwise be present in the area, such as Red-tailed Hawks and House Finches (*Haemorhous mexicanus*). There is a high probability of Migratory Bird Treaty Act-protected species nesting within 300 feet of the limits of the proposed Project, a distance generally accepted by the agencies for which impacts to nest success are likely to occur.

4.6 Aquatic Resources

Aquatic resources delineated in the project area include seasonal wetlands and a ditch (**Table 1, Attachment C**). The full text of the wetland delineation can be found in Attachment C.

Table 1. Aquatic resources observed within the Project site

Feature Name	ID	Area (acres)*	Linear Feet
Wetlands			
Seasonal Wetland	PEM2-1	0.71	N/A
Other Waters			
Ditch	R4EM2-1	0.01	203
	Totals:	**0.72**	**203**

Source: Bargas, 2020. *Subject to verification by USACE and/or RWQCB

5 Minimizing Potential Biological Effects

5.1 Types of Effects Analyzed

CEQA describes three types of potential project effects that are pertinent to biological resources and will be analyzed in this report: direct, indirect and cumulative effects.

5.1.1 Direct Effects

Section 15064(d)(1) of the CEQA Guidelines describes a direct effect as "a physical change in the environment which is caused by and immediately related to the project." In the context of the proposed project described in this report, direct effects include adverse effects that would occur to plants, wildlife, and vegetation communities within or immediately adjacent to the proposed Project footprint and other work areas.

5.1.2 Indirect Effects

Section 15064 (d)(2) of the CEQA Guidelines describes an indirect effect as any "physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment." Indirect effects, also known as secondary effects, are reasonably foreseeable and caused by a project, but occur at a different time or place. Examples of indirect effects pertinent to many development projects could include a change in drainage patterns that ultimately affect vegetation communities not otherwise affected by the project, or a reduction in native wildlife species resulting from a decrease in habitat.

5.1.3 Cumulative Effects

Section 15355 of the CEQA Guidelines describes a cumulative effect as "to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines further state the following regarding cumulative effects:

a. The individual effects may be changes resulting from a single project or a number of separate projects.
b. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15064 (h)(1) of the CEQA Guidelines states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." 'Cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects". Section 15064 (h)(2) states that "a lead agency may determine… that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant."

5.2 Thresholds of Significance

Appendix G of the CEQA Guidelines (as amended through January 2019) is frequently used by public agencies to determine whether a project may have a significant impact on biological resources. Under Appendix G, a project may have a significant impact on biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

5.3 Effects on Special Status Plants and Wildlife Species

The proposed Project is unlikely to have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS. In the case of potentially-occurring special status plants, potentially-occurring bats, and nesting birds, effects minimization will be attained through the implementation of proposed mitigation measures.

5.3.1 Special Status Species for Which No Effect is Expected

Several special status wildlife species were determined to have Low Potential for occurrence, however, significant impacts to these species would not be expected as a result of the proposed Project. These species are discussed below:

- Vernal Pool Fairy Shrimp (Federally Threatened) and Vernal Pool Tadpole Shrimp (Federally Endangered) – both species are unlikely to be present given the heavily-disturbed nature of the Project site's water features and are unlikely to be adversely affected.
- Tricolored Blackbird (State Threatened) – This species has a low potential to occur in the vicinity of the Project area. Suitable foraging habitat in the form of grain fields surround the Project area but no such habitat exists within the Project area. This species nests in dense thickets of emergent wetland vegetation along the edges of ponds, creeks, or other ponded aquatic features, none of which are found in the Project area. Given the highly mobile nature of the species and the proximity of suitable habitat outside of the Project area, it is unlikely that the proposed Project would impact this species.
- Burrowing Owl (Species of Special Concern) – No burrow complexes or other evidence of this species was observed during surveys of the Project area. Given the lack of burrows and active agricultural use across

the majority of the Project site, it is unlikely that Burrowing Owl would occur on the Project site, even as a transient.

5.3.2 Special Status Species for Which Mitigation is Recommended

5.3.2.1 Special Status Plants

Three species of special status plant species were determined to have a Low Probability of occurrence in the Project area:

- Dwarf Downingia (CRPR 2B.2)
- Boggs Lake Hedge-Hyssop (CRPR 1B.2)
- Legenere (CRPR 1B.1)

The presence or absence of these species could not be definitively determined due to the time period in which the biological survey was conducted, therefore, one or more of these species have the potential to be adversely affected by implementation of the proposed Project. Mitigation for this potentially significant adverse effect is proposed below in Section 5.3.3.1.

5.3.2.2 Swainson's Hawk and White-tailed Kite

Swainson's Hawk have a high potential to occur in the Project area. White-tailed Kite was documented to be present since one individual was observed in the Project area. The tall trees within the Project area provide suitable nesting habitat for both species and the ruderal land within the Project area provides some suitable foraging habitat. The abundance of agricultural and ruderal lands adjacent to the Project area also provide suitable foraging habitat. Therefore, both of these species have the potential to be adversely affected by implementation of the proposed Project. Mitigation for this potentially significant adverse effect is proposed below in Section 5.3.3.2.

5.3.2.3 Nesting Birds

Birds are present in nearly all natural and anthropogenic environments. As such, the proposed Project has the potential to adversely affect nesting birds protected by the Migratory Bird Treaty Act. Mitigation for this potentially significant adverse effect is proposed below in Section 5.3.3.3.

5.3.3 Proposed Mitigation for Potentially Significant Effects on Special Status Species

5.3.3.1 Special Status Plants

To avoid potential impacts to special status plants, it is recommended that pre-construction surveys for special status plants by a qualified biologist take place within 100 feet of all areas of ground disturbing work areas during a time period appropriate for field identification of dwarf downingia, Boggs Lake hedge-hyssop, and legenere, likely in early- to mid-spring. If special status plants are found and located in area where potential impacts may occur, the survey report will identify the plant or plants, the potential impacts that could occur to those plants, and measures (such as avoidance, relocation, etc.) to minimize potential impacts as agreed upon by the CDFW.

5.3.3.2 Swainson's Hawk and White-tailed Kite

Surveys following the guidelines of the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) is recommended to determine the level of impact

to the species and mitigate any impacts associated with the project. These measures state that no intensive new disturbances, such as heavy equipment operation associated with construction, should be initiated within ¼ mile of an active Swainson's Hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15.

Currently, CDFW recommends that impacts to suitable Swainson's hawk foraging habitat within 10 miles of an active nest should be mitigated by securing a conservation easement or fee title on suitable Swainson's hawk foraging habitat in the region. Sutter County and the Project proponents, in coordination with CDFW, would determine what mitigation, if any, would be appropriate for impacts to Swainson's Hawk foraging habitat.

A pre-construction survey for White-Tailed Kite is recommended to occur no more than two weeks prior to project construction if work occurs during the breeding period (March 1 to September 15). The survey shall encompass the Project area and a ½-mile buffer. If nesting White-tailed Kites or other raptors are found within 500 feet of the Project area work locations, CDFW shall be contacted for guidance on establishing an appropriate protective "no work" buffer. The status of any active nests will be monitored during construction by a biologist to ensure that the nesting raptors are not distressed by construction activities.

5.3.3.3 Nesting Birds

To comply with the Migratory Bird Treaty Act, it is recommended that pre-construction surveys for nesting birds by a qualified biologist take place within 300 feet of all Project work areas within one week of the commencement of project construction if work occurs during the nesting bird season, which is generally accepted as February 1 to September 30. To avoid potential take under the Migratory Bird Treaty Act, construction activities should not take place in the vicinity of any active bird nests. The recommended construction buffer zone around active bird nests varies by species and would need to be determined on an individual basis based on the opinion of the surveying biologist as agreed upon by the California Department of Fish and Wildlife.

5.4 Effects on Riparian Habitats or Other Sensitive Natural Communities

The proposed Project is not expected to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS, except as otherwise identified below relative to potential impacts on State or Federally Protected Wetlands (Section 5.5) and Conflicts with Local Policies (Section 5.7).

5.5 Effects on State or Federally Protected Wetlands

The Study Area contains one seasonal wetland (PEM2-1) and a ditch containing an emergent wetland (R4EM2-1). A total of approximately 0.72 acres of potentially jurisdictional wetlands and other waters of the U.S. have been mapped within the Study Area that may be potentially impacted by Project activities.

5.5.1 Potential Adverse Effects on Jurisdictional Features

Per the proposed Project design plans, some portion of the emergent wetland may be impacted by the proposed Project. Additional development in the northeast corner of the parcel may impact the seasonal wetland delineated in the Study Area. Proposed mitigation for these effects is discussed below in Section 5.5.2.

5.5.2 Mitigation for Potential Adverse Effects on Jurisdictional Features

The aquatic resources delineation identified potential Waters of the U.S. within the Project area. If these features are verified as Waters of the U.S. by USACE and if disturbance would occur to Waters of the U.S. within the Project, the following measures would be recommended to minimize potential impacts to Waters of the U.S.:

- Authorization to fill wetlands under the Section 404 of the federal CWA (Section 404 Permit) must be obtained from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation measures will be developed as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit for the Project will be prepared and submitted to USACE, and will include direct, avoided, and preserved acreages to Waters of the U.S. Mitigation for impacts to Waters of the U.S. typically consists of a minimum of a 1:1 ratio for direct impacts; however final mitigation requirements will be developed in consultation with USACE.
- A Water Quality Certification or waiver pursuant to Section 401 of the CWA must be obtained from the Central Valley Regional Water Quality Control Board.

5.6 Effects on Wildlife Movement

As discussed previously in Section 4.4., given the abundance of similar land uses present immediately adjacent to the Project area, there is not expected to be significant impacts wildlife movement as the result of land use changes in the Project area.

5.7 Conflicts with Local Policies

The proposed Project has the potential to impact environmental resources identified in the Sutter County 2030 General Plan, including aquatic resources, and some special status plant and wildlife species. Mitigation for these potential impacts is discussed below; mitigation for potential impacts to aquatic resources are discussed in Section 5.5.2.

5.7.1.1 Mitigation for Potential Impacts to Special Status Plants and Wildlife.

Mitigation for potential impacts to special status plants and wildlife should be consistent with the goals and objectives of Sutter County.

5.8 Conflicts with the Provisions of Conservation Plans

The Project area is not within any existing or proposed Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) and is not required to abide the provisions of any HCP/NCCP.

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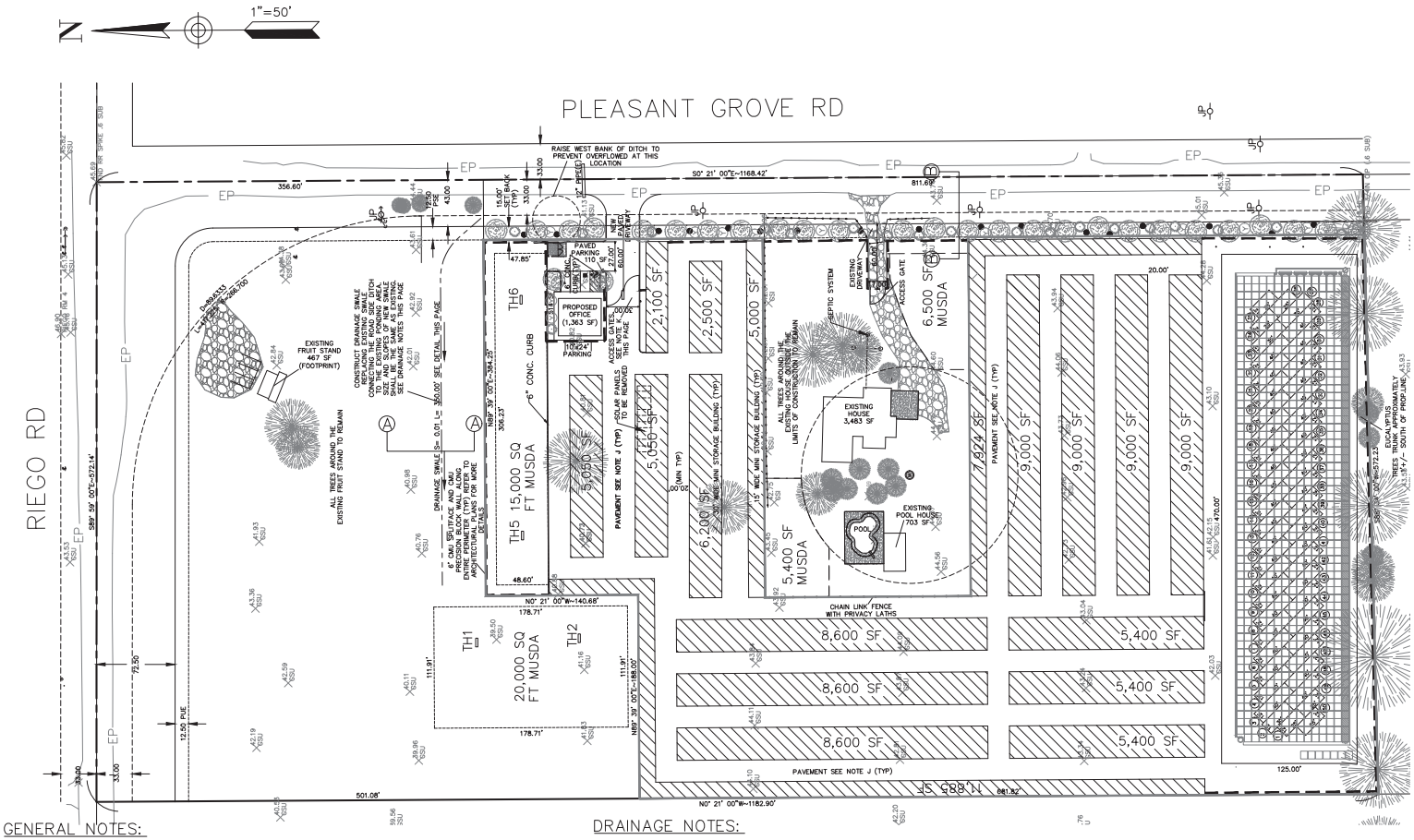
Appendix A. Special Status Species Summary

The following table summarize the potential for occurrence of all special status plant and wildlife species identified during the desktop analysis described in the Section 2.1. The Source column refers to the data sources described in the Section 2.1.1. Status codes are summarized in Section 2.1.2. The column 5 Mile Occurrence indicates the number of records of each species in the California Natural Diversity Database occurring within a 5-mile radius of the Project site.

Common Name	Scientific Name	Source	5 Mile Occurrence	Status	Occurrence
PLANTS					
Dwarf Downingia	*Downingia pusilla*	CNDDB	5	CRPR 2B.2	Low Potential
Boggs Lake Hedge-Hyssop	*Gratiola heterosepala*	CNDDB	1	CRPR 1B.2	Low Potential
Legenere	*Legenere limosa*	CNDDB	1	CRPR 1B.1	Low Potential
AQUATIC INVERTEBRATES					
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	CNDDB, IPaC	17	FT	Low Potential
Vernal Pool Tadpole Shrimp	*Lepidurus packardi*	CNDDB, IPaC	2	FE	Low Potential
Conservancy Fairy Shrimp	*Branchinecta conservatio*	IPaC	-	FE	No Potential
TERRESTRIAL INVERTEBRATES					
Valley Elderberry Longhorn Beetle	*Desmocerus californicus dimorphus*	iPaC	-	FT	No Potential
FISH					
Delta Smelt	*Hypomesus transpacificus*	IPaC	-	FT, SE	No Potential
Steelhead – Central Valley DPS	*Oncorhynchus mykiss irideus* pop. 11	IPaC	-	FE	No Potential
AMPHIBIANS					
California Red-legged Frog	*Rana draytonii*	CNDDB, IPaC, CH	7	FT, SSC	No Potential
California Tiger Salamander	*Ambystoma californiense*	CNDDB, IPaC	3	FT, ST	No Potential
REPTILES					
Giant Gartersnake	*Thamnophis gigas*	IPaC	34	FT, ST	No Potential
BIRDS					
Tricolored Blackbird	*Agelaius tricolor*	CNDDB	1	ST	Low Potential
Burrowing Owl	*Athene cunicularia*	CNDDB	9	SCC	Low Potential
White-tailed Kite	*Elanus leucurus*	Personal observation	1	FP	Present
Swainson's Hawk	*Buteo swainsoni*	CNDDB	13	ST	High Potential

Common Name	Scientific Name	Source	5 Mile Occurrence	Status	Occurrence
Yellow-billed Cuckoo	*Coccyzus americanus*	IPaC	-	FT	No Potential

Appendix B. Project Design Plans



PLANT LEGEND

SYMBOL	COMMON NAME	QTY	SIZE	REMARKS
	BROOM (Genista Sagittalis)	20	5 GAL	NEW
	CALIFORNIA LILAC (LESS THAN 3' HIGH) (Ceanothus X Variety)	17	5 GAL	NEW
Y	YARROW (Achillea Millefolium)	16	5 GAL	NEW
	CHINESE MAPLE (Acer Ttruncatum)	28	15 GAL	NEW

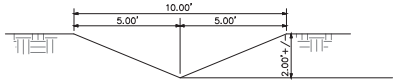
WATER USE CALCULATIONS

REFERENCE EVAPORATION (ETo)= 57.00 INCHES PER YEAR (CIMIS REFERENCE EVAPORATION MAPS)
MAWA =(ETo)(0.62)(0.45KAREA)+(0.3XSLA)
=(57.00)(0.62)(0.45)(8,116.90)+(0.3)(0)
=129,083.06 GALLONS PER YEAR

ETWA=(ETo)(0.62)(ETAF)(AREA), (ETAF=PLANT FACTOR/IRRIGATION EFFICIENCY)
PLANT FACTOR=0.3 (LOW WATER USE PLANTS)
IRRIGATION EFFICIENCY=0.81 (DRIP IRRIGATION)

ETWA=57.00X0.62X(0.3/0.81)X8,116.90=107,569.22 GALLONS PER YEAR

ETWA<MAWA, GOOD



SECTION A-A
N.T.S.

LOCATION MAP
N.T.S.

GENERAL NOTES:

CONTRACTOR SHALL PROVIDE ANY TEMPORARY ROADS OR CROSSINGS AS REQUIRED FOR EXECUTION OF THE CONTRACT. ALL TEMPORARY CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.

A. PROVIDE CONCRETE WALKS WITH CONTROL AND EXPANSION JOINTS AS SHOWN ON PLAN. VERIFY JOINT LAYOUT WITH THE ARCHITECT IN FIELD PRIOR TO FORMING. JOINTS ARE TO BE CAULKED, NO WOOD STRIPS ALLOWED.

B. WHERE NEW SITE WORK JOINS EXISTING CONDITIONS, EXISTING CONDITIONS SHALL CONTROL. IF MAJOR DISCREPANCIES ARE APPARENT, NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

C. ALL EXISTING VEGETATION, SHRUBS, AND TREES TO REMAIN SHALL BE PROTECTED AS REQUIRED TO PREVENT DAMAGE FROM CONSTRUCTION ACTIVITIES. ANY DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE PRODUCT AND LIKE SIZE AT THE DIRECTION OF THE ENGINEER.

D. EXISTING FACILITIES AND ITS AUXILIARY CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE DURING THE COURSE OF NEW CONSTRUCTION ACTIVITIES. ANY DAMAGED MATERIAL SHALL BE REPLACED TO MATCH ORIGINAL CONDITIONS AT THE DIRECTION OF THE ENGINEER.

E. RELOCATION OF ALL UTILITY POLES, LINES AND OTHER EXISTING SERVICES (IF REQUIRED) SHALL BE THE RESPONSIBILITY OF THE BIDDER AND SHALL BE VERIFIED AND COORDINATED WITH APPROPRIATE AGENCIES.

F. EXISTING UTILITY LINES SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME THAT NEW TIE-INS CAN BE MADE OPERATIONAL.

G. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM SUTTER COUNTY PRIOR TO ANY WORK WITHIN THE COUNTY RIGHT OF WAY.

I. ALL EXTERIOR LIGHTING SHALL COMPLY WITH SUTTER COUNTY REQUIREMENTS. A LIGHTING PLAN SHALL BE SUBMITTED TO SUTTER COUNTY PRIOR TO ISSUANCE OF BUILDING PERMIT.

J. ALL ACCESS WAYS OF THE STORAGE UNITS SHALL HAVE ASPHALT PAVING

K. ACCESS GATE TO THE FACILITY SHALL HAVE A FIRE DEPARTMENT APPROVED ENTRY SYSTEM SUCH AS A KNOX BOX. THE DESIGN OF THE GATE AND ACCESS SYSTEM SHALL BE APPROVED BY THE SUTTER COUNTY FIRE CHIEF.

L. PAVEMENT SECTION SHALL BE A MINIMUM OF 3.5 INCHES OF ASPHALT OVER 8 INCHES OF CLASS II AGGREGATE BASE OVER 6 INCHES OF AGGREGATE SUB-BASE.

LANDSCAPING NOTES:

A. ALL LANDSCAPING AREAS INCLUDING PARKING PLANTERS AND LANDSCAPING STRIP ALONG PLEASANT GROVE ROAD SHALL HAVE BARK MULCH AS GROUND COVER

B. ALL IRRIGATION SHALL BE DRIP IRRIGATION

C. THE LANDSCAPING FACILITIES SHOWN ON THIS PLAN SHALL BE CONSIDERED PRELIMINARY AND SUBJECT TO CHANGE WITH THE APPROVAL OF SUTTER COUNTY.

DRAINAGE NOTES:

A. THE NEW DRAINAGE SWALE REPLACING THE EXISTING SHALL BE THE SAME SIZE AND SLOPE AS EXISTING. THE INTEND OF THESE PLANS IS NOT TO OBSTRUCT DRAINAGE FLOWING THROUGH THIS PROPERTY OR GENERATE MORE RUN OFF ONTO ADJACENT PROPERTIES.

B. A FINAL DETAILED DRAINAGE DESIGN OF ALL PROPOSED IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE SUBMITTED AT THE BUILDING PERMIT STAGE AND SHALL BE APPROVED BY SUTTER COUNTY PRIOR TO ISSUANCE OF A BUILDING PERMIT. THE FINAL DESIGN SHALL INCLUDE THE ON-SITE PIPE COLLECTION SYSTEM TRANSFERRING ALL ON-SITE RUNOFF FROM THIS DEVELOPMENT TO THE RETENTION CHAMBERS.

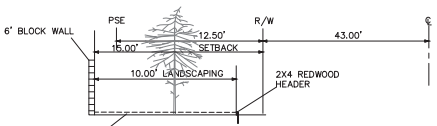
COVERAGE CALCULATIONS

PROVIDED
STORAGE UNITS AREA= 123,709 SF
OFFICE =1599.75 SF (INCLUDING OVERHANG)
TRASH ENCLOSURE= 116
EXISTING HOUSE=3,483 SF
EXISTING POOL HOUSE= 703 SF
TOTAL COVERAGE = 123709+1,599.75+116.00+3,483.00+703.00=129,610.75 SF

MAX ALLOWED:
(10.12 AC)X(43,560 SF/AC)X 35%=154,289.52 SF

RV PARKING

50 STALLS ARE PROVIDED



SECTION B-B
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GEORGE L. MUSALLAM
No. 49466
EXP. 9-30-2020
CIVIL
STATE OF CALIFORNIA

NVES

PLEASANT GROVE SELF STORAGE
SITE PLAN

APPROVED: COUNTY OF SUTTER	DESIGNED BY: RANA MOORE	DWG.NO.:
	DRAWN BY: RANA MOORE	
NVES 1547 STARR DRIVE SUITE "J" YUBA CITY, CA 95993 (530) 713-0417	CHECKED BY: GEORGE MUSALLAM	SHT. NO.: C4
	JOB NO.:	
	FILE NAME: NA	

Appendix C. Site Photographs

Photo 1: The house present within the east central portion of the project area. Photo taken from west of the dirt farm road looking east.

Photo 2: The landscaped lawn area east of the house within the east central portion of the project area. Photo taken from Pleasant Grove Rd looking west.

Photo 3: A strawberry field in active cultivation located in the west central portion of the project area. Photo taken from the west border looking east.

Photo 4: A fallowed strawberry field located in the southwest corner of the project area. Photo taken from the west border of the project area looking northeast.

Photo 5: The gravel parking area in the northeast corner of the project area. Photo taken from the northwest corner of the gravel parking area looking east.

Photo 6: The western-most small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 290 feet south of Riego Rd looking northwest.

Photo 7: The middle small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 290 feet south of Riego Rd looking north.

Photo 8: The eastern-most small seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 250 feet south of Riego Rd looking east.

Photo 9: The large seasonal wetland in the northwest corner of the project area, part of AOI-1. Photo taken from approximately 65 feet south of Riego Rd looking southeast.

Photo 10: The starting point of the seasonal wetland swale east of the dirt farm road, part of AOI-2. Photo taken from approximately 50 feet west of Pleasant Grove Rd looking east.

Photo 11: The seasonal wetland swale east of the dirt farm road, part of AOI-2. Photo taken from approximately 50 feet west of Pleasant Grove Rd looking west.

Photo 12: The seasonal wetland swale west of the dirt farm road, part of AOI-2. Photo taken from the dirt farm road, looking west.

Photo 13: The roadside drainage swale along Pleasant Grove Rd, part of AOI-3. Photo taken from just south of the gravel parking area looking south.

Photo 14: The roadside drainage swale in the northeast corner of the project area, part of AOI-3. Photo taken in the gravel parking area, looking northwest.

Photo 15: The roadside drainage swale present along the north border of the project area, part of AOI-3. Photo taken along Riego Rd in the northwest corner of the project area, looking east.

Photo 16: The roadside drainage swale along the east border of the project area, part of AOI-3. Photo taken from along Pleasant Grove Rd in the southeast corner of the project area, looking north.

Photo 17: The mature stand of blue gum trees along the south border of the project area, part of AOI-4. Photo taken from Pleasant Grove Rd, looking southwest.

Appendix D. OHWM Data Sheets and Aquatic Resources Delineation

Aquatic Resource Delineation

For the

Riego Road Development Proposal Project

Sutter County, California

February 2021

(Field data collected April 2019)

BARGAS

Environmental Consulting

Aquatic Resource Delineation
For the
Riego Road Development Proposal Project

February 2021

(Field data collected April 2019)

Prepared for:

James Wristen
8139 Pleasant Grove Road
Elverta, CA 95626
and
Thomas Law Group
455 Capital Mall, Suite 801
Sacramento, CA 94612

Prepared by:

Bargas Environmental Consulting, LLC
3604 Fair Oaks Blvd, Ste.180
Sacramento, CA 95864

Recommended Citation: Bargas Environmental Consulting, LLC (Bargas). 2019. *Aquatic Resource Delineation for the Riego Road Development Proposal Project* Prepared for James Wristen and Thomas Law Group, February 2021.

TABLE OF CONTENTS

Aquatic Resource Delineation for the Riego Road Development Proposal Project

LIST OF TABLES

FIGURES

ATTACHMENTS

*Provided on request.

1.0 INTRODUCTION

This report presents the results of the delineation of aquatic resources conducted by Bargas Environmental Consulting, LLC (Bargas) for the proposed Riego Road Development Project (Project) in Sutter County, California. The Project proposes the development of a self-storage facility; an existing residence will become a caretaker residence. The purpose of the delineation was to identify whether wetlands or other waters (aquatic resources) occur within the Project's study area (Study Area) and to provide the U.S. Army Corps of Engineers (USACE) with sufficient information to determine if these aquatic resources are waters of the United States (US), as defined by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA).

1.1 PROJECT APPLICANT AND AGENT

APPLICANT:	AGENT:
James Wristen 8139 Pleasant Grove Road Elverta, CA 95626	Bargas Environmental Consulting, LLC ATTN: James Stewart 3604 Fair Oaks Blvd, Ste.180 Sacramento, CA 95864

1.2 PROJECT LOCATION

The Project is located at 8139 Pleasant Grove Road north of Rio Linda in Sutter County, California (**Figure 1**). The Study Area for the aquatic resource delineation includes the approximately 15.44-acre Project parcel (APN 035-280-021) at the corner of Riego Road and Pleasant Grove Road. The Study Area is situated on Sections 1, Township 10 North, Range 4 East, split between the *Pleasant Grove* and *Rio Linda, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), Mt. Diablo Meridian (USGS, 1980), with an approximate Study Area center point at 38.749620° North, -121.485672° West.

The Study Area can be accessed from a gravel parking area at the corner of Riego Road and Pleasant Grove Road. From Sacramento, proceed north on Interstate 5, exit 311 for Riego Road, follow Riego Road for three miles to Pleasant Grove Road.

1.3 PROJECT DESCRIPTION

The Project proposes a self-storage facility with an on-site caretaker residence.

2.0 REGULATORY SETTING

This report has been prepared in accordance with the Regulatory Division of the Sacramento District, USACE minimum standards (2016a) and the following manuals and guidance were used to delineate waters of the U.S. and wetlands that are potentially subject to USACE jurisdiction under Section 404 of the CWA:

- *U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987);
- *Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0)* (USACE, 2008a);
- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual.* (USACE, 2008b);
- *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al., 1979); and
- *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE, 2007).

2.1 U.S. ARMY CORPS OF ENGINEERS

Wetlands are defined under 33 C.F.R. 328.3(b) as:

> *"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

The limits of USACE jurisdiction in non-tidal waters extends to the Ordinary High Water Mark (OHWM) which is defined under 33 CFR 328.3(e) as:

> *…That line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (USACE, 2008c).*

Non-wetland features include:

> *…Upland and lowland areas that are neither deep water aquatic habitats, wetlands nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only a brief period of time during the growing season. If these features are vegetated they normally support species that are predominantly adapted to aerobic soil conditions (USACE, 1987).*

3.0 METHODOLOGY

Prior to conducting the field delineation, the following information sources were reviewed:

- The *Pleasant Grove* and *Rio Linda* quadrangles (quads) (USGS, 1980);
- Color aerial imagery of the Study Area and the vicinity (GoogleEarth Pro, 2019);
- Soil survey maps and unit descriptions (NRCS, 2019a);
- Hydric soil information for San Joaquin County (NRCS, 2019b);
- U.S. Geological Society - National Hydrography Dataset for hydrological features within and surrounding the Study Area (NHD, 2018); and
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) - Wetlands Online Mapper (USFWS, 2019).

3.1 DELINEATION SURVEY AND FIELD CONDITIONS

A Bargas biologist conducted a delineation of Wetlands and other Waters of the United States within the Study Area on April 8, 2019. The delineation consisted of walking meandering transects throughout the entire Study Area while mapping general habitat types and collecting delineation data. Potential wetlands were delineated by excavating soil pits to a depth of approximately 18 inches or until an impermeable layer was reached, where possible. A standard Munsell® Soil Color Chart was used to determine soil matrix and mottle colors (Kollmorgen, 2000). Where present, the OHWM for all potential non-wetland waters of the U.S. present was delineated. Plant nomenclature followed *Jepson eFlora* (Jepson Flora Project, 2018). The *2016 Regional Wetland Plant List for the Arid West* (Lichvar, R.W., et. al, 2016) was used to determine the status of observed plants as wetland indicator species.

3.2 MAPPING

Wetland boundaries and waters of the U.S. were surveyed and mapped within the Study Area using an EOS Arrow 100 Global Positioning System (GPS) technology receiver paired with the Eos Tools Pro and Environmental Systems Research Institute (ESRI) Collector applications. This GPS system is capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded through Arc GIS Online and converted into ESRI shape file format. The geographic coordinate system used to reference the data was Universal Transverse Mercator (UTM–Zone 10), North American Datum (NAD83) in meters.

Each wetland or water of the U.S. was assessed by setting up transects perpendicular to the suspect feature/upland edges and by observing the mandatory wetland indicators at selected points along each transect as defined by the 1987 Manual (USACE, 1987), the Regional Supplemental Manual (USACE, 2010), and Guide to OHWM (USACE, 2008b). Potential wetland boundaries where mapped at a level of accuracy of less than one meter. Soil pits were hand excavated to obtain soil data for wetlands or transects established to obtain OHWM data for waters of the US, and their locations recorded with GPS. Data were overlaid on an aerial photograph (ESRI ArcGIS World Imagery, 2017). The ESRI data and GIS software were used to calculate the acreage of each polygon. Mapping requirements as set forth by the USACE under the guidance of *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (2016b) were followed.

3.3 DETERMINATION METHODS

Data for each potential wetland was collected using the *USACE Wetland Determination Data Form – Arid West Region* (2006). Data forms were completed at representative locations to determine whether suspect features qualified as jurisdictional wetlands or non-wetland waters of the U.S. (**Attachment A: Arid West Wetland Determination Data Forms**). Wetlands were determined based on the presence of the three factors: 1) the presence of dominant hydrophytic vegetation, 2) presence of hydric soils, and 3) wetland hydrology indicators. Non-wetland waters of the US were determined based on indicators of OHWM and presence of an established channel, bed, and bank.

4.0 ENVIRONMENTAL SETTING

The Study Area contains one occupied rural residential home and a fruit stand but is primarily composed of agricultural fields including row crops, strawberries, and fallowed fields. Ruderal vegetation comprises the majority of the Study Area beyond the agricultural fields. There are also several species of ornamental trees and shrubs in addition to lawns around the home and the fruit stand. A linear grove of mature eucalyptus trees exists along the southern Study Area boundary.

The terrain is open and relatively flat at approximately 40 to 45 feet above mean sea level (MSL) in elevation. Per a review of Google Earth historic aerial imagery, the Study Area appears to have experienced some grading between May 1993 and August 1998 when the row crop or strawberry field plots and farm roads first appear in the available imagery (Google Earth Pro, 2019). There are currently several dirt farm roads within the Study Area. The fruit stand at the northeast corner contains a graveled parking area. Representative site photographs of the Study Area and potentially jurisdictional wetland features and waters of the U.S. are presented in **Attachment B: Representative Site Photographs**.

4.1 SOILS

Two soil types exist within the Study Area, Cometa loam, 0 to 2 percent slopes, and San Joaquin sandy loam, 0 to 2 percent slopes. A soil map can be found in **Figure 2**. Neither of these soils is characterized as hydric. **Table 1** identifies each soil type by series and subgroup, map symbol, and hydric characteristics.

Table 1: Soil Types within the Study Area

Soil Series	Map Symbol	Hydric Rating
Cometa loam, 0 to 2 percent slopes	123	Non-hydric
San Joaquin sandy loam, 0 to 2 percent slopes	158	Non-hydric

Source: NRCS, 2019a-b

4.2 VEGETATIVE COMMUNITY TYPES

Most of the Study Area is made up of agricultural fields, many of which are in active use for the cultivation of strawberries and other row crops. Several of the agricultural fields are fallow; unvegetated but tilled. Ruderal weedy vegetation makes up almost the entire remainder of the Study Area beyond the agricultural fields with a smaller portion composed of ornamental landscaped vegetation. A list of plant species observed within the Study Area, as well as their NWPL indicator status, is presented in **Attachment C: Plant Species Observed within the Study Area**.

4.3 HYDROLOGY

The Study Area is situated within the Lower American watershed, Hydrologic Unit Code (HUC)-8 18020111 (NHD, 2018). There are two features mapped within this Study Area that require jurisdictional determination from the USACE including a seasonal wetland and a ditch. The hydrological regime of the Study Area is driven primarily by seasonal precipitation storm water run-off, some of which is directed from the adjacent roadways and properties through roadside drainage ditches. Additional sources are from crop and ornamental landscaping irrigation. There are no agricultural canals or ditches present in the Study Area.

5.0 DELINEATION RESULTS

Potential jurisdictional waters of the U.S. were mapped within the Study Area. These include a seasonal wetland and a ditch. **Table 2** below provides a summary of the water features within the Study Area and includes acreage for each. These acreages are considered preliminary and are subject to verification by the USACE.

Table 2: Wetlands and Other Waters within the Study Area

Feature Name	ID	Area (acres)*	Linear Feet
Wetlands			
Seasonal Wetland	PEM2-1	0.71	N/A
Other Waters			
Ditch	R4EM2-1	0.01	203
	Totals:	**0.72**	**203**

Source: Bargas, 2019. *Acreages are calculated estimations that are subject to modification pending formal verification by USACE.

A description for each feature delineated within the Study Area is provided below. Mapped features within the Study Area are depicted on **Figure 3**. Delineation datasheets for each of the wetland features are included as **Attachment A: Arid West Wetland Determination Data Forms**, and photographs of each data point are included in **Attachment B: Representative Site Photographs**.

5.1 WETLANDS

The Study Area contains one seasonal wetland (PEM2-1). This feature spans the width of the Study Area from Pleasant Grove Road to the western border, passing between crop fields and under or across a dirt farm road. The feature was characterized by hydrophytic vegetation, hydric soils, and wetland hydrology. The feature can be described as swale-like as it receives water from other localities and directs it to a large seasonal wetland present west of the Study Area. Sources of water include stormwater flow from adjacent uplands and roadways; a roadside drainage ditch along Pleasant Grove Road; and from seasonal wetlands visible in aerial imagery located on rural properties east of the Study Area and Pleasant Grove Road that are connected to the roadside drainage ditch through an under-road culvert.

5.1 OTHER WATERS

The Study Area contains one ditch containing an emergent wetland (R4EM2-1). This feature was excavated to drain stormwater runoff from the road and adjacent uplands and is located in the northeast corner of the Study Area along the edge of the graveled area. This feature lacked an OHWM but the sections mapped as R4EM2-1 contain the three requisite wetland criteria including hydrophytic vegetation, hydric soils, and wetland hydrology. Sources of water include stormwater flow from adjacent uplands and roadways; high flows from a roadside drainage ditch along Pleasant Grove Road; and, through the connections described above, from seasonal wetlands on properties east of the Study Area and Pleasant Grove Road. The ditch containing R4EM2-1 continues northwest then turns west to run parallel to Riego Road, eventually discharging to the large seasonal wetland present west of the Study Area.

6.0 CONCLUSION

A total of approximately 0.72 acres of potentially jurisdictional wetlands and other waters of the United States have been mapped within the Study Area. The mapped acreages represent calculated estimations of potentially jurisdictional features within the Study Area and are subject to modification pending formal verification by USACE. GIS Shapefiles and Aquatic Resources Excel Spreadsheet is included in **Attachment D: GIS Shapefile and Aquatic Resources Excel Spreadsheet*** and a letter granting permission to USACE staff to enter the property to verify this delineation is included in **Attachment E: Access Letter**.

*Provided on request.

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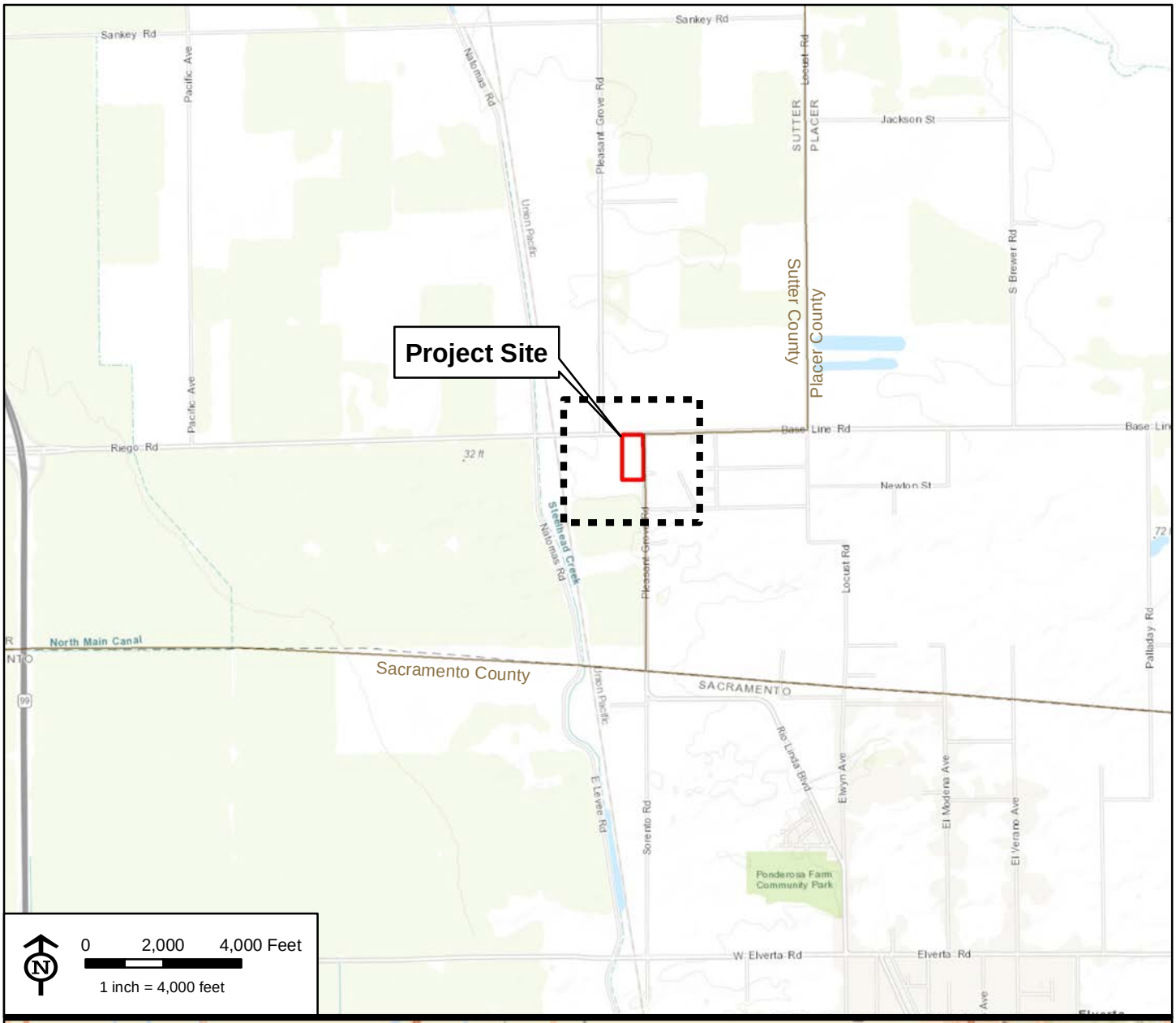
FIGURES



Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map

BARGAS Environmental Consulting

Public Land Survey System (PLSS):
Mount Diablo Meridian
Township 10N, Range 4E, Section 1

Watershed: Lower American (18020111)

Project Site Coordinates: 38.749° N, -121.485° W

Figure 1
Project Site and Vicinity

Riego Road

Map Created:5/8/2019, Map Revised: N/A, Bargas Project Number: 2017-1021

Source: ESRI ArcGIS Online, NCRS Soils Data - CA101 Sutter County (9/12/2016)

0 125 250 Feet

1 inch = 250 feet

BARGAS Environmental Consulting

Study Area

SSURGO Soils

123 - Cometa loam, 0 to 2 percent slopes

158 - San Joaquin sandy loam, 0 to 2 percent slopes

Figure 2
Soils within the Study Area

Riego Road

Map Created:5/8/2019, Map Revised: N/A, Bargas Project Number: 2017-1021

-121.487, 38.752

DP-3
DP-4
R4EM2-1
PEM2-1
DP-2
DP-1

Wetlands			
Wetland Type	**ID**	**Acres**	**Linear Feet**
Seasonal Wetlands	PEM2-1	0.71	N/A
Wetlands TOTAL		**0.71**	**0**

Other Waters			
Waters Type	**ID**	**Acres**	**Linear Feet**
Ditch	R4EM2-1	0.01	203
Other Waters TOTAL		**0.01**	**203**
TOTAL		**0.72**	**203**

-121.484, 38.748

Source: ESRI ArcGIS Online, North Valley Engineering and Surveying

N

0 50 100 Feet

1 inch = 100 feet

BARGAS Environmental Consulting

Riego Road
Surveyor Name: Bonnie Peterson
Map Date: 5/8/2019
Map Author: Coral Fenech, Green Map GIS
Date Revised:
Aerial Source: ESRI ArcGIS World Imagery, 8/9/2017
Coordinate System:
NAD 1983 State Plane Zone 2 (US Feet)

Study Area
Map Reference Point
Sample Point
Culvert
Wetlands
Seasonal Wetland
Other Waters
Ditch

Figure 3
Aquatic Resources Delineation

Riego Road

Map Created:5/8/2019, Map Revised:, Bargas Project Number: 2017-1021

ATTACHMENTS

Attachment A: Arid West Wetland Determination Data Forms
Attachment B: Representative Site Photographs
Attachment C: Plant Species Observed within the Study Area
Attachment D: GIS Shapefile and Aquatic Resources Excel Spreadsheet*
Attachment E: Access Letter

*Provided on request.

Attachment A
Arid West Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riego Road City/County: Sutter County Sampling Date: 04/08/19
Applicant/Owner: James Wristen State: CA Sampling Point: DP-1
Investigator(s): Bonnie Peterson / Tara Hannon Section, Township, Range: S1 T10N R4E
Landform (hillslope, terrace, etc.): valley floor Local relief (concave, convex, none): none Slope (%): 0%
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.749986 Long: -121.4848 Datum: NAD83
Soil Map Unit Name: Cometa loam, 0-2% slopes or San Joaquin sandy loam, 0-2% slopes NWI Classification: n/a
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	**Is the Sampled Area within a Wetland?**	**Yes**	**No X**
Hydric Soil Present?	Yes **X**	No			
Wetland Hydrology Present?	Yes **X**	No			

Remarks: Adjacent to seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 1 meter^2)			
1. *Festuca perennis*	50%	Y	FAC
2. *Bromus hordeaceus*	25%	Y	FACU
3. *Hypochaeris radicata*	10%	N	FACU
4. *Geranium molle*	5%	N	UPL
5. *Erodium botrys*	5%	N	UPL
6. *Lupinus bicolor*	5%	N	UPL
7. *Digitaria* sp.	<1	N	NL
8.			
	100%	=Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **1/2=50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**50**	x3 =	**150**
FACU species	**35**	x4 =	**140**
UPL species	**15**	x5 =	**75**
Column Totals:	**100** (A)		**365** (B)

Prevalence Index = B/A = **3.7**

Hydrophytic Vegetation Indicators:
_____ Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No X**

Remarks:

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 3/3	100					loam	
9-14	7.5YR 4/2	95	7.5YR 2.5/1	5	C	M	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riego Road City/County: Sutter County Sampling Date: 04/08/19
Applicant/Owner: James Wristen State: CA Sampling Point: DP-2
Investigator(s): Bonnie Peterson / Tara Hannon Section, Township, Range: S1 T10N R4E
Landform (hillslope, terrace, etc.): valley floor Local relief (concave, convex, none): slightly concave Slope (%): <2
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.750012 Long: -121.48482 Datum: NAD83
Soil Map Unit Name: Cometa loam, 0-2% slopes or San Joaquin sandy loam, 0-2% slopes NWI Classification: n/a
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: Within seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 1 meter^2)			
1. *Festuca perennis*	75%	Y	FAC
2. *Lythrum hyssopifolium*	5%	N	OBL
3. *Geranium molle*	5%	N	UPL
4. *Plagiobothrys stipitatus*	5%	N	FACW
5. *Hypochaeris radicata*	5%	N	FACU
6. *Hypochaeris* sp.	5%	N	NL
7.			
8.			
	95	=Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 5** % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x1 =	**5**
FACW species	**5**	x2 =	**10**
FAC species	**75**	x3 =	**225**
FACU species	**5**	x4 =	**20**
UPL species	**5**	x5 =	**25**
Column Totals:	**95** (A)		**285** (B)

Prevalence Index = B/A = **3.0**

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: **Thatch

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	7.5YR 4/2	75	7.5YR 4/1	10	C	M	sandy loam	
			7.5YR 4/4	10	C	M		
			7.5YR 2.5/1	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 2 inches

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): throughout

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riego Road City/County: Sutter County Sampling Date: 04/08/19
Applicant/Owner: James Wristen State: Sampling Point: DP-3
Investigator(s): Bonnie Peterson / Tara Hannon Section, Township, Range: S1 T10N R4E
Landform (hillslope, terrace, etc.): valley floor Local relief (concave, convex, none): concave Slope (%): 2%
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.751178 Long: -121.485037 Datum: NAD83
Soil Map Unit Name: Cometa loam, 0-2% slopes NWI Classification: n/a
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: In upland portion of ditch installed to drain water from the adjacent roadway. This portion of the ditch does not display evidence of an ordinary high water mark.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	=Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	

Herb Stratum (Plot size: 1 meter^2)			
1. *Festuca perennis*	40%	Y	FAC
2. *Raphanus* species	20%	Y	UPL
3. *Avena barbata*	10%	N	UPL
4. *Convulvulus arvensis*	<1	N	UPL
5. *Carduus pycnocephalus*	<1	N	UPL
6.			
7.			
8.			
	70	=Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 30** % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **2** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **1/2=50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**0**	x4 =	**0**
UPL species	**30**	x5 =	**150**
Column Totals:	**70** (A)		**270** (B)

Prevalence Index = B/A = **3.9**

Hydrophytic Vegetation Indicators:
- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: **thatch

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					loam	
3-12	7.5YR 4/4	80	7.5YR 3/1	15	C	M	loam	
			5 YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Riego Road City/County: Sutter County Sampling Date: 04/08/19
Applicant/Owner: James Wristen State: CA Sampling Point: DP-4
Investigator(s): Bonnie Peterson / Tara Hannon Section, Township, Range: S1 T10N R4E
Landform (hillslope, terrace, etc.): valley floor Local relief (concave, convex, none): concave Slope (%): 3%
Subregion (LRR): Mediterranean California (LRR C) Lat: 38.751139 Long: -121.484959 Datum: NAD83
Soil Map Unit Name: Cometa loam, 0-2% slopes NWI Classification: n/a
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: Point taken in a portion of a drainage ditch with emergent wetland vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 1 meter^2)			
1. *Festuca perennis*	40%	Y	FAC
2. *Avena barbata*	10%	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	50 =Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ =Total Cover		
% Bare Ground in Herb Stratum 20	% Cover of Biotic Crust 30		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x1 =	**0**
FACW species	**0**	x2 =	**0**
FAC species	**40**	x3 =	**120**
FACU species	**0**	x4 =	**0**
UPL species	**10**	x5 =	**50**
Column Totals:	**50** (A)		**170** (B)

Prevalence Index = B/A = **3.4**

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
_____ Prevalence Index is ≤3.0[1]
_____ Morphological Adaptationd[1] (Provide supporting data in Remarks or on a separate sheet)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 5/2	80	10YR 3/1	15	C	M	clay	
			7.5YR 4/6	5	C	M		
6-12	7.5YR 5/2	89	10YR 3/1	5	C	M	clay loam	
			7.5YR 4/6	5	C	M		
			10YR 8/1	1	C	M		
12-14	10YR 4/6	90	7.5YR 5/2	5	C	M	clay loam	
			7.5YR 3/1	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks: Gravel present on surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment B
Representative Site Photographs

Photo 1: Representative photo of the areas disturbed by agricultural activities in the Study Area, taken along the dirt road southwest of the house and looking north.

Photo 2: Representative photo of the southeast portion of the Study Area occasionally used for cultivation but currently fallow, taken along an unmaintained road and looking east.

Photo 3: Representative photo of the southwest portion of the Study Area occasionally used for cultivation but currently fallow, taken from an unmaintained road and looking west.

Photo 4: DP-1 taken adjacent and outside of the seasonal wetland mapped as PEM2-1, looking northwest.

Photo 5: DP-2 taken within the margins of the seasonal wetland mapped as PEM2-1, looking northwest.

Photo 6: PEM2-1 starts on the east border of the Study Area and receives water from land east of Pleasant Grove Road through a culver that passes under the road and depicted here, taken outside the Study Area boundary and looking south.

Photo 7: PEM2-1 continues northwest from Pleasant Grove Road, passing between crop fields to the north and a field that contains a small solar panel array to the south, taken within the feature boundaries and looking northwest.

Photo 8: PEM2-1 continues northwest and crosses a maintained dirt farm road, taken along the road and looking south.

Photo 9: PEM2-1 continues northwest from the maintained dirt farm road and passes between actively cultivated crop fields, taken from a small shed present just west of the road and looking northwest.

Photo 10: DP-3 taken within a topographic ditch excavated to drain stormwater runoff from the road but where no evidence was observed of an ordinary high water mark or the three requisite wetland indicators, taken from along the ditch and looking northwest.

Photo 11: DP-4 taken within a topographic ditch excavated to drain stormwater runoff from the road where the three requisite wetland criteria were observed to be present, taken along the ditch and looking northwest. The portion of the ditch containing the three wetland criteria was mapped as R4EM2-1.

Photo 12: Representative photo of R4EM2-1, taken from the driveway leading to the fruit stand parking lot and looking northwest.

Photo 13: Representative photo of R4EM2-1, taken from the driveway leading to the fruit stand parking lot and looking southeast.

Attachment C
Plant Species Observed within the Study Area

Plant Species Observed within the Study Area

Scientific Name	Common Name	Wetland Indicator
Avena barbata	slim oat	UPL
Bromus hordeaceus	soft brome	FACU
Carduus pycnocephalus	Italian thistle	UPL
Convulvulus arvensis	field bind weed	UPL
Digitaria sp.	crab grass species	NL
Erodium botrys	long-beak stork's bill	FACU
Festuca perennis	perennial rye grass	FAC
Geranium molle	crane's bill geranium	UPL
Hypochaeris radicata	hairy catsear	FACU
Hypochaeris sp.	catsear species	NL
Lupinus bicolor	miniature lupine	UPL
Lythrum hyssopifolium	Hyssop loosestrife	OBL
Plagiobothrys stipitatus	stalked popcornflower	FACW
Raphanus sp.	wild oat species	UPL

Attachment D*
GIS Shapefile and Aquatic Resources Excel Spreadsheet

***Provided on request.**

Attachment E
Access Letter

January 23, 2020

Project Manager
Regulatory Division
U.S. Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, California 95814-2922

Re: Approved Access for the Riego Road Development Proposal Project

This letter serves as written permission to enter the Riego Road Development Proposal project study area shown on Figure 1 when accompanied by Bargas Environmental, LLC (Bargas) staff. When accompanied by Bargas staff, you may dig soil pits by hand and collect plant materials related to the verification of potential Waters of the U.S. on the subject property. If you have any questions, please contact Angela DePaoli at 916-993-9218 or adepaoli@bargasconsulting.com.

Sincerely,

Nicholas Avdis
Thomas Law Group
455 Capital Mall Suite 801
Sacramento, CA 94612

ATTACHMENT 3

Wood Rodgers
Trip Generation Comparison Memorandum

Memorandum

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

To: Scott Riddle, PE
Senior Civil Engineer
Sutter County Development Services
1130 Civic Center Blvd
Yuba City, CA 95993

From: Mario Tambellini, PE, TE
Nicole Scappaticci, PE

Date: September 21, 2021

Subject: **Pleasant Grove Self-Storage Trip Generation Comparison Memorandum**

INTRODUCTION

This memorandum has been prepared to present the results of a trip generation comparison between the original project description and the current revised project description of the proposed Pleasant Self-Storage development (Project). The Project is located approximately 400 feet south of the Pleasant Grove Road (South) / W Riego Road intersection within Sutter County. The Project originally consisted of a self-storage complex with up to 1,100 various sized storage units, totaling approximately 146,350 square feet gross floor area, as well as a 1,363 square foot on-site office. The *Pleasant Grove Self-Storage Transportation Impact Study* (TIS) (Wood Rodgers, April 2021) presents the results of a traffic study based on this original Project description.

The Project description has since been revised to include up to 60 recreational vehicle (RV) storage parking stalls and a reduction in the gross floor area of the storage units of 22,641 square feet, for a total gross floor area of 123,709 square feet for the storage units. A copy of the current site plan is included in **Attachment A**.

PROJECT TRIP GENERATION COMPARISON

The Project TIS provides a trip generation estimate for 1,100 storage units encompassing 146,350 square feet gross floor area, yielding approximately 7.52 units per 1,000 square feet. For the current Project description, a reduction in gross storage unit floor area of 22,641 square feet would result in a remaining storage area of 123,709 square feet, or approximately 930 storage units.

The Institute of *Transportation Engineers (ITE) Trip Generation Manual, 10th Edition*, does not contain trip generation rates for RV storage facilities. It is anticipated that RV storage parking stalls would have similar trip generation characteristics to self-storage units, as renters would drop off the RV and occasionally visit to pick it up, similar to how a self-storage unit functions with other possessions. Trip generation for the 60 RV storage parking stalls can be represented using the trip generation rates for individual storage units under the ITE Mini-Warehouse use (Land Use Code 151). A comparison of the original trip generation contained in the Project TIS and the current Project trip generation is shown in **Table 1**.

As illustrated in **Table 1**, the current revised Project is anticipated to generate a total of 178 daily trips, 16 AM peak hour trips (8 inbound, 8 outbound), and 19 PM peak hour trips (9 inbound, 10 outbound) under typical weekday traffic demand conditions. The current revised Project would generate 25 fewer daily trips, 2 fewer AM peak hour trips, and 2 fewer PM peak hour trips than the original Project trip generation contained in the Project TIS. Therefore, the findings included in the TIS would remain applicable to the current revised Project. The current revised Project is not projected to cause any transportation operational deficiencies or impacts.

Table 1. Project Trip Generation Comparison

Land Use	Units	Quantity	Daily Trips[1]	AM Peak Hour Trips[1]			PM Peak Hour Trips[2]		
				Total	In	Out	Total	In	Out
Original Project Description Trip Generation[3]									
Mini-Warehouse	Storage Units (per 100)	11.00	**203**	**18**	**9**	**9**	**21**	**11**	**10**
Current Revised Project Description Trip Generation									
Mini-Warehouse	Storage Units (per 100)	9.30	171	15	7	8	18	9	9
Mini-Warehouse (RV Parking)	RV Parking Stalls (per 100)	0.6[4]	7	1	1	0	1	0	1
Total Trips (Current Revised Project Description)			**178**	**16**	**8**	**8**	**19**	**9**	**10**
		Difference	***-25***	***-2***	***-1***	***-1***	***-2***	***-2***	***0***

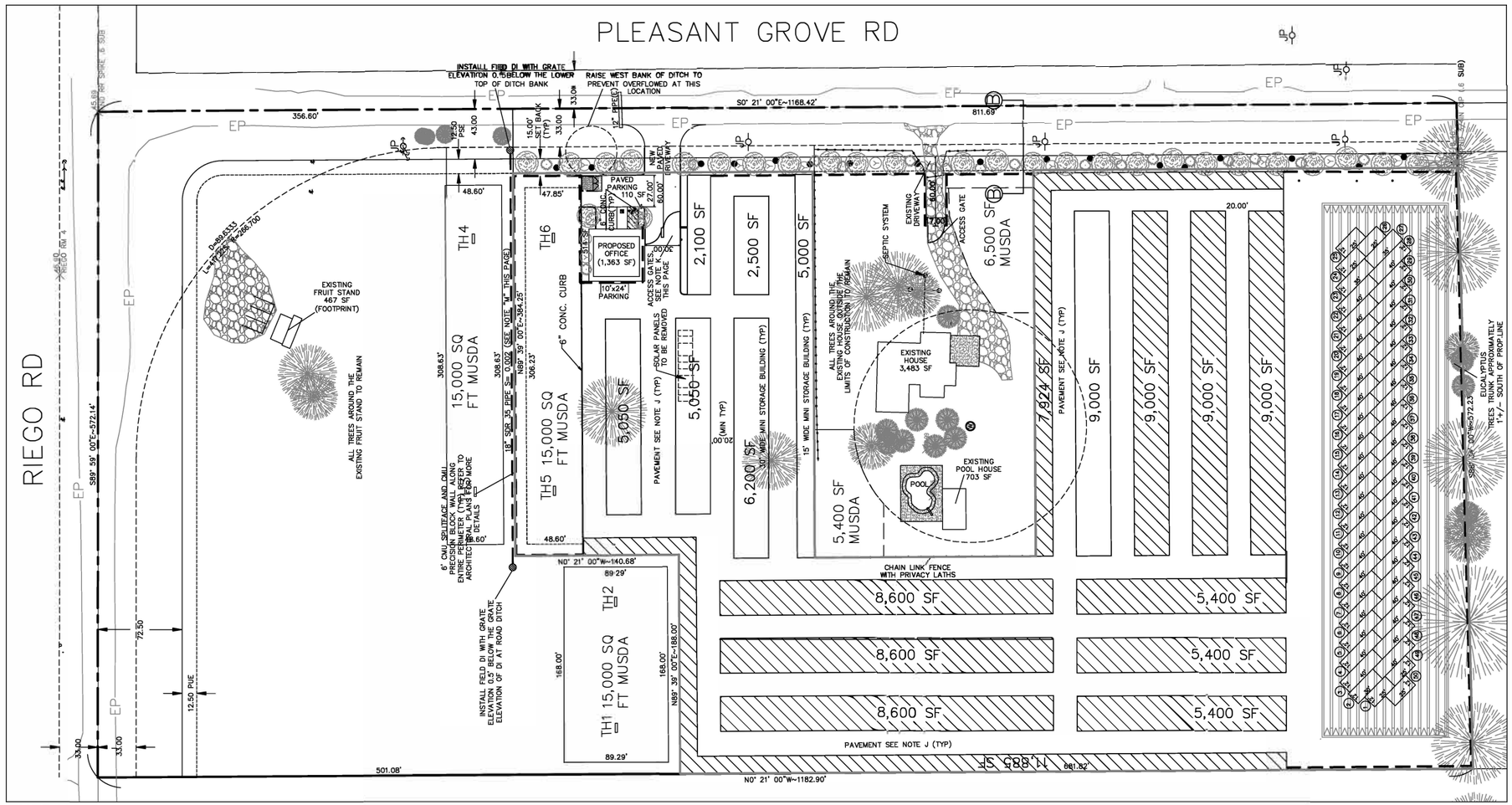
Notes:
[1] Trip rates based on fitted curve equations for the proposed land use consistent with information contained in the ITE Trip Generation Manual, 10th Edition
[2] Trip rates based on average rates for the proposed land use consistent with information contained in the ITE Trip Generation Manual, 10th Edition
[3] Source: Pleasant Grove Self-Storage Transportation Impact Study (Wood Rodgers, April 2021)
[4] Assumes the 60 proposed RV storage parking spaces are roughly equivalent to 60 self-storage units.

ATTACHMENT A

PROJECT SITE PLAN

N

1"=50'



PLANT LEGEND

SYMBOL	COMMON NAME	QTY	SIZE	REMARKS
	BROOM (Genista Sagittalis)	20	5 GAL	NEW
	CALIFORNIA LILAC (LESS THAN 3' HIGH) (Ceanothus X Variety)	17	5 GAL	NEW
Y	YARROW (Achillea Millefolium)	16	5 GAL	NEW
	CHINESE MAPLE (Acer Ttruncatum)	28	15 GAL	NEW

WATER USE CALCULATIONS

REFERENCE EVAPORATION (ET_o)= 57.00 INCHES PER YEAR (CIMIS REFERENCE EVAPORATION MAPS)

MAWA $= (ET_o)(0.62)(0.45XAREA)+(0.3XSLA)$
$= (57.00)(0.62)(0.45X8,116.90)+(0.3X0)$
$= 129,083.06$ GALLONS PER YEAR

ETWA=$(ET_o)(0.62)(ETAF)(AREA)$, (ETAF=PLANT FACTOR/IRRIGATION EFFICIENCY)
PLANT FACTOR=0.3 (LOW WATER USE PLANTS)
IRRIGATION EFFICIENCY=0.81 (DRIP IRRIGATION)

ETWA=57.00X0.62X(0.3/0.81)X8,116.90=107,569.22 GALLONS PER YEAR

ETWA<MAWA, GOOD

GENERAL NOTES:

CONTRACTOR SHALL PROVIDE ANY TEMPORARY ROADS OR CROSSINGS AS REQUIRED FOR EXECUTION OF THE CONTRACT. ALL TEMPORARY CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.

A. PROVIDE CONCRETE WALKS WITH CONTROL AND EXPANSION JOINTS AS SHOWN ON PLAN. VERIFY JOINT LAYOUT WITH THE ARCHITECT IN FIELD PRIOR TO FORMING. JOINTS ARE TO BE CAULKED, NO WOOD STRIPS ALLOWED.

B. WHERE NEW SITE WORK JOINS EXISTING CONDITIONS, EXISTING CONDITIONS SHALL CONTROL. IF MAJOR DISCREPANCIES ARE APPARENT, NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

C. ALL EXISTING VEGETATION, SHRUBS, AND TREES TO REMAIN SHALL BE PROTECTED AS REQUIRED TO PREVENT DAMAGE FROM CONSTRUCTION ACTIVITIES. ANY DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE PRODUCT AND LIKE SIZE AT THE DIRECTION OF THE ENGINEER.

D. EXISTING FACILITIES AND ITS AUXILIARY CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE DURING THE COURSE OF NEW CONSTRUCTION ACTIVITIES. ANY DAMAGED MATERIAL SHALL BE REPLACED TO MATCH ORIGINAL CONDITIONS AT THE DIRECTION OF THE ENGINEER.

E. RELOCATION OF ALL UTILITY POLES, LINES AND OTHER EXISTING SERVICES (IF REQUIRED) SHALL BE THE RESPONSIBILITY OF THE BIDDER AND SHALL BE VERIFIED AND COORDINATED WITH APPROPRIATE AGENCIES.

F. EXISTING UTILITY LINES SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME THAT NEW TIE-INS CAN BE MADE OPERATIONAL.

G. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM SUTTER COUNTY PRIOR TO ANY WORK WITHIN THE COUNTY RIGHT OF WAY.

I. ALL EXTERIOR LIGHTING SHALL COMPLY WITH SUTTER COUNTY REQUIREMENTS. A LIGHTING PLAN SHALL BE SUBMITTED TO SUTTER COUNTY PRIOR TO ISSUANCE OF BUILDING PERMIT.

J. ALL ACCESS WAYS OF THE STORAGE UNITS SHALL HAVE ASPHALT PAVING

K. ACCESS GATE TO THE FACILITY SHALL HAVE A FIRE DEPARTMENT APPROVED ENTRY SYSTEM SUCH AS A KNOX BOX. THE DESIGN OF THE GATE AND ACCESS SYSTEM SHALL BE APPROVED BY THE SUTTER COUNTY FIRE CHIEF.

L. PAVEMENT SECTION SHALL BE A MINIMUM OF 3.5 INCHES OF ASPHALT OVER 8 INCHES OF CLASS II AGGREGATE BASE OVER 6 INCHES OF AGGREGATE SUB-BASE.

M. PIPE SIZING MAY CHANGE AS THE FINAL DRAINAGE PLAN IS PREPARED.

LANDSCAPING NOTES:

A. ALL LANDSCAPING AREAS INCLUDING PARKING PLANTERS AND LANDSCAPING STRIP ALONG PLEASANT GROVE ROAD SHALL HAVE BARK MULCH AS GROUND COVER

B. ALL IRRIGATION SHALL BE DRIP IRRIGATION

C. THE LANDSCAPING FACILITIES SHOWN ON THIS PLAN SHALL BE CONSIDERED PRELIMINARY AND SUBJECT TO CHANGE WITH THE APPROVAL OF SUTTER COUNTY.

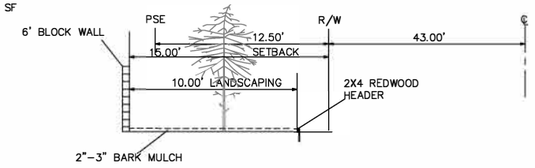
COVERAGE CALCULATIONS

PROVIDED
STORAGE UNITS AREA= 123,709 SF
OFFICE =1599.75 SF (INCLUDING OVERHANG)
TRASH ENCLOSURE= 116
EXISTING HOUSE=3,483 SF
EXISTING POOL HOUSE= 703 SF
TOTAL COVERAGE = 123709+1,599.75+116.00+3,483.00+703.00=129,610.75 SF

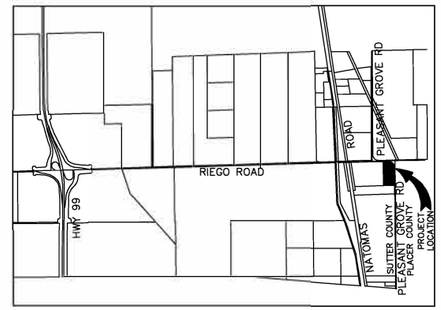
MAX ALLOWED:
(10.12 AC)X(43,560 SF/AC)X 35%=154,289.52 SF

RV PARKING

50 STALLS ARE PROVIDED



SECTION B-B
N.T.S.



LOCATION MAP
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GEORGE L. MUSALLAM
No. 49466
EXP. 9-30-2020
CIVIL
STATE OF CALIFORNIA

NVES

PLEASANT GROVE SELF STORAGE
SITE PLAN

APPROVED: _____
COUNTY OF SUTTER

NVES
1547 STARR DRIVE SUITE "J"
YUBA CITY, CA 95993
(530) 713-0417

DESIGNED BY: RANA MOORE
DRAWN BY: RANA MOORE
CHECKED BY: GEORGE MUSALLAM
JOB NO.:
FILE NAME: NA

DWG.NO.:
SHT. NO.: C4

ATTACHMENT 4

Wood Rodgers
Transportation Impact Study

Pleasant Grove Road Self-Storage
Sutter County, CA
Transportation Impact Study

Final Report

Prepared For:

Sutter County

April 2021

Prepared By:

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

Pleasant Grove Road Self-Storage
Sutter County, CA

TRANSPORTATION IMPACT STUDY

FINAL REPORT

Prepared For:

Sutter County

Prepared By

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

3301 C Street, Building 100-B

Sacramento, CA 95816

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April 2021

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EXECUTIVE SUMMARY

This report has been prepared to present the results of a Transportation Impact Study (TIS) performed by Wood Rodgers, Inc. for the proposed Pleasant Grove Road Self-Storage Project located in Sutter County, California. This analysis has been performed to determine any operational deficiencies the proposed Project may cause on surrounding transportation facilities and identify potential improvement measures that could be implemented to address any deficiencies. This TIS also evaluates Project Vehicle Miles Traveled in the context of CEQA requirements for determining potential significant transportation impacts due to the Project.

PROJECT SITE DESCRIPTION

The proposed Project is located approximately 400 feet south of the Pleasant Grove Road (South) / W Riego Road intersection within Sutter County. The existing 10.12-acre Project site is generally undeveloped with some portion of the land recently being used to grow crops. The proposed Project consists of a self-storage complex with up to 1,100 various sized units. There will be a 1,363 square foot office on site. Gross floor area of the self-storage units will be approximately 146,350 square feet. The Project application includes a General Plan Amendment of the Project parcels from AG-80 (Agriculture, 80-acre minimum) to I/C (Industrial/Commercial), and a Rezone from AG (Agriculture) to CM-PD (Commercial-Industrial-Planned Development).

PROJECT GENERATED TRIPS

New trips generated by the proposed Project were estimated using rates from the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition*. The proposed Project is anticipated to generate a total of 203 daily trips, 18 AM peak hour trips (9 inbound, 9 outbound), and 21 PM peak hour trips (11 inbound, 10 outbound) under typical traffic demand conditions.

INTERSECTION AND ROADWAY DEFICIENCIES

This TIS analyzed three (3) study intersections during AM and PM peak hour time periods under Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios using *Synchro 10* software and *Highway Capacity Manual, 6th Edition* methodologies. *California Manual on Uniform Traffic Control Devices* (CA MUTCD) based peak hour Signal Warrant #3 was also checked at all unsignalized study intersections.

This TIS analyzed three (3) study roadway segments during weekday daily time periods under Existing, Existing Plus Project, Cumulative, and Cumulative Plus Project scenarios using roadway capacity thresholds.

The following study intersections were projected to operate at unacceptable Level of Service (LOS) under Existing and Existing Plus Project conditions:

1. Pleasant Grove Road (North) / W Riego Road
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road

CA MUTCD Signal Warrant #3 is not projected to be met at the above intersections under any study condition.

All study roadway segments were found to operate at acceptable LOS under Existing and Existing Plus Project Conditions. All study intersections and roadway segments were found to operate at acceptable LOS under Cumulative and Cumulative Plus Project conditions.

IMPROVEMENT MEASURES

The Project was not found to cause operational deficiencies at the intersections operating at unacceptable LOS under Existing and Existing Plus Project conditions. However, as the Project is shown to contribute to the unacceptable operations of the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections, and as there are planned signalizations of these intersections under future conditions, a Project fair share percent contribution is provided for informational purposes.

The Project would not cause a deficiency at the study roadway segments.

VEHICLE MILES TRAVELED

Project vehicle miles traveled (VMT) impact has been analyzed using criteria outlined in the *County of Sacramento Transportation Analysis Guidelines* (dated September 10, 2020). Based on *County of Sacramento Transportation Analysis Guidelines*, the following screening criteria would apply to the Project:

- Small Projects – Project generating less than 237 ADT.
- Local-Serving Retail – Projects that are defined as "Retail" type projects in Appendix A of the *Transportation Analysis Guidelines* and that consist of 200,000 square feet of total gross floor area or less in a greenfield setting are considered local-serving retail projects.

The Project is estimated to generate 203 ADT. Therefore, the Project may be considered to be a "small project". The Project will develop 147,713 square feet of total gross floor area. Appendix A of the *Transportation Analysis Guidelines* indicates that the "Mini Storage" use is a Retail project type. As the Project is under 200,000 square feet of total gross floor area and is being developed within a greenfield setting, the Project may be considered "local-serving retail". Therefore, the proposed Project is exempt from a detailed CEQA transportation analysis and is expected to result in a **less-than-significant** transportation impact.

SITE ACCESS AND CIRCULATION

Access to the Project site is proposed via one gated, stop-controlled, full-access driveway on Pleasant Grove Road (South). The proposed Project site would contain four parking spaces, including one accessible parking space, near the office. Project internal drive aisles are projected to experience a low volume of traffic. Project internal circulation is projected to be adequate and no further improvements are recommended.

The proposed Project would remain consistent with the following applicable *Sutter County General Plan* circulation goals and associated policies:

- ***Goal M-2****: Provide for the long-range planning and development of the County's roadway system and the safe, efficient, and reliable movement of people and goods throughout Sutter County.*
    - The Project would be consistent with General Plan Policies M 2.5: Level of Service on County Roads, M 2.6: Mitigation by New Development, and M 2.7: Regional Improvements as it is not projected to cause any LOS deficiencies and would potentially provide fair share contributions towards future signalization improvements at the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections.

- **Goal M-7:** *Employ strategies that reduce the use of fossil fuels, reduce greenhouse gas emissions caused by transportation, and improve air quality.*
    - The Project is consistent with General Plan Policies M 7.1: New Development, M 7.2: New Development, and M 7.3: Regional Objectives as it has a less-than-significant transportation impact on regional VMT and would provide local-serving retail services.

1. INTRODUCTION AND BACKGROUND

This report has been prepared to present the results of a TIS performed by Wood Rodgers, Inc. for the proposed Pleasant Grove Self-Storage Project (Project) located in Sutter County, California. This analysis has been performed to determine any operational deficiencies the proposed Project may cause on surrounding transportation facilities and identify potential improvement measures that could be implemented to address any deficiencies. This TIS also evaluates Project VMT in the context of California Environmental Quality Act (CEQA) requirements for determining potential significant transportation impacts due to the Project.

1.1 PROJECT DESCRIPTION

The proposed Project is located approximately 400 feet south of the Pleasant Grove Road (South) / W Riego Road intersection within Sutter County. The existing 10.12-acre Project site is generally undeveloped with some portion of the land recently being used to grow crops. The proposed Project consists of a self-storage complex with up to 1,100 various sized units. There will be a 1,363 square foot office on site. The self-storage complex will have hours of operation of 7:00 AM to 7:00 PM seven days a week, with five (5) to seven (7) total employees including security and janitorial staff. Gross floor area of the self-storage units will be approximately 146,350 square feet. The storage complex office will contain a front desk for transactions and security, a small display area for products such as locks and packing supplies, a small waiting area, and a bathroom. The Project application includes a General Plan Amendment of the Project parcels from AG-80 (Agriculture, 80-acre minimum) to I/C (Industrial/Commercial), and a Rezone from AG (Agriculture) to CM-PD (Commercial-Industrial-Planned Development).

The Project site location is shown on the map in **Figure 1**. The Project Site Plan (NVES) may be found in **Appendix A**.

1.2 STUDY AREA

Study facilities include the intersections and roadway segments discussed below.

1.2.1 Intersections

Study intersections were selected for analysis based on discussion with County engineering staff. The following three (3) study intersections were analyzed in this TIS:

1. Pleasant Grove Road (North) / W Riego Road
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road
3. Pleasant Grove Road / Project Driveway (proposed)

1.2.2 Roadway Segments

The following three (3) existing study roadway segments were analyzed in this TIS:

1. W Riego Road between State Route 99 (SR-99) and Pleasant Grove Road
2. Baseline Road between Pleasant Grove Road and Watt Avenue
3. Pleasant Grove Road between Baseline Road and Rio Linda Boulevard

The locations of the above study intersections and roadway segments are shown in **Figure 1**.

1.2.3 Pedestrian, Bicycle, and Transit Facilities

This TIS provides a qualitative evaluation of the pedestrian, bicycle, and transit facilities located in the vicinity of the study area intersections listed above, and which would be used to gain access to the Project site.

Project Location and Study Facilities

Pleasant Grove Road Self-Storage
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 1

WOOD RODGERS

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1.3 ANALYSIS SCENARIOS

The three (3) study intersections were evaluated under weekday AM peak hour (highest hour of traffic between 7:00 AM and 9:00 AM) and PM peak hour (highest hour of traffic between 4:00 PM and 6:00 PM) conditions. The three (3) study roadway segments were evaluated under weekday daily conditions. All study intersections and roadway segments were evaluated under the following scenarios:

- **Existing Conditions**: Existing traffic volumes from counts.
- **Existing Plus Project Conditions**: Existing traffic volumes plus traffic projected to be generated by the proposed Project.
- **Cumulative Conditions**: Cumulative conditions traffic volumes were obtained from the *Sunset Area Plan (SAP) and Placer Ranch Specific Plan (PRSP) Final Transportation Impact Study* (Fehr and Peers, dated December 2018). More information about Cumulative conditions is contained in Chapter 4 of this report.
- **Cumulative Plus Project Conditions:** Cumulative traffic volumes plus traffic projected to be generated by the proposed Project.

1.4 ANALYSIS METHODS

Traffic operations in this TIS have been quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. LOS "A" represents free-flow conditions with little to no delays, while LOS "F" represents jammed or grid-lock conditions.

1.4.1 Intersections

Intersection LOS has been calculated for all intersection control types using methods documented in the Transportation Research Board Publication *Highway Capacity Manual, 6th Edition* (HCM 6th Edition). For one-way-stop-controlled (OWSC) intersections, the "worst-case" movement delays and LOS are reported. For signalized intersections, the intersection delays and LOS reported are the "average" values for the whole intersection. The delay-based HCM 6th Edition LOS criteria for different types of intersection controls are outlined in **Table 1**.

Table 1. HCM 6th Edition Intersection LOS Thresholds

Level of Service	Description	Intersection Control Delay (seconds/vehicle)	
		Unsignalized	Signalized
A	Free-flow conditions with negligible to minimal delays.	delay ≤ 10.0	delay ≤ 10.0
B	Good progression with slight delays.	10.0 < delay ≤ 15.0	10.0 < delay ≤ 20.0
C	Relatively higher delays.	15.0 < delay ≤ 25.0	20.0 < delay ≤ 35.0
D	Somewhat congested conditions with longer but tolerable delays.	25.0 < delay ≤ 35.0	35.0 < delay ≤ 55.0
E	Congested conditions with significant delays.	35.0 < delay ≤ 50.0	55.0 < delay ≤ 80.0
F	Jammed or grid-lock type operating conditions.	delay > 50.0	delay > 80.0
Source: HCM 6th Edition Exhibit 19-8 and 20-2.			

"Peak Hour Factors" (PHF) based on traffic data collected at each intersection were used under Existing and Existing Plus Project peak hour analyses and "default" PHF's of 0.92 were used for Cumulative and Cumulative Plus Project analyses. *Synchro 10* operations analysis software was used to complete the HCM 6th Edition LOS analysis procedures for study intersections.

1.4.2 Roadway Segments

Roadway segment LOS was calculated by comparing study roadway ADT volumes, obtained from recent traffic counts, to corresponding daily roadway segment LOS thresholds. Existing and future roadway facility types for the study roadways were obtained from the *Sutter County General Plan* (adopted March 29, 2011) and the *Placer County General Plan* (updated May 21, 2013). Roadway capacities for each facility type were obtained from the *Sutter County General Plan Draft Environmental Impact Report* (dated September 2010) and the *Sutter Pointe Specific Plan Draft Environmental Impact Report* (dated December 2008). Roadway segment LOS thresholds are shown in **Table 2**.

Table 2. Level of Service Criteria for Roadway Segments

Facility Type	Maximum Volume for Given Service Level		
	C	D	E
Sutter County Facilities			
Rural Major Collector (2 Lanes)[1]	10,600	16,400	25,200
Rural Major Collector (4 Lanes)[3]	26,340	29,640	32,930
Urban Minor Arterial (6 Lanes)[3]	39,510	44,460	49,395
Placer County Facilities			
Thoroughfare (2 Lanes)[2]	10,600	16,400	25,200
Thoroughfare (6 Lanes)[4]	39,510	44,460	49,395

Notes:
[1] Facility Type based on Figure 6-1: Existing Functional Classification Circulation Diagram of the *Sutter County General Plan*. Capacity threshold based on Table 6.14-6 Roadway Level of Service Thresholds from the *Sutter County General Plan Draft Environmental Impact Report*.
[2] Facility Type based on Figure 1-8: Circulation Plan Diagram from the *Placer County General Plan*. Capacity threshold based on Table 6.14-6 Roadway Level of Service Thresholds from the *Sutter County General Plan Draft Environmental Impact Report*.
[3] Facility Type based on Figure 6-2: Future Functional Classification Circulation Diagram of the *Sutter County General Plan*. Capacity threshold based on Table 3.3-4 LOS Criteria-Roadway Segments from the *Sutter Pointe Specific Plan Draft Environmental Impact Report*.
[4] Facility Type based on Figure 1-8: Circulation Plan Diagram from the *Placer County General Plan*. Capacity threshold based on Table 3.3-4 LOS Criteria-Roadway Segments from the *Sutter Pointe Specific Plan Draft Environmental Impact Report*.

1.5 Level of Service Standards and Significant Impact Criteria

1.5.1 LOS Standards

As stated in *Sutter County General Plan* Policy M 2.5, the County currently utilizes LOS D as the minimum acceptable LOS threshold for all roadways and intersections during the AM and PM peak periods. The Placer County General Plan states that the minimum acceptable LOS for rural, urban, and suburban roadways within the County is LOS C. Therefore, this study uses LOS D as the minimum acceptable threshold at all study intersections and roadways except for the roadway segment of Baseline Road between Pleasant Grove Road and Watt Avenue, which utilizes LOS C as the minimum acceptable LOS threshold.

1.5.2 Deficiency Criteria

Sutter County

Sutter County does not currently have documented criteria to determine Project-related deficiencies at intersections or roadway segments. Therefore, this study assumes the following deficiency criteria, which are consistent with deficiency criteria outlined for Sutter County in the *SAP and PRSP Final Transportation Impact Study*:

Signalized and Unsignalized Intersections: A project is considered to cause an operational deficiency if it would:

- cause an intersection currently operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- increase intersection delay by five (5) or more seconds at an intersection that is operating at an unacceptable LOS without the project.

Roadway Segments: A project is considered to cause an operational deficiency if it would:

- cause a roadway segment currently operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- increase the V/C ratio by 0.05 or more at a roadway segment that is operating at an unacceptable LOS without the project.

Placer County

Deficiency criteria outlined for roadway segments in the *County of Placer Transportation Study Guidelines* (dated November 2020) has been applied at the study roadway segment within Placer County's jurisdiction. For the segment of Baseline Road between Pleasant Grove Road and Watt Avenue, a project is considered cause an operational deficiency if it would:

- cause a roadway segment currently operating at an acceptable LOS to deteriorate to an unacceptable LOS; or
- increase the V/C ratio by 0.05 or more at a roadway segment that is operating at an unacceptable LOS without the project; or
- increase the ADT by 100 or more Project trips per lane on a roadway segment operating at an unacceptable LOS without the project.

1.5.3 Signal Warrants

In order to determine whether traffic signals should be installed at currently unsignalized intersections, a supplemental *California Manual on Uniform Traffic Control Devices* (CA MUTCD, last updated March 27, 2020) based traffic signal warrant analysis was also completed. The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an unsignalized intersection location. CA MUTCD indicates that "the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal." This TIS evaluated CA MUTCD based Peak Hour Volume Warrant #3 as a representative type of warrant analysis.

1.6 REPORT ORGANIZATION

The remainder of this report is divided into the following chapters:

- **Chapter 2: Existing Conditions –** Describes existing conditions and operations of the study area facilities, transit system, pedestrian facilities, and bicycle facilities.
- **Chapter 3: Existing Plus Project Conditions –** Describes the methods used to estimate and distribute Project generated traffic and the resulting study area operations.
- **Chapter 4: Cumulative Conditions –** Describes Cumulative (without Project) conditions and operations of the study area facilities.
- **Chapter 5: Cumulative Plus Project Conditions –** Describes Cumulative Plus Project conditions and operations of the study area facilities.
- **Chapter 6: Project-Related Deficiencies and Improvement Measures –** Describes projected deficiencies on study area facilities caused by the Project (if any) and presents potential improvements.
- **Chapter 7: VMT Analysis –** Describes the determination of Project impact on VMT.
- **Chapter 8: Site Access, Circulation, and General Plan Consistency –** Describes Project site access, circulation, and General Plan policy consistency. Presents potential Project site improvements if needed.

2. EXISTING CONDITIONS

This chapter describes the existing roadway network, transit services, pedestrian facilities, and bicycle facilities within the study area. It also presents existing volumes at study intersections and roadways as well as calculated delays and intersection and roadway segment LOS.

2.1 EXISTING ROADWAY NETWORK

This section provides descriptions of the study area roadways.

W Riego Road / Baseline Road is a two-lane rural collector that runs east-west between Garden Highway in Sutter County and Lincoln Street in the City of Roseville. The roadway is named W Riego Road west of Pleasant Grove Road (South) within Sutter County's jurisdiction and is named Baseline Road east of Pleasant Grove Road (South) within Placer County's jurisdiction. Within the Project vicinity, the posted speed limit is 55 miles per hour (mph). W Riego Road / Baseline Road forms all-way stop-controlled intersections with Pleasant Grove Road (North) and Pleasant Grove Road (South).

Pleasant Grove Road (North and South) is a two-lane rural collector that runs north-south between Wheatland Road in Sutter County and Rio Linda Boulevard in Sacramento County, with an offset in the north and south segments of the road at W Riego Road. Pleasant Grove Road (North) forms an all-way stop-controlled intersection with W Riego Road that lies approximately 1,000 feet west of the all-way stop-controlled intersection of Pleasant Grove Road (South) with W Riego Road-Baseline Road. Within the Project vicinity, the posted speed limit is 55 mph.

2.2 PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

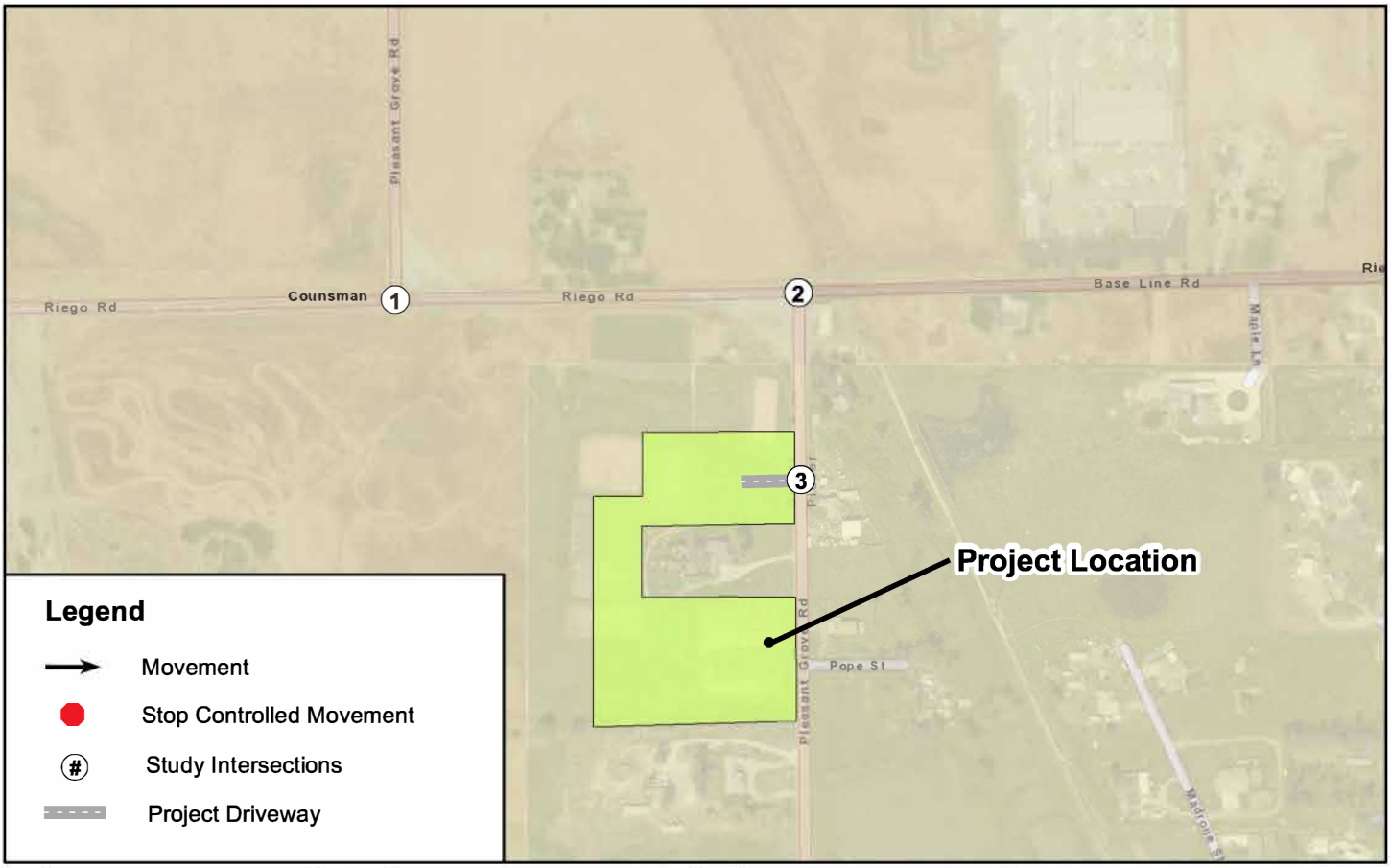
There are currently no pedestrian, bicycle, or transit facilities within the Project area.

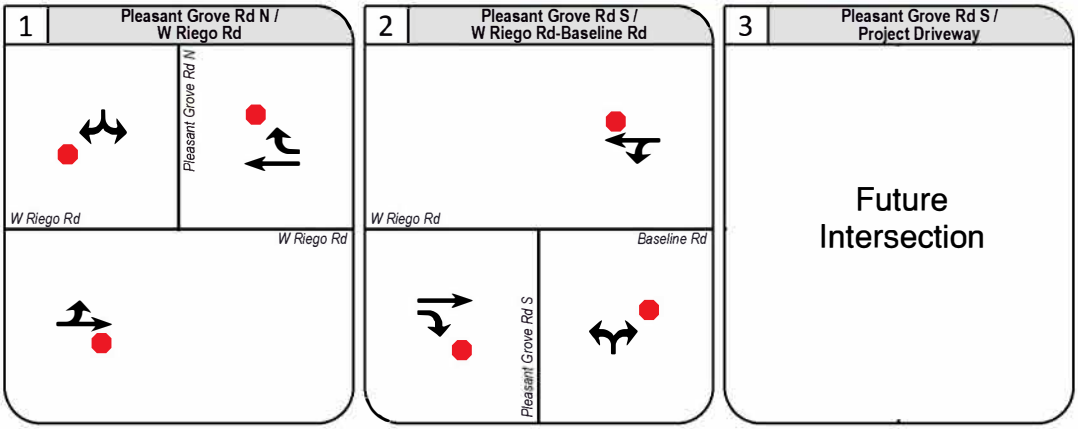
2.5 EXISTING TRAFFIC VOLUMES AND INTERSECTION LANE GEOMETRICS

Project study intersection traffic operations were evaluated for the weekday AM and PM peak hours. The AM peak hour is defined as the highest one hour of traffic flow counted between 7:00 AM and 9:00 AM on a typical weekday. The PM peak hour is defined as the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday. AM and PM peak hour counts taken on Tuesday, April 23, 2019 were obtained for the existing Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections.

Project study roadway segment traffic operations were evaluated for typical existing weekday daily conditions. As recent ADT counts for the study roadway segments were not available, Existing conditions peak hour and roadway ADT volumes found in the *SAP and PRSP Final Transportation Impact Study* at the Watt Avenue / Baseline Road intersection were used to find a relationship between peak hour volumes and daily volumes on Baseline Road. The assessment showed that PM peak hour volumes on Baseline Road were approximately 13% of the roadway's ADT. This factor was then applied to the peak hour intersection counts to calculate the estimated Existing ADT on the three study roadway segments.

Figure 2 illustrates Existing intersection lane geometrics and control. **Figure 3** illustrates Existing conditions weekday AM and PM peak hour intersection turning movement volumes and weekday ADT roadway segment volumes. Intersection raw count sheets are included in **Appendix B**.





Existing Lane Geometrics and Control

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 2

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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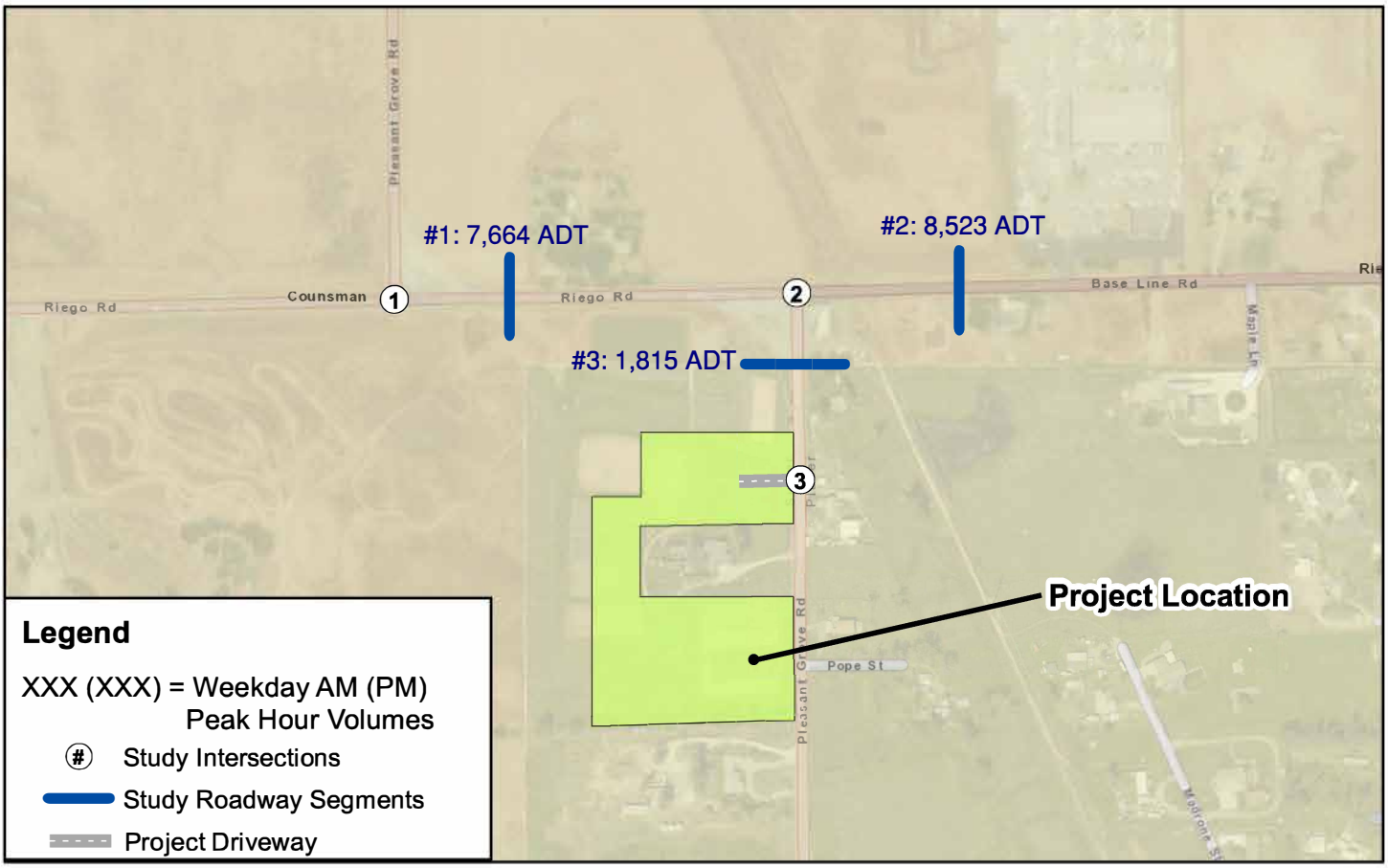

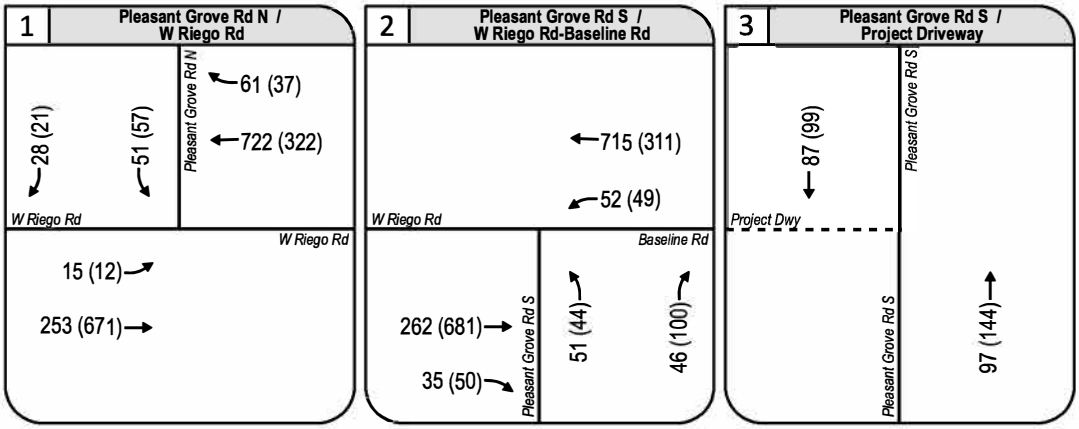

Existing Traffic Volumes

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 3

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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2.6 EXISTING INTERSECTION AND ROADWAY SEGMENT OPERATIONS

Table 3 presents Existing conditions study intersection traffic operations analysis under Existing intersection geometrics and control (illustrated in **Figure 2**) and Existing intersection traffic volumes (illustrated in **Figure 3**).

Table 3. Existing Conditions Intersection Traffic Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions		
					Delay (S/V)[1]	LOS	Wrnt Met?[2]
1	Pleasant Grove Road (North) / W Riego Road	AWSC	D	AM	**43.5**	**E**	No
				PM	34.0	D	No
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	AWSC	D	AM	**44.0**	**E**	No
				PM	**49.5**	**E**	No
3	Pleasant Grove Road / Project Driveway	OWSC	D	AM	-	-	N/A
				PM	-	-	N/A

Notes:
***Bold** values indicate unacceptable LOS operations.*
[1] "Average" control delays (in seconds/vehicle) are indicated for All-way Stop-Control (AWSC) and Signal controlled intersections. "Worst-movement delay" (in seconds/vehicle) is indicated for One-Way Stop-Controlled (OWSC) intersections.
[2] Wrnt Met? = CA MUTCD based Peak-hour-Volume Warrant #3.

As shown in **Table 3**, the following intersections are currently operating at unacceptable LOS E or worse:

1. Pleasant Grove Road (North) / W Riego Road – AM peak hour
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road – AM and PM peak hours

CA MUTCD Peak Hour Signal Warrant #3 is currently not met at any of the unsignalized study intersections. Synchro software HCM 6th Edition intersection LOS outputs are included in **Appendix C** and CA MUTCD Peak Hour Signal Warrant #3 worksheets are included in **Appendix D**.

Table 4 presents Existing conditions study roadway segment traffic operations under Existing roadway ADT volumes.

Table 4. Existing Conditions Roadway Segment Traffic Operations

#	Roadway Segment	Facility Type[1]	Minimum LOS Standard	Maximum Volume for Acceptable LOS[1]	Existing ADT	V/C[2]	LOS
1	W Riego Road b/w SR 99 and Pleasant Grove Road	Rural Major Collector (2 Lanes)	D	16,400	7,664	0.30	C or better
2	Baseline Road b/w Pleasant Grove Road and Watt Avenue	Thoroughfare (2 Lanes)	C	10,600	8,523	0.34	C or better
3	Pleasant Grove Road b/w Baseline Road and Rio Linda Boulevard	Rural Major Collector (2 Lanes)	D	16,400	1,815	0.07	C or better

Note:
*[1] Based on the values found in **Table 2**. Level of Service Criteria for Roadway Segments*
[2] V/C = Volume to Capacity Ratio

As shown in **Table 4**, all study roadway segments are projected to operate at acceptable LOS. All recommended improvements and improvement measures are discussed in a subsequent section of this TIS report.

3. EXISTING PLUS PROJECT CONDITIONS

This chapter provides a description of the proposed Project, a discussion of the trip generation and distribution/assignment methods used to come up with "Project Only" volumes at the study intersections and roadway segments, and an analysis of projected traffic operations once the proposed Project is completed.

3.1 PROJECT SITE DESCRIPTION

The proposed Project consists of a self-storage complex with up to 1,100 various sized units. There will be a 1,363 square foot office on site. The self-storage complex will have hours of operation of 7:00 AM to 7:00 PM seven days a week, with five (5) to seven (7) total employees including security and janitorial staff. Gross floor area of the self-storage units will be approximately 146,350 square feet. The storage complex office will contain a front desk for transactions and security, a small display area for products such as locks and packing supplies, a small waiting area, and a bathroom. The Project application includes a General Plan Amendment of the Project parcels from AG-80 (Agriculture, 80-acre minimum) to I/C (Industrial/Commercial), and a Rezone from AG (Agriculture) to CM-PD (Commercial-Industrial-Planned Development).

3.2 PROJECT GENERATED TRIPS

3.2.1 Trip Generation

The following trip generation rates from the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition* were used to estimate Project generated trips:

Mini-Warehouse – For the self-storage site, the Mini-Warehouse (Code 151) trip generation rate was used. ITE Trip Generation describes a Mini-Warehouse as: "…*a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as "self-storage" facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point."*

Table 5 summarizes the trip generation rates used for the proposed Project and **Table 6** summarizes the trip generation volumes for the proposed Project.

Consistent with the *ITE Trip Generation Handbook, 3rd Edition*, the independent variable of "Storage Units" was used to estimate Project trip generation, as the proposed number of storage units in the Project (1,100) is more accurately represented by the data set contained in the ITE trip generation rate for a Mini-Warehouse based on number of "Storage Units" as opposed to the rates based on "1,000 Square Feet of Gross Floor Area". Specifically, the number of storage units proposed by the Project (1,100) falls within the plotted data points shown in the ITE trip generation rate for a Mini-Warehouse based on number of "Storage Units", whereas the gross floor area of the Project (147,713 square feet) lies well outside the plotted data available for a Mini-Warehouse based on quantity of "1,000 Square Feet of Gross Floor Area". *ITE Trip Generation Manual, 10th Edition* data plots for the Mini-Warehouse land use are included in **Appendix E**.

Table 5. Project Trip Generation Rates

Land Use Category	ITE Source Code	Rate Unit	Weekday Daily Trip Rate/ Unit[1]	Weekday AM Peak Hour Rate/Unit[1]			Weekday PM Peak Hour Rate/Unit[2]		
				Total	In%	Out%	Total	In%	Out%
Mini-Warehouse	151	Storage Unit (per 100)	18.45	1.64	51%	49%	1.95	50%	50%

Notes:
[1] Trip rates based on fitted curve equations for the proposed land use consistent with information contained in the ITE Trip Generation Manual, 10th Edition
[2] Trip rates based on average rates for the proposed land use consistent with information contained in the ITE Trip Generation Manual, 10th Edition

Table 6. Project Trip Generation Volumes

Land Use	Units	Quantity	Weekday Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Mini-Warehouse	Storage Units (per 100)	11.00	203	18	9	9	21	11	10

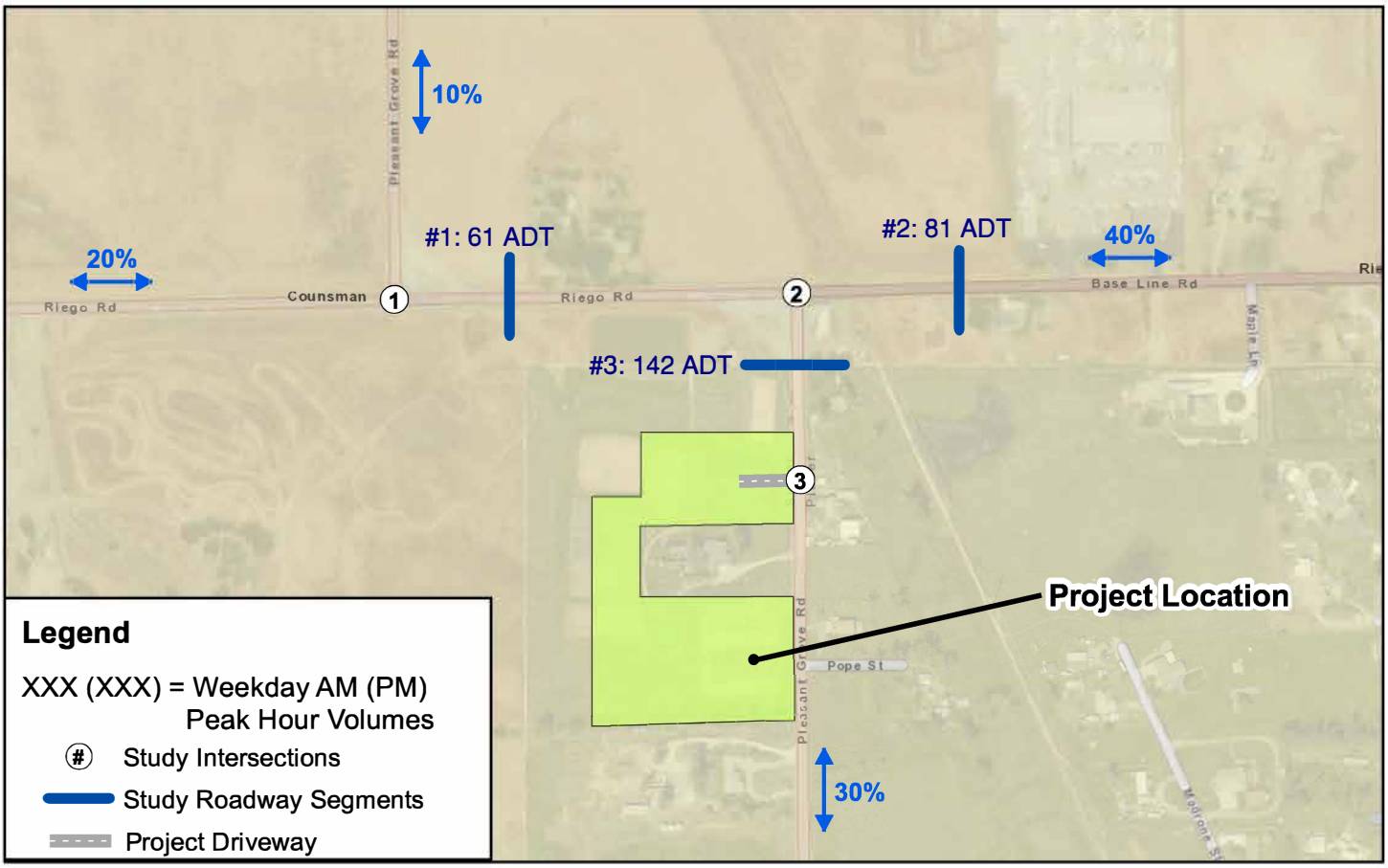
As illustrated in **Table 6**, the proposed Project is anticipated to generate a total of 203 daily trips, 18 AM peak hour trips (9 inbound, 9 outbound), and 21 PM peak hour trips (11 inbound, 10 outbound) under typical weekday traffic demand conditions.

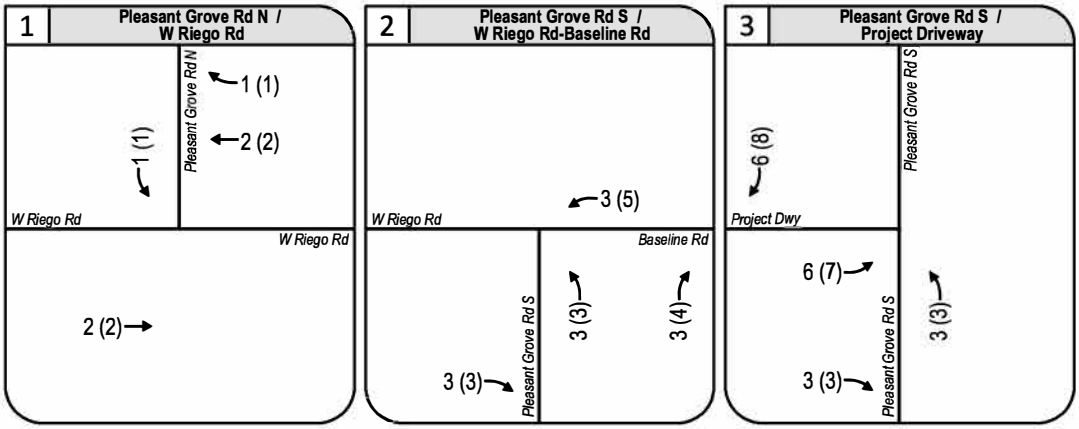
3.2.2 Project Trip Distribution and Assignment

The Project trip distribution was determined based on existing traffic volumes and travel patterns, knowledge of the area, and engineering judgement. Project generated trips were assigned to the study area network based on the Project trip distribution.

Figure 4 illustrates the estimated weekday Project directional trip distribution pattern, projected to be generally applicable for the Project under existing and future conditions on an annualized average usage basis, and the estimated "Project Only" traffic volumes at study intersections and roadway segments.

"Project Only" traffic volumes were added on top of Existing conditions traffic volumes at study intersections and roadway segments to create Existing Plus Project conditions traffic volumes. **Figure 5** illustrates the estimated Existing Plus Project conditions traffic volumes at study intersections and roadway segments.





"Project Only" Distribution and Traffic Volumes
Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 4

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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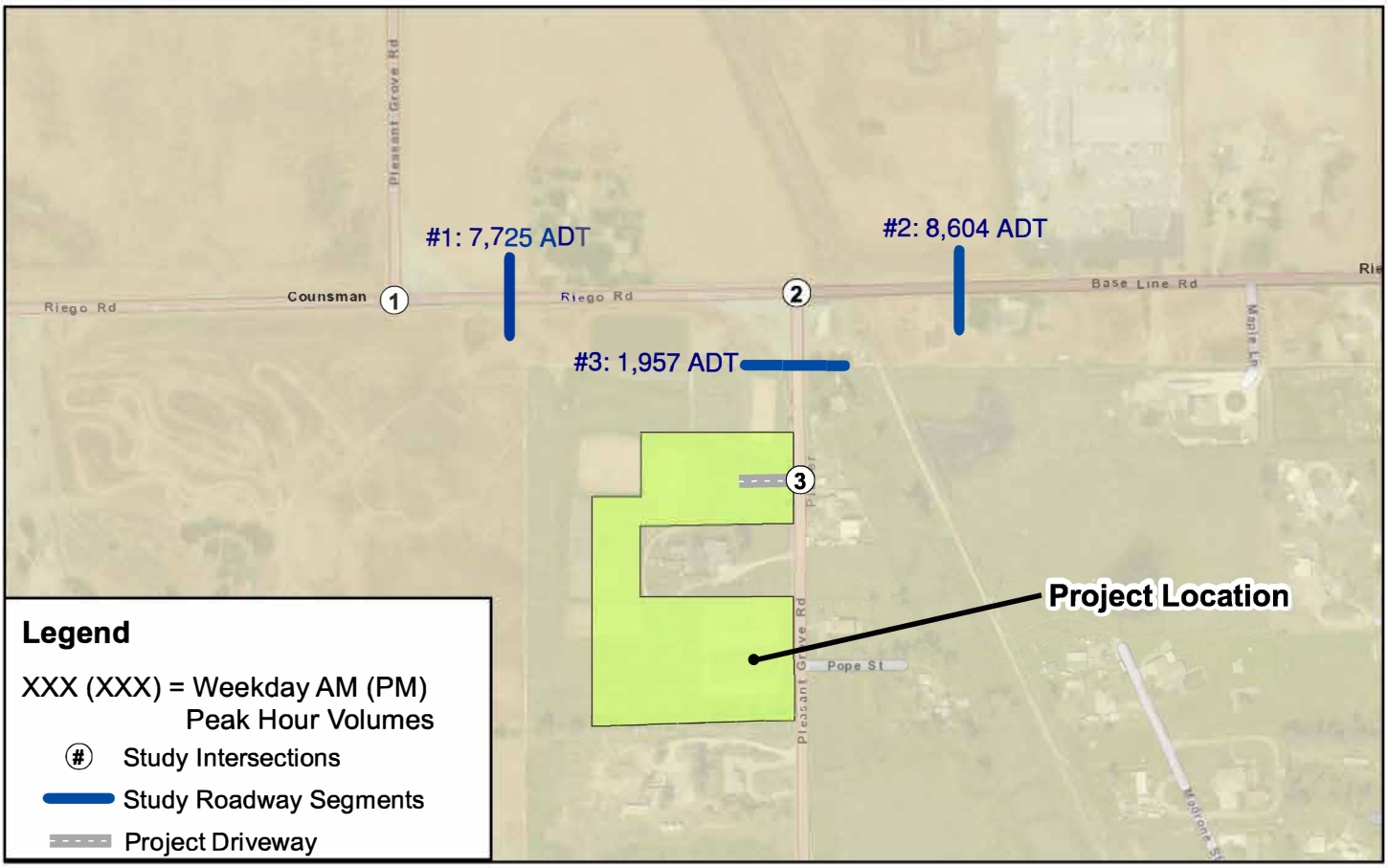

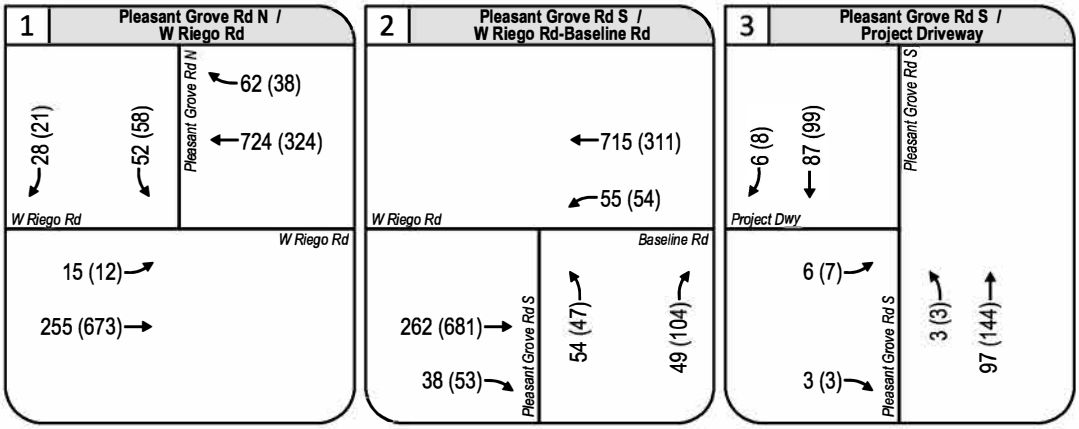

Existing Plus Project Traffic Volumes

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 5

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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3.3 EXISTING PLUS PROJECT INTERSECTION AND ROADWAY SEGMENT OPERATIONS

Existing Plus Project intersection operations were analyzed under the Existing Plus Project traffic volumes (shown in **Figure 5**) and existing intersection lane geometrics and control (shown in **Figure 2**). **Table 7** illustrates the resulting Existing Plus Project intersection LOS operations. **Table 7** also contains Existing conditions intersection delays and LOS for comparison purposes, as well as the projected change in intersection delay caused by the addition of Project generated trips.

Table 7. Existing Plus Project Conditions Intersection Traffic Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions			Existing Plus Project Conditions			
					Delay (S/V)[1]	LOS	Wrnt Met?[2]	Delay (S/V)[1]	LOS	Wrnt Met?[2]	Change in Delay
1	Pleasant Grove Road (North) / W Riego Road	AWSC	D	AM	**43.5**	**E**	No	**44.2**	**E**	No	0.7
				PM	34.0	D	No	34.5	D	No	0.5
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	AWSC	D	AM	**44.0**	**E**	No	**45.7**	**E**	No	1.7
				PM	**49.5**	**E**	No	**50.8**	**F**	No	1.3
3	Pleasant Grove Road / Project Driveway	OWSC	D	AM	-	-	N/A	9.4	A	No	9.4
				PM	-	-	N/A	9.7	A	No	9.7

Notes:
***Bold** values indicate unacceptable LOS operations.*
[1] "Average" control delays (in seconds/vehicle) are indicated for All-way Stop-Control (AWSC) and Signal controlled intersections. "Worst-movement delay" (in seconds/vehicle) is indicated for One-Way Stop-Controlled (OWSC) intersections.
[2] Wrnt Met? = CA MUTCD based Peak-hour-Volume Warrant #3.

As shown in **Table 7**, the following intersections are projected to operate at unacceptable LOS E or worse with the addition of Project trips:

1. Pleasant Grove Road (North) / W Riego Road – AM peak hour
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road – AM and PM peak hours

CA MUTCD Peak Hour Signal Warrant #3 is currently not met at any of the unsignalized study intersections. Synchro software HCM 6th Edition intersection LOS outputs are included in **Appendix C** and CA MUTCD Peak Hour Signal Warrant #3 worksheets are included in **Appendix D**.

Existing Plus Project roadway operations were quantified under Existing Plus Project traffic volumes (shown in **Figure 5**). **Table 8** illustrates the resulting Existing Plus Project roadway segment LOS operations under weekday daily conditions.

Table 8 also contains Existing conditions roadways segment ADT and LOS for comparison purposes. All recommended improvements and improvement measures are discussed in a subsequent section of this TIS report.

Table 8. Existing Plus Project Conditions Roadway Segment Traffic Operations

#	Roadway Segment	Facility Type[1]	Minimum LOS Standard	Maximum Volume for Acceptable LOS[1]	Project ADT	Existing Plus Project ADT	V/C[2]	LOS	Change in V/C from Existing
1	W Riego Road b/w SR 99 and Pleasant Grove Road	Rural Major Collector (2 Lanes)	D	16,400	61	7,725	0.31	C or better	0.01
2	Baseline Road b/w Pleasant Grove Road and Watt Avenue	Thoroughfare (2 Lanes)	C	10,600	81	8,604	0.34	C or better	0.00
3	Pleasant Grove Road b/w Baseline Road and Rio Linda Boulevard	Rural Major Collector (2 Lanes)	D	16,400	142	1,957	0.08	C or better	0.01

Note:
[1] *Based on the values found in* ***Table 2****. Level of Service Criteria for Roadway Segments*
[2] V/C = Volume to Capacity Ratio

4. CUMULATIVE CONDITIONS

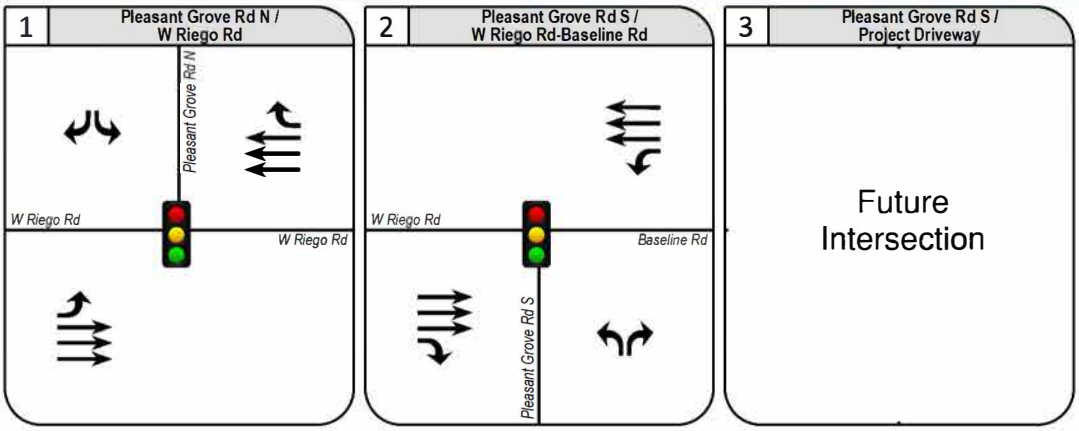
This chapter describes planned changes in the study roadway network under future conditions, presents Cumulative volumes at study intersections and roadways, and presents calculated delays and intersection and roadway segment LOS.

4.1 CUMULATIVE TRAFFIC VOLUMES AND INTERSECTION LANE GEOMETRICS

Cumulative conditions represent a future year traffic scenario and reflect planned changes in roadway capacity and intersection control at the study facilities. The following network changes are assumed to occur under Cumulative conditions based on Figure 6-2: Future Functional Classification Circulation Diagram of the *Sutter County General Plan* and as described in the *SAP and PRSP Final Transportation Impact Study*:

- W Riego Road-Baseline Road: Increase in capacity to a six-lane facility
- Pleasant Grove Road (North and South): Increase in capacity to a four-lane facility
- Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections: Installation of traffic signals

Cumulative conditions traffic volumes were obtained from the *SAP and PRSP Final Transportation Impact Study*, which presents a "Cumulative Plus Placer Ranch Plus SAP (20-Year Absorption)" condition in which full buildout of the PRSP and 20 years of development in the remainder of the SAP is assumed. Excerpts from the *SAP and PRSP Final Transportation Impact Study* showing cumulative volumes at the study intersections are included in **Appendix F**. Cumulative conditions intersection lane geometrics are shown in **Figure 6** and Cumulative traffic volumes are shown in **Figure 7**.



Cumulative Lane Geometrics and Control

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 6

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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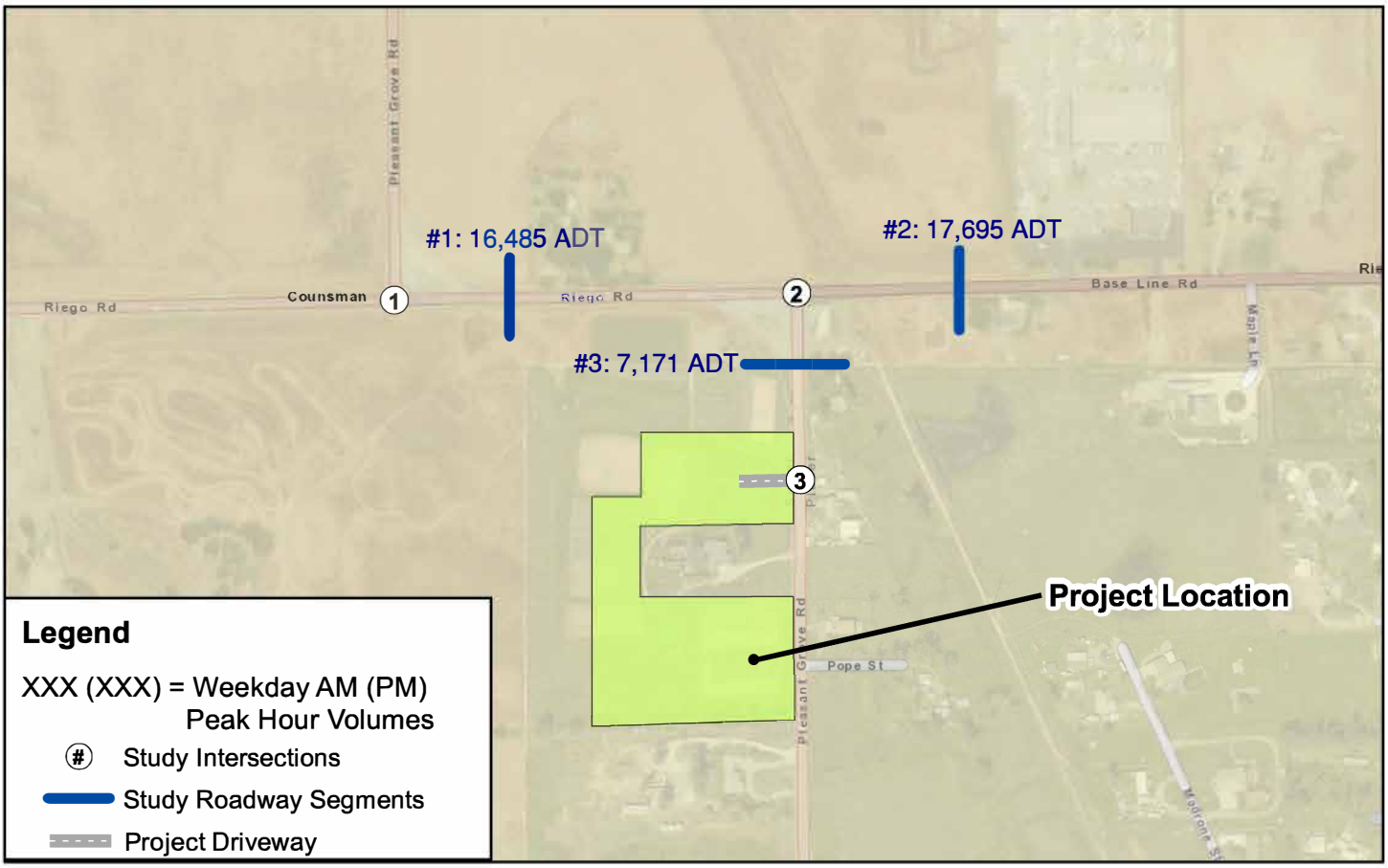

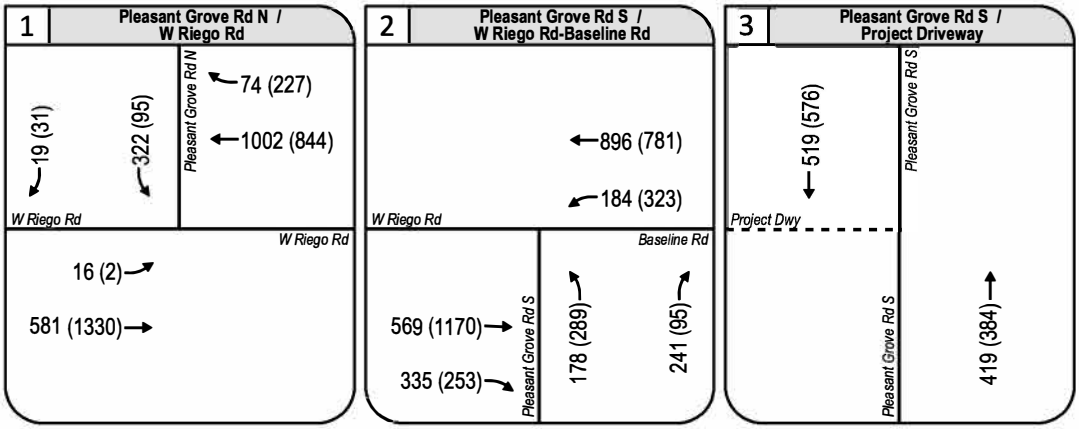

Cumulative Traffic Volumes

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 7

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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4.2 CUMULATIVE INTERSECTION AND ROADWAY SEGMENT OPERATIONS

Table 9 presents Cumulative study intersection traffic operations analysis under Cumulative intersection geometrics and control (illustrated in **Figure 6**) and Cumulative intersection traffic volumes (illustrated in **Figure 7**).

Table 9. Cumulative Conditions Intersection Traffic Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative Conditions		
					Delay (S/V)[1]	LOS	Wrnt Met?[2]
1	Pleasant Grove Road (North) / W Riego Road	Signal	D	AM	9.0	A	N/A
				PM	3.7	A	N/A
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	Signal	D	AM	12.5	B	N/A
				PM	21.3	C	N/A
3	Pleasant Grove Road / Project Driveway	OWSC	D	AM	-	-	N/A
				PM	-	-	N/A

Notes:
[1] "Average" control delays (in seconds/vehicle) are indicated for All-way Stop-Control (AWSC) and Signal controlled intersections. "Worst-movement delay" (in seconds/vehicle) is indicated for One-Way Stop-Controlled (OWSC) intersections.
[2] Wrnt Met? = CA MUTCD based Peak-hour-Volume Warrant #3.

As shown in **Table 9**, all study intersections are projected to operate at acceptable LOS (LOS D or better) conditions. CA MUTCD Peak Hour Signal Warrant #3 is not projected to be met at any of the unsignalized study intersections. Synchro software HCM 6th Edition intersection LOS outputs are included in **Appendix C** and CA MUTCD Peak Hour Signal Warrant #3 worksheets are included in **Appendix D**.

Table 10 presents study roadway segment traffic operations under Cumulative roadway ADT volumes.

Table 10. Cumulative Conditions Roadway Segment Traffic Operations

#	Roadway Segment	Facility Type[1]	Minimum LOS Standard	Maximum Volume for Acceptable LOS[1]	Cumulative ADT	V/C[2]	LOS
1	W Riego Road b/w SR 99 and Pleasant Grove Road	Urban Minor Arterial (6 Lanes)	D	44,460	16,485	0.33	C or better
2	Baseline Road b/w Pleasant Grove Road and Watt Avenue	Thoroughfare (6 Lanes)	C	39,510	17,695	0.36	C or better
3	Pleasant Grove Road b/w Baseline Road and Rio Linda Boulevard	Rural Major Collector (4 Lanes)	D	29,640	7,171	0.22	C or better

Note:
*[1] Based on the values found in **Table 2**, Level of Service Criteria for Roadway Segments*
[2] V/C = Volume to Capacity Ratio

As shown in **Table 10**, all study roadway segments are projected to operate at acceptably.

All recommended improvements and improvement measures are discussed in a subsequent section of this TIS report.

5. CUMULATIVE PLUS PROJECT CONDITIONS

This chapter describes traffic operations under a condition in which "Project Only" traffic volumes have been added to Cumulative traffic volumes to obtain Cumulative Plus Project conditions.

5.1 CUMULATIVE PLUS PROJECT INTERSECTION AND ROADWAY SEGMENT OPERATIONS

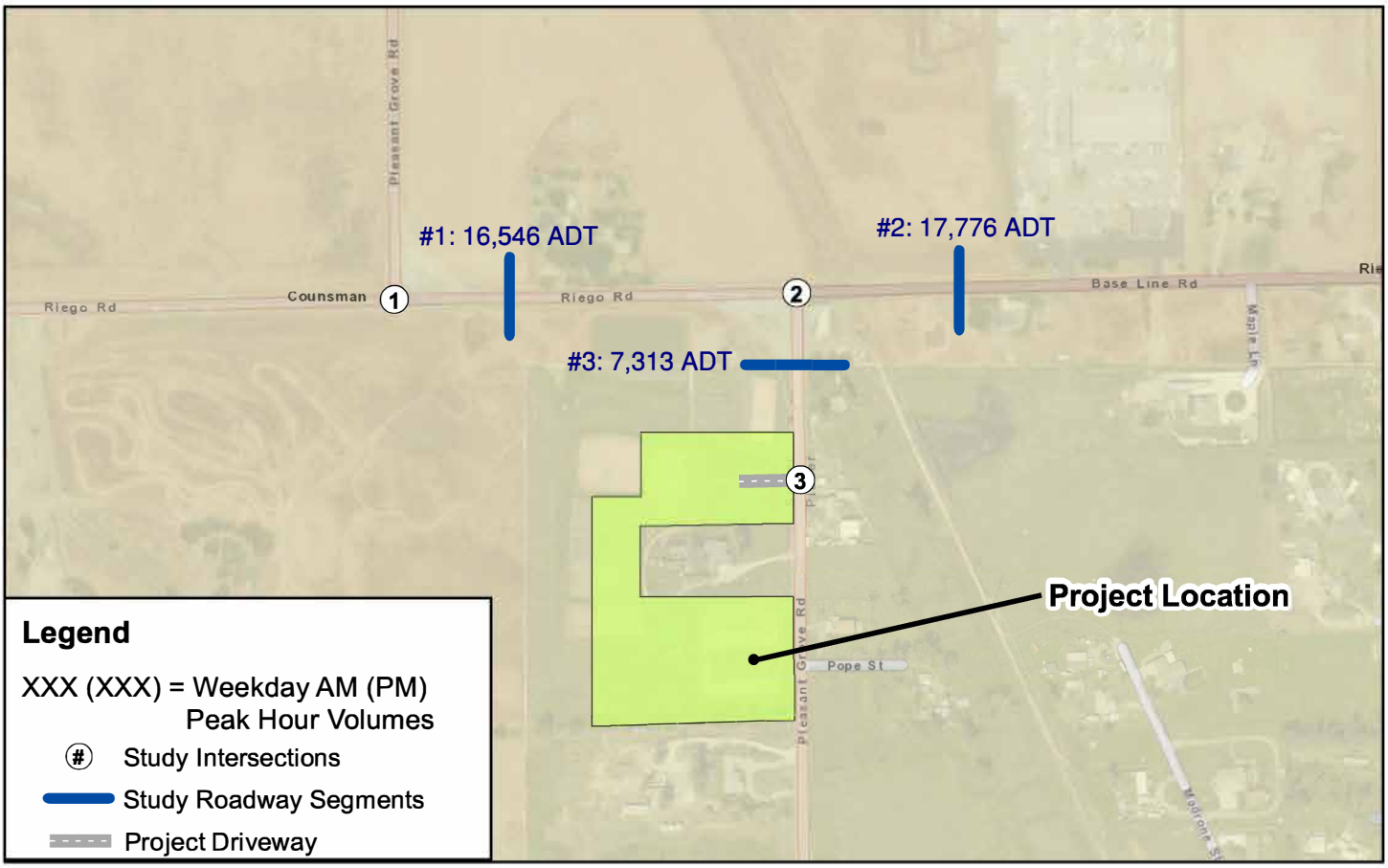
Cumulative Plus Project intersection operations were analyzed under the Cumulative Plus Project traffic volumes (shown in **Figure 8**) and Cumulative intersection lane geometrics and control (shown in **Figure 6**). **Table 11** illustrates the resulting Cumulative Plus Project intersection LOS operations. **Table 11** also contains Cumulative conditions intersection delays and LOS for comparison purposes, as well as the projected change in intersection delay caused by the addition of Project generated trips.

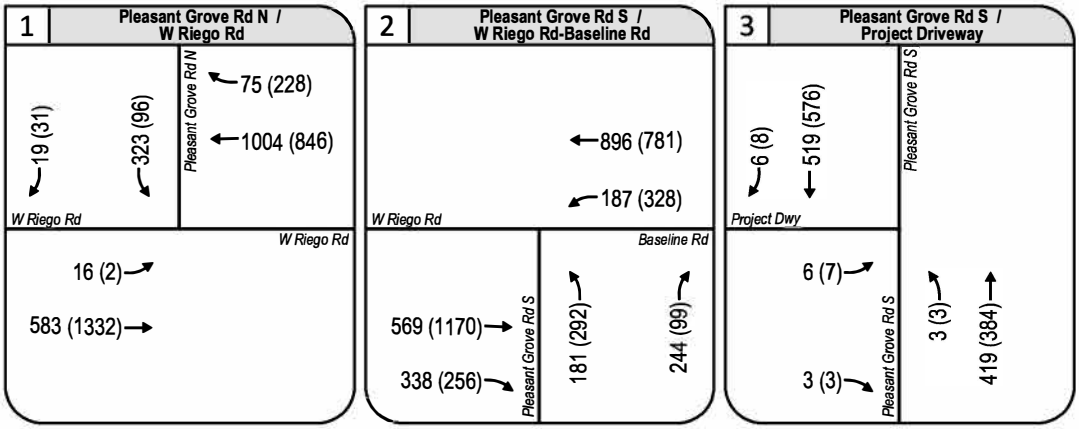
As shown in **Table 11,** all study intersections are projected to operate at acceptable level of service (LOS D or better) conditions. CA MUTCD Peak Hour Signal Warrant #3 is not projected to be met at the unsignalized study intersection. Synchro software HCM 6th Edition intersection LOS outputs are included in **Appendix C** and CA MUTCD Peak Hour Signal Warrant #3 worksheets are included in **Appendix D**.

Table 11. Cumulative Plus Project Conditions Intersection Traffic Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions			Existing Plus Project Conditions			
					Delay (S/V)[1]	LOS	Wrnt Met?[2]	Delay (S/V)[1]	LOS	Wrnt Met?[2]	Change in Delay
1	Pleasant Grove Road (North) / W Riego Road	Signal	D	AM	9.0	A	N/A	9.1	A	N/A	0.1
				PM	3.7	A	N/A	3.7	A	N/A	0.0
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	Signal	D	AM	12.5	B	N/A	12.6	B	N/A	0.1
				PM	21.3	C	N/A	21.9	C	N/A	0.6
3	Pleasant Grove Road / Project Driveway	OWSC	D	AM	-	-	N/A	14.4	B	No	14.4
				PM	-	-	N/A	15.3	C	No	15.3

Notes:
[1] "Average" control delays (in seconds/vehicle) are indicated for All-way Stop-Control (AWSC) and Signal controlled intersections. "Worst-movement delay" (in seconds/vehicle) is indicated for One-Way Stop-Controlled (OWSC) intersections.
[2] Wrnt Met? = CA MUTCD based Peak-hour-Volume Warrant #3.





Cumulative Plus Project Traffic Volumes

Pleasant Grove Road Self-Storage TIS
Sutter County, CA
April 2021

0 250 500
Feet

NORTH

Figure 8

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

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Cumulative Plus Project roadway operations were quantified under Cumulative Plus Project traffic volumes (shown in **Figure 8**). **Table 12** illustrates the resulting Cumulative Plus Project roadway segment LOS operations under weekday daily conditions.

Table 12. Cumulative Plus Project Conditions Roadway Segment Traffic Operations

#	Roadway Segment	Facility Type[1]	Minimum LOS Standard	Maximum Volume for Acceptable LOS[1]	Project ADT	Cumulative Plus Project ADT	V/C[2]	LOS	Change in V/C from Cumulative
1	W Riego Road b/w SR 99 and Pleasant Grove Road	Rural Major Collector (2 Lanes)	D	44,460	61	16,546	0.33	C or better	0.00
2	Baseline Road b/w Pleasant Grove Road and Watt Avenue	Thoroughfare (2 Lanes)	C	39,510	81	17,776	0.36	C or better	0.00
3	Pleasant Grove Road b/w Baseline Road and Rio Linda Boulevard	Rural Major Collector (2 Lanes)	D	29,640	142	7,313	0.22	C or better	0.00

Note:
[1] *Based on the values found in* ***Table 2****. Level of Service Criteria for Roadway Segments*
[2] V/C = Volume to Capacity Ratio

As shown in **Table 12**, all study roadway segments are projected to operate at acceptable level of service with the addition of Project trips.

6. PROJECT-RELATED DEFICIENCIES AND IMPROVEMENT MEASURES

This chapter of the TIS evaluates the "Plus Project" conditions study intersection and roadway segment operations results presented in Chapters 3 and 5 of this report against the LOS deficiency criteria summarized in Section 1.5 of this report.

6.1 EXISTING PLUS PROJECT DEFICIENCIES AND IMPROVEMENT MEASURES

The following study intersections are shown to operate at unacceptable LOS under Existing and Existing Plus Project conditions:

1. Pleasant Grove Road (North) / W Riego Road
2. Pleasant Grove Road (South) / W Riego Road-Baseline Road

The addition of Project trips is not projected to increase delay at the above intersections 5.0 seconds or more. Therefore, the Project would not cause an operational deficiency at the above study intersections.

CA MUTCD Signal Warrant #3 is not projected to be met at the above intersections with or without the addition of Project trips. However, as the Project is shown contribute to the unacceptable operations of the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections, and as there are planned signalizations of these intersections under future conditions, a Project fair share percent contribution is shown for informational purposes in **Table 13**.

Table 13. Project Fair Share Percentage

#	Intersection	Improvement	AM Peak Hour				PM Peak Hour			
			Existing Volume	Project Trips	Cumulative Volume	Project Fair Share %[1]	Existing Volume	Project Trips	Cumulative Volume	Project Fair Share %[1]
1	Pleasant Grove Road (North) / W Riego Road	Install a Traffic Signal	1,130	6	2,014	0.68%	1,120	6	2,529	0.43%
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	Install a Traffic Signal	1,161	12	2,403	0.97%	1,235	15	2,911	0.89%

Note:
[1]Project Fair Share % = (Project Trips)/(Cumulative Volume - Existing Volume). This method of calculating Project fair share is consistent with Appendix B of the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002).

As shown in **Table 13**, the Project would have a fair share of up to approximately 0.68% of the cost to install a traffic signal at the Pleasant Grove Road (North) / W Riego Road intersection and up to approximately 0.97% of the cost to install a traffic signal at the Pleasant Grove Road (South) / W Riego Road-Baseline Road intersection.

Table 14 provides an estimate of Project contribution to the potential improvements based on the fair share percentages shown in **Table 13.** The information in **Table 14** is provided for informational purposes.

Table 14. Project Fair Share Contribution Estimate

#	Intersection	Improvement	AM Peak Hour		
			Project Fair Share %	Improvement Cost[1]	Project Contribution
1	Pleasant Grove Road (North) / W Riego Road	Install a Traffic Signal	0.68%	$ 300,000	$ 2,040.00
2	Pleasant Grove Road (South) / W Riego Road-Baseline Road	Install a Traffic Signal	0.97%	$ 300,000	$ 2,900.00
				Total	$ 4,940.00

Note:
[1] The improvement cost is an estimate for the installation of a traffic signal at one three-legged intersection and is provided for informational purposes only.

All study roadways are projected to operate at acceptable LOS under Existing and Existing Plus Project Conditions.

6.2 Cumulative Plus Project Deficiencies and Improvement Measures

All study intersections and roadway segments are projected to operate acceptably under Cumulative and Cumulative Plus Project conditions. Therefore, not improvement measures are recommended.

6.3 Project Effects on Pedestrian, Bicycle, and Transit Facilities

Due to the nature of the Project, there is no projected increase to pedestrian or bicycle demand within the Project study area. The *County of Sutter Pedestrian and Bicycle Master Plan* (dated 2012), indicates that a Class III Bicycle Route is proposed for W Riego Road within the Project study area.

7. VEHICLE MILES TRAVELED ANALYSIS

This chapter includes an evaluation of the Project's VMT for the purposes of determining transportation impact in the context of CEQA requirements.

7.1 VMT ANALYSIS CRITERIA

As Sutter County has not currently adopted VMT significance criteria or guidelines, Project VMT impact has been analyzed using criteria outlined in the *County of Sacramento Transportation Analysis Guidelines* (dated September 10, 2020). The *County of Sacramento Transportation Analysis Guidelines* were selected as they represent guidelines developed for a similar, neighboring jurisdiction, and therefore were considered reasonably applicable in Sutter County.

7.2 PROJECT VMT SCREENING

Based on Table 3-1 of the *County of Sacramento Transportation Analysis Guidelines,* projects that meet the following screening criteria would be exempt from detailed CEQA transportation analysis and would be expected to result in a less-than-significant transportation impact:

- Small Projects – Project generating less than 237 ADT.
- Local-Serving Retail – Projects that are defined as "Retail" type projects in Appendix A of the *Transportation Analysis Guidelines* and that consist of 200,000 square feet of total gross floor area or less in a greenfield setting are considered local-serving retail projects.

The Project is estimated to generate 203 ADT. Therefore, the Project may be considered to be a "small project". The Project will develop 147,713 square feet of total gross floor area. Appendix A of the *Transportation Analysis Guidelines* indicates that the "Mini Storage" use is a Retail project type. As the Project is under 200,000 square feet of total gross floor area and is being developed within a greenfield setting, the Project may be considered "local-serving retail". Therefore, the proposed Project is exempt from a detailed CEQA transportation analysis and is expected to result in a **less-than-significant** transportation impact.

8. SITE ACCESS, CIRCULATION, AND GENERAL PLAN CONSISTENCY

This chapter includes discussion of Project access, internal circulation of the Project site, and General Plan transportation and circulation policy consistency.

8.1 PROJECT DRIVEWAY ACCESS

Access to the Project site is proposed via one gated, stop-controlled, full-access driveway on Pleasant Grove Road (South). Throat length of the proposed Project Access Driveway is shown to be approximately 75 feet between the internal gate and edge of traveled way of Pleasant Grove Road (South). 95th percentile egress queueing under "worst-case" Cumulative Plus Project conditions is shown to be less than one vehicle length (approximately 25 feet) during the PM peak hour, as shown in the HCM 6th Edition outputs contained in **Appendix C**, and would therefore be contained within the provided driveway throat length without blocking internal circulation of the site. Clear corner site triangles that do not contain obstructions for both left and right-turning vehicles exiting the site should be provided. The facility access gate is proposed to have a fire department approved design and entry system and should adhere to requirements outlined in Chapter 1500-20 of the Sutter County Code of Ordinances.

8.2 INTERNAL CIRCULATION

The proposed Project site would contain four parking spaces, including one accessible parking space, near the office. Visitors to the site would navigate to their storage unit via drive aisles between storage unit rows. Project internal drive aisles are projected to experience a low volume of traffic. Project internal circulation is projected to be adequate and no further improvements are recommended.

8.3 GENERAL PLAN POLICY CONSISTENCY

The Project application includes a General Plan Amendment of the Project parcels from AG-80 (Agriculture, 80-acre minimum) to I/C (Industrial/Commercial), and a Rezone from AG (Agriculture) to CM-PD (Commercial-Industrial-Planned Development). The proposed Project would remain consistent with the following applicable *Sutter County General Plan* circulation goals and associated policies:

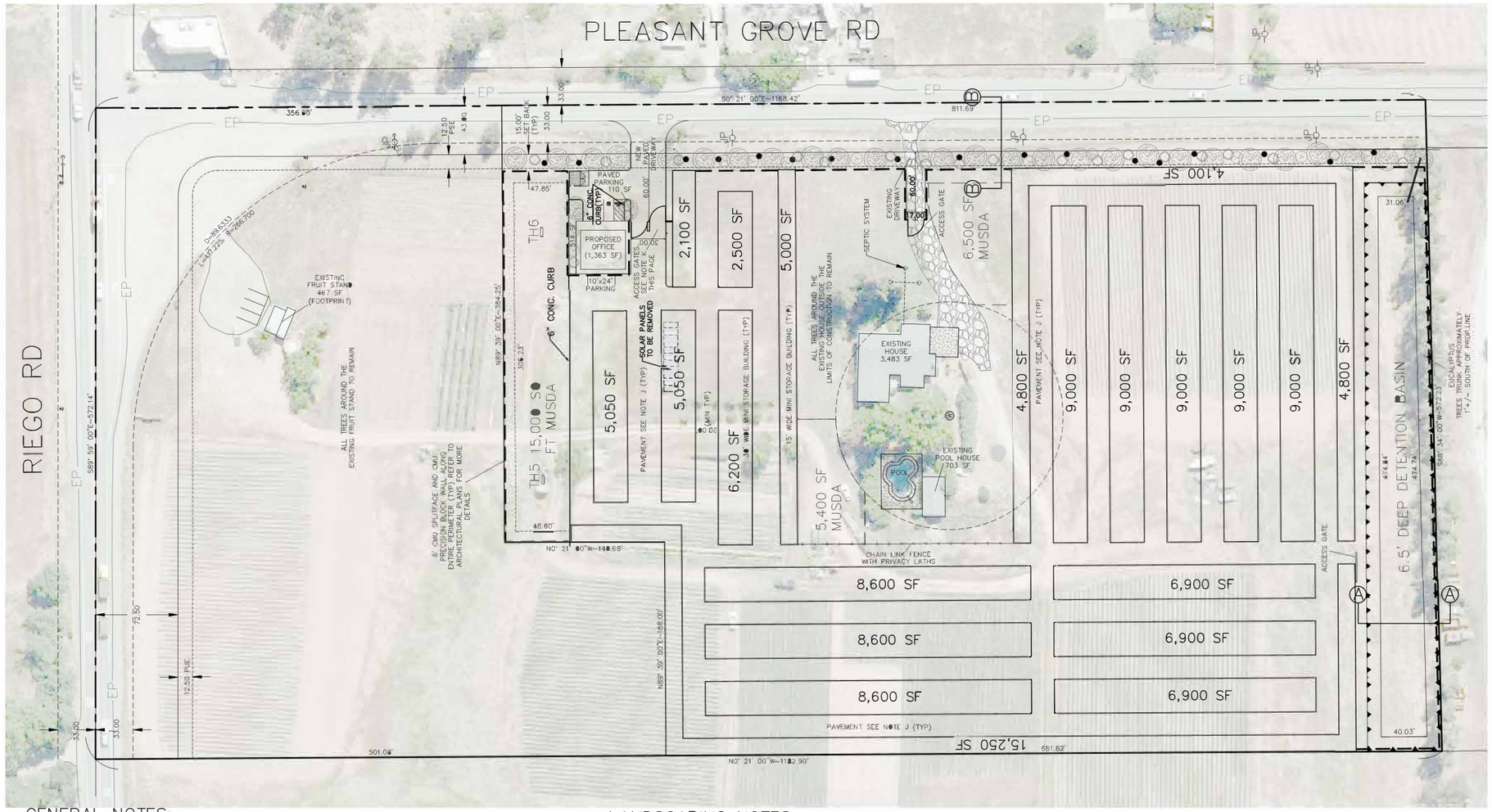
- ***Goal M-2****: Provide for the long-range planning and development of the County's roadway system and the safe, efficient, and reliable movement of people and goods throughout Sutter County.*
    - The Project would be consistent with General Plan Policies M 2.5: Level of Service on County Roads, M 2.6: Mitigation by New Development, and M 2.7: Regional Improvements as it is not projected to cause any LOS deficiencies and would potentially provide fair share contributions towards future signalization improvements at the Pleasant Grove Road (North) / W Riego Road and Pleasant Grove Road (South) / W Riego Road-Baseline Road intersections.
- **Goal M-7:** *Employ strategies that reduce the use of fossil fuels, reduce greenhouse gas emissions caused by transportation, and improve air quality.*
    - The Project is consistent with General Plan Policies M 7.1: New Development, M 7.2: New Development, and M 7.3: Regional Objectives as it has a less-than-significant transportation impact on regional VMT and would provide local-serving retail services.

Appendix A

Project Site Plan

N

1"=50'



PLANT LEGEND

SYMBOL	COMMON NAME	QTY	SIZE	REMARKS
	BROOM (Genista Sagittalis)	20	5 GAL	NEW
	CALIFORNIA LILAC (LESS THAN 3' HIGH) (Ceanothus X Variety)	17	5 GAL	NEW
Y	YARROW (Achillea Millefolium)	16	5 GAL	NEW
	CHINESE MAPLE (Acer Ttruncatum)	28	15 GAL	NEW

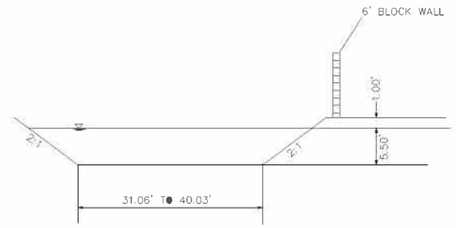
WATER USE CALCULATIONS

REFERENCE EVAPORATION (ETo)= 57.00 INCHES PER YEAR (CIMIS REFERENCE EVAPORATION MAPS)
MAWA =(ETo)(0.62)(0.45XAREA)+(0.3XSLA)
=(57.00)(0.62)(0.45X8,116.99)+(0.3X0)
=129,085.06 GALLONS PER YEAR

ETWA=(ETo)(0.62)(ETAF)(AREA), (ETAF=PLANT FACTOR/IRRIGATION EFFICIENCY)
PLANT FACTOR=0.3 (LOW WATER USE PLANTS)
IRRIGATION EFFICIENCY=0.81 (DRIP IRRIGATION)

ETWA=57.00X0.62X(0.3/0.81)X8,116.99=107,569.22 GALLONS PER YEAR

ETWA<MAWA, GOOD



SECTION A–A
N.T.S.

LOCATION MAP
N.T.S.

GENERAL NOTES:

A. CONTRACTOR SHALL PROVIDE ANY TEMPORARY ROADS OR CROSSINGS AS REQUIRED FOR EXECUTION OF THE CONTRACT. ALL TEMPORARY CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.

B. PROVIDE CONCRETE WALKS WITH CONTROL AND EXPANSION JOINTS AS SHOWN ON PLAN. VERIFY JOINT LAYOUT WITH THE ARCHITECT IN FIELD PRIOR TO FORMING. JOINTS ARE TO BE CAULKED, NO WOOD STRIPS ALLOWED.

C. WHERE NEW SITE WORK JOINS EXISTING CONDITIONS, EXISTING CONDITIONS SHALL CONTROL. IF MAJOR DISCREPANCIES ARE APPARENT, NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

D. ALL EXISTING VEGETATION, SHRUBS, AND TREES TO REMAIN SHALL BE PROTECTED AS REQUIRED TO PREVENT DAMAGE FROM CONSTRUCTION ACTIVITIES. ANY DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE PRODUCT AND LIKE SIZE AT THE DIRECTION OF THE ENGINEER.

E. EXISTING FACILITIES AND ITS AUXILIARY CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE DURING THE COURSE OF NEW CONSTRUCTION ACTIVITIES. ANY DAMAGED MATERIAL SHALL BE REPLACED TO MATCH ORIGINAL CONDITIONS AT THE DIRECTION OF THE ENGINEER.

F. RELOCATION OF ALL UTILITY POLES, LINES AND OTHER EXISTING SERVICES (IF REQUIRED) SHALL BE THE RESPONSIBILITY OF THE BIDDER AND SHALL BE VERIFIED AND COORDINATED WITH APPROPRIATE AGENCIES.

G. EXISTING UTILITY LINES SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME THAT NEW TIE-INS CAN BE MADE OPERATIONAL.

H. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM SUTTER COUNTY PRIOR TO ANY WORK WITHIN THE COUNTY RIGHT OF WAY.

I. ALL EXTERIOR LIGHTING SHALL COMPLY WITH SUTTER COUNTY REQUIREMENTS. A LIGHTING PLAN SHALL BE SUBMITTED TO SUTTER COUNTY PRIOR TO ISSUANCE OF BUILDING PERMIT.

J. ALL ACCESS WAYS OF THE STORAGE UNITS SHALL HAVE ASPHALT PAVING

K. ACCESS GATE TO THE FACILITY SHALL HAVE A FIRE DEPARTMENT APPROVED ENTRY SYSTEM SUCH AS A KNOX BOX. THE DESIGN OF THE GATE AND ACCESS SYSTEM SHALL BE APPROVED BY THE SUTTER COUNTY FIRE CHIEF.

L. PAVEMENT SECTION SHALL BE A MINIMUM OF 3.5 INCHES OF ASPHALT OVER 8 INCHES OF CLASS II AGGREGATE BASE.

LANDSCAPING NOTES:

A. ALL LANDSCAPING AREAS INCLUDING PARKING PLANTERS AND LANDSCAPING STRIP ALONG PLEASANT GROVE ROAD SHALL HAVE BARK MULCH AS GROUND COVER

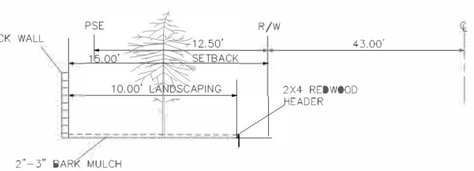
B. ALL IRRIGATION SHALL BE DRIP IRRIGATION

C. THE LANDSCAPING FACILITIES SHOWN ON THIS PLAN SHALL BE CONSIDERED PRELIMINARY AND SUBJECT TO CHANGE WITH THE APPROVAL OF SUTTER COUNTY.

COVERAGE CALCULATIONS

PROVIDED
STORAGE UNITS AREA= 146,350 SF
OFFICE =1599.75 SF (INCLUDING OVERHANG)
TRASH ENCLOSURE= 116
EXISTING HOUSE=3,483 SF
EXISTING POOL HOUSE= 703 SF
TOTAL COVERAGE = 146,350.00+1,599.75+116.00+3,483.00+703.00=152,251.75 SF

MAX ALLOWED
(10.12 AC)X(43,560 SF/AC)X 35%=155,289.52 SF



SECTION B–B
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GEORGE L. MOSALLAM
No. 49466
EXP. 9-30-2020
CIVIL
STATE OF CALIFORNIA

NVES

PLEASANT GROVE SELF STORAGE
SITE PLAN

APPROVED: COUNTY OF SUTTER	DESIGNED BY: RANA MOORE	DWG.NO.:
	DRAWN BY: RANA MOORE	
NVES 1547 STARR DRIVE SUITE "J" YUBA CITY, CA 95993 (530) 713-8417	CHECKED BY: GEORGE MUSALLAM	SHT. NO.: C4
	JOB NO.:	
	FILE NAME: NA	

Appendix B

Raw Count Sheets

Prepared by National Data & Surveying Services

Pleasant Grove Rd N & W Riego Rd

Peak Hour Turning Movement Count

ID: 19-07151-002
City: Elverta

Day: Tuesday
Date: 04/23/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Pleasant Grove Rd N — SOUTHBOUND

AM	28	0	51	0	76
NOON	0	0	0	0	0
PM	21	0	57	0	49

W Riego Rd — EASTBOUND

AM	NOON	PM		
750	0	343		
0	0	0	0	
15	0	12	0	
253	0	671	1	
0	0	0	0	
AM	NOON	PM		

W Riego Rd — WESTBOUND

PM	NOON	AM		
37	0	61	1	
322	0	722	1	
0	0	0	0	
0	0	0	0	
728	0	304		
PM	NOON	AM		

CONTROL

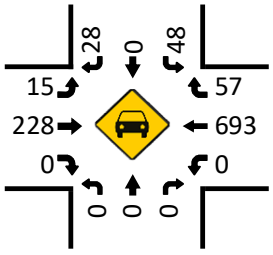
3-Way Stop (SB/EB/WB)

	AM	NOON	PM
TEV	1130	0	1120
PHF	0.99		0.94

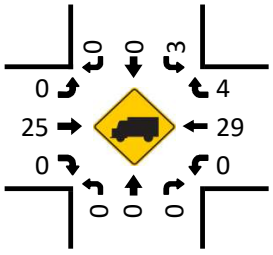
Pleasant Grove Rd N — NORTHBOUND

PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

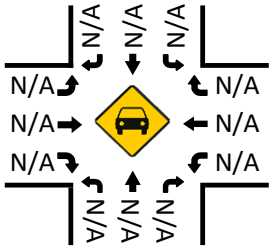
Cars (AM)



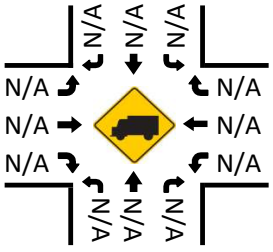
HT (AM)



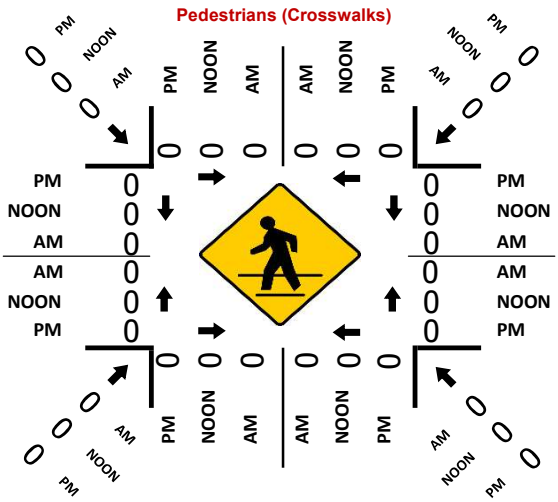
Cars (NOON)



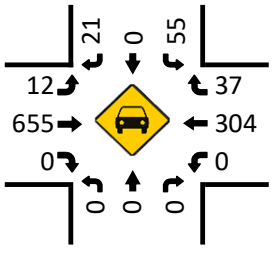
HT (NOON)



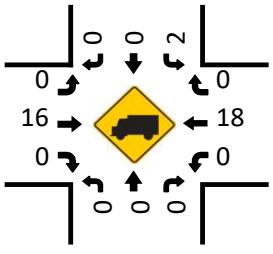
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Pleasant Grove Rd S & Baseline Rd

Peak Hour Turning Movement Count

ID: 19-07151-003
City: Elverta

Day: Tuesday
Date: 04/23/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Pleasant Grove Rd S — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Baseline Rd — EASTBOUND

AM	NOON	PM		
766	0	355	⇦	
0	0	0	↶	0
0	0	0	↱	0
262	0	681	→	1
35	0	50	↴	1
AM	NOON	PM		

CONTROL

3-Way Stop (NB/EB/WB)

	AM	NOON	PM
TEV	1161	0	1235
PHF	0.99		0.97

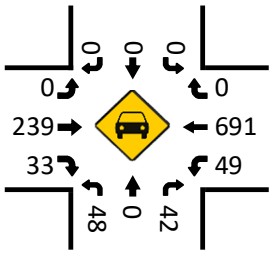
Baseline Rd — WESTBOUND

PM	NOON	AM		
0	0	0	↰	0
311	0	715	←	1
49	0	52	↰	0
0	0	0	↰	0
781	0	308	⇨	
PM	NOON	AM		

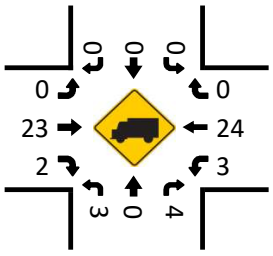
Pleasant Grove Rd S — NORTHBOUND

PM	99	0	44	0	100	PM
NOON	0	0	0	0	0	NOON
AM	87	0	51	0	46	AM

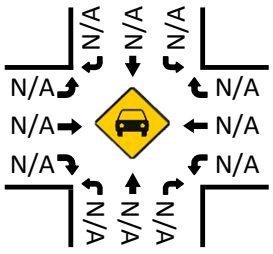
Cars (AM)



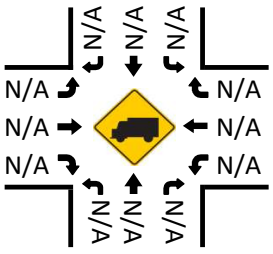
HT (AM)



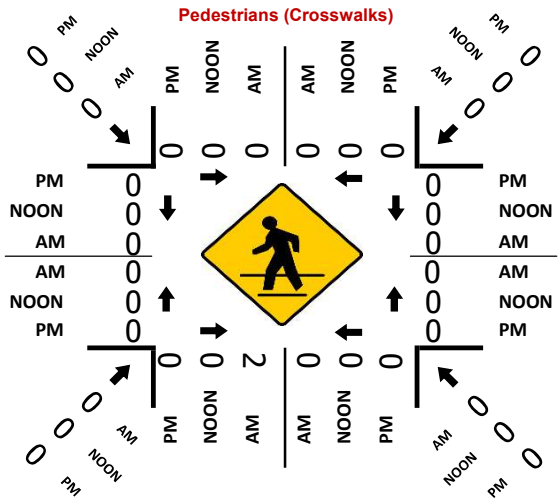
Cars (NOON)



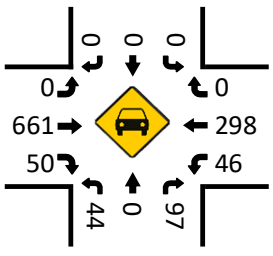
HT (NOON)



Pedestrians (Crosswalks)



Cars (PM)



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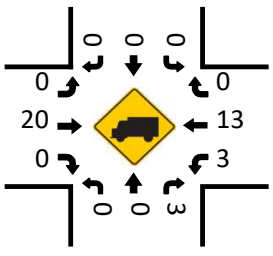


Appendix C

Level of Service Worksheets

Intersection	
Intersection Delay, s/veh	43.5
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	253	722	61	51	28
Future Vol, veh/h	15	253	722	61	51	28
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	15	256	729	62	52	28
Number of Lanes	0	1	1	1	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11.6	57.8	10.4
HCM LOS	B	F	B

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	0%	0%	65%
Vol Thru, %	94%	100%	0%	0%
Vol Right, %	0%	0%	100%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	268	722	61	79
LT Vol	15	0	0	51
Through Vol	253	722	0	0
RT Vol	0	0	61	28
Lane Flow Rate	271	729	62	80
Geometry Grp	5	7	7	2
Degree of Util (X)	0.391	1.024	0.074	0.139
Departure Headway (Hd)	5.205	5.056	4.352	6.276
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	688	715	818	566
Service Time	3.275	2.811	2.107	4.374
HCM Lane V/C Ratio	0.394	1.02	0.076	0.141
HCM Control Delay	11.6	62	7.5	10.4
HCM Lane LOS	B	F	A	B
HCM 95th-tile Q	1.9	17.5	0.2	0.5

Intersection	
Intersection Delay, s/veh	44
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	35	52	715	51	46
Future Vol, veh/h	262	35	52	715	51	46
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	265	35	53	722	52	46
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.6	60.7	10.6
HCM LOS	B	F	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	53%	0%	0%	7%
Vol Thru, %	0%	100%	0%	93%
Vol Right, %	47%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	262	35	767
LT Vol	51	0	0	52
Through Vol	0	262	0	715
RT Vol	46	0	35	0
Lane Flow Rate	98	265	35	775
Geometry Grp	2	7	7	5
Degree of Util (X)	0.169	0.405	0.047	1.024
Departure Headway (Hd)	6.333	5.509	4.801	4.759
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	570	646	737	759
Service Time	4.333	3.298	2.589	2.823
HCM Lane V/C Ratio	0.172	0.41	0.047	1.021
HCM Control Delay	10.6	12.1	7.8	60.7
HCM Lane LOS	B	B	A	F
HCM 95th-tile Q	0.6	2	0.1	18.1

Intersection	
Intersection Delay, s/veh	34
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	671	322	37	57	21
Future Vol, veh/h	12	671	322	37	57	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	13	714	343	39	61	22
Number of Lanes	0	1	1	1	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	47.5	13.3	10.7
HCM LOS	E	B	B

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	0%	0%	73%
Vol Thru, %	98%	100%	0%	0%
Vol Right, %	0%	0%	100%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	683	322	37	78
LT Vol	12	0	0	57
Through Vol	671	322	0	0
RT Vol	0	0	37	21
Lane Flow Rate	727	343	39	83
Geometry Grp	5	7	7	2
Degree of Util (X)	0.969	0.516	0.052	0.151
Departure Headway (Hd)	4.801	5.425	4.718	6.552
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	658	750	551
Service Time	2.869	3.213	2.505	4.552
HCM Lane V/C Ratio	0.972	0.521	0.052	0.151
HCM Control Delay	47.5	13.9	7.8	10.7
HCM Lane LOS	E	B	A	B
HCM 95th-tile Q	15	3	0.2	0.5

Intersection	
Intersection Delay, s/veh	49.5
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	681	50	49	311	44	100
Future Vol, veh/h	681	50	49	311	44	100
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	702	52	51	321	45	103
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	73.6	15.6	11.6
HCM LOS	F	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	31%	0%	0%	14%
Vol Thru, %	0%	100%	0%	86%
Vol Right, %	69%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	681	50	360
LT Vol	44	0	0	49
Through Vol	0	681	0	311
RT Vol	100	0	50	0
Lane Flow Rate	148	702	52	371
Geometry Grp	2	7	7	5
Degree of Util (X)	0.255	1.072	0.069	0.563
Departure Headway (Hd)	6.387	5.499	4.792	5.617
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	667	752	646
Service Time	4.387	3.199	2.492	3.617
HCM Lane V/C Ratio	0.261	1.052	0.069	0.574
HCM Control Delay	11.6	78.4	7.8	15.6
HCM Lane LOS	B	F	A	C
HCM 95th-tile Q	1	19.4	0.2	3.5

Intersection	
Intersection Delay, s/veh	44.2
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	255	724	62	52	28
Future Vol, veh/h	15	255	724	62	52	28
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	15	258	731	63	53	28
Number of Lanes	0	1	1	1	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	11.7	58.8	10.4
HCM LOS	B	F	B

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	0%	0%	65%
Vol Thru, %	94%	100%	0%	0%
Vol Right, %	0%	0%	100%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	270	724	62	80
LT Vol	15	0	0	52
Through Vol	255	724	0	0
RT Vol	0	0	62	28
Lane Flow Rate	273	731	63	81
Geometry Grp	5	7	7	2
Degree of Util (X)	0.395	1.028	0.076	0.141
Departure Headway (Hd)	5.213	5.062	4.358	6.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	717	817	565
Service Time	3.283	2.818	2.114	4.389
HCM Lane V/C Ratio	0.399	1.02	0.077	0.143
HCM Control Delay	11.7	63.2	7.5	10.4
HCM Lane LOS	B	F	A	B
HCM 95th-tile Q	1.9	17.7	0.2	0.5

Intersection	
Intersection Delay, s/veh	45.7
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	38	55	715	54	49
Future Vol, veh/h	262	38	55	715	54	49
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	265	38	56	722	55	49
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.6	63.6	10.7
HCM LOS	B	F	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	52%	0%	0%	7%
Vol Thru, %	0%	100%	0%	93%
Vol Right, %	48%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	103	262	38	770
LT Vol	54	0	0	55
Through Vol	0	262	0	715
RT Vol	49	0	38	0
Lane Flow Rate	104	265	38	778
Geometry Grp	2	7	7	5
Degree of Util (X)	0.18	0.407	0.052	1.034
Departure Headway (Hd)	6.355	5.541	4.832	4.784
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	643	731	754
Service Time	4.355	3.335	2.626	2.852
HCM Lane V/C Ratio	0.183	0.412	0.052	1.032
HCM Control Delay	10.7	12.1	7.9	63.6
HCM Lane LOS	B	B	A	F
HCM 95th-tile Q	0.7	2	0.2	18.6

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	3	3	97	87	6
Future Vol, veh/h	6	3	3	97	87	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	7	3	3	105	95	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	210	99	102	0	-	0
Stage 1	99	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.15	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	778	957	1471	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	776	957	1471	-	-	-
Mov Cap-2 Maneuver	776	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	914	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	828	-	-
HCM Lane V/C Ratio	0.002	-	0.012	-	-
HCM Control Delay (s)	7.5	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	34.5
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	673	324	38	58	21
Future Vol, veh/h	12	673	324	38	58	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	13	716	345	40	62	22
Number of Lanes	0	1	1	1	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	48.4	13.3	10.7
HCM LOS	E	B	B

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	2%	0%	0%	73%
Vol Thru, %	98%	100%	0%	0%
Vol Right, %	0%	0%	100%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	685	324	38	79
LT Vol	12	0	0	58
Through Vol	673	324	0	0
RT Vol	0	0	38	21
Lane Flow Rate	729	345	40	84
Geometry Grp	5	7	7	2
Degree of Util (X)	0.973	0.52	0.053	0.153
Departure Headway (Hd)	4.809	5.433	4.726	6.567
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	658	749	550
Service Time	2.878	3.221	2.513	4.567
HCM Lane V/C Ratio	0.971	0.524	0.053	0.153
HCM Control Delay	48.4	14	7.8	10.7
HCM Lane LOS	E	B	A	B
HCM 95th-tile Q	15.2	3	0.2	0.5

Intersection	
Intersection Delay, s/veh	50.8
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	681	53	54	311	47	104
Future Vol, veh/h	681	53	54	311	47	104
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	702	55	56	321	48	107
Number of Lanes	1	1	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	76.2	16	11.8
HCM LOS	F	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1
Vol Left, %	31%	0%	0%	15%
Vol Thru, %	0%	100%	0%	85%
Vol Right, %	69%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	681	53	365
LT Vol	47	0	0	54
Through Vol	0	681	0	311
RT Vol	104	0	53	0
Lane Flow Rate	156	702	55	376
Geometry Grp	2	7	7	5
Degree of Util (X)	0.269	1.081	0.073	0.574
Departure Headway (Hd)	6.418	5.541	4.833	5.662
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	564	660	746	640
Service Time	4.418	3.241	2.533	3.662
HCM Lane V/C Ratio	0.277	1.064	0.074	0.588
HCM Control Delay	11.8	81.5	7.9	16
HCM Lane LOS	B	F	A	C
HCM 95th-tile Q	1.1	19.8	0.2	3.6

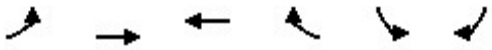
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	3	3	144	99	8
Future Vol, veh/h	7	3	3	144	99	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	8	3	3	157	108	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	276	113	117	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.15	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	714	940	1453	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	713	940	1453	-	-	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1453	-	769	-	-
HCM Lane V/C Ratio	0.002	-	0.014	-	-
HCM Control Delay (s)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	581	1002	74	322	19
Future Volume (veh/h)	16	581	1002	74	322	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	17	632	1089	80	350	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	67	3354	2913	904	395	352
Arrive On Green	0.04	0.67	1.00	1.00	0.23	0.23
Sat Flow, veh/h	1739	5149	5149	1547	1739	1547
Grp Volume(v), veh/h	17	632	1089	80	350	21
Grp Sat Flow(s),veh/h/ln	1739	1662	1662	1547	1739	1547
Q Serve(g_s), s	0.9	4.3	0.0	0.0	17.5	1.0
Cycle Q Clear(g_c), s	0.9	4.3	0.0	0.0	17.5	1.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	67	3354	2913	904	395	352
V/C Ratio(X)	0.25	0.19	0.37	0.09	0.89	0.06
Avail Cap(c_a), veh/h	203	3354	2913	904	667	593
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	1.00
Uniform Delay (d), s/veh	42.0	5.5	0.0	0.0	33.6	27.2
Incr Delay (d2), s/veh	2.0	0.1	0.4	0.2	7.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	0.1	0.0	7.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	5.6	0.4	0.2	41.5	27.3
LnGrp LOS	D	A	A	A	D	C
Approach Vol, veh/h		649	1169		371	
Approach Delay, s/veh		6.6	0.3		40.7	
Approach LOS		A	A		D	

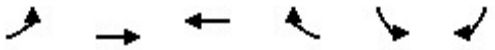
Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	65.1	24.9	8.0	57.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	46.5	34.5	10.5	31.5
Max Q Clear Time (g_c+I1), s	6.3	19.5	2.9	2.0
Green Ext Time (p_c), s	4.1	0.9	0.0	7.9

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	569	335	184	896	178	241
Future Volume (veh/h)	569	335	184	896	178	241
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	618	364	200	974	193	262
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	2562	794	238	3493	347	308
Arrive On Green	1.00	1.00	0.14	0.70	0.20	0.20
Sat Flow, veh/h	5149	1544	1739	5149	1739	1547
Grp Volume(v), veh/h	618	364	200	974	193	262
Grp Sat Flow(s),veh/h/ln	1662	1544	1739	1662	1739	1547
Q Serve(g_s), s	0.0	0.0	10.1	6.5	9.0	14.7
Cycle Q Clear(g_c), s	0.0	0.0	10.1	6.5	9.0	14.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2562	794	238	3493	347	308
V/C Ratio(X)	0.24	0.46	0.84	0.28	0.56	0.85
Avail Cap(c_a), veh/h	2562	794	377	3493	609	542
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	37.9	5.0	32.5	34.7
Incr Delay (d2), s/veh	0.2	1.8	9.4	0.2	1.4	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	4.6	1.5	3.7	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	1.8	47.3	5.2	33.9	41.2
LnGrp LOS	A	A	D	A	C	D
Approach Vol, veh/h	982			1174	455	
Approach Delay, s/veh	0.8			12.4	38.1	
Approach LOS	A			B	D	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	22.4	16.8	50.8	67.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	31.5	19.5	25.5	49.5
Max Q Clear Time (g_c+I1), s	16.7	12.1	2.0	8.5
Green Ext Time (p_c), s	1.2	0.3	5.1	6.9

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	1330	844	227	95	31
Future Volume (veh/h)	2	1330	844	227	95	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	2	1446	917	247	103	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	9	3950	3674	1141	187	166
Arrive On Green	0.01	0.79	1.00	1.00	0.11	0.11
Sat Flow, veh/h	1739	5149	5149	1547	1739	1547
Grp Volume(v), veh/h	2	1446	917	247	103	34
Grp Sat Flow(s),veh/h/ln	1739	1662	1662	1547	1739	1547
Q Serve(g_s), s	0.1	7.6	0.0	0.0	5.1	1.8
Cycle Q Clear(g_c), s	0.1	7.6	0.0	0.0	5.1	1.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	9	3950	3674	1141	187	166
V/C Ratio(X)	0.21	0.37	0.25	0.22	0.55	0.20
Avail Cap(c_a), veh/h	203	3950	3674	1141	647	576
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	44.6	2.7	0.0	0.0	38.1	36.7
Incr Delay (d2), s/veh	10.8	0.3	0.2	0.4	2.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	0.1	0.1	2.1	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.4	3.0	0.2	0.4	40.6	37.3
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		1448	1164		137	
Approach Delay, s/veh		3.1	0.2		39.8	
Approach LOS		A	A		D	

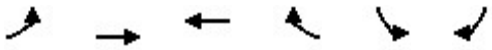
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			75.8		14.2	5.0	70.8
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s			47.5		33.5	10.5	32.5
Max Q Clear Time (g_c+I1), s			9.6		7.1	2.1	2.0
Green Ext Time (p_c), s			11.9		0.3	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1170	253	323	781	289	95
Future Volume (veh/h)	1170	253	323	781	289	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	1272	275	351	849	314	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	2118	656	377	3448	362	322
Arrive On Green	0.57	0.57	0.22	0.69	0.21	0.21
Sat Flow, veh/h	5149	1544	1739	5149	1739	1547
Grp Volume(v), veh/h	1272	275	351	849	314	103
Grp Sat Flow(s),veh/h/ln	1662	1544	1739	1662	1739	1547
Q Serve(g_s), s	15.1	9.1	17.8	5.7	15.7	5.1
Cycle Q Clear(g_c), s	15.1	9.1	17.8	5.7	15.7	5.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2118	656	377	3448	362	322
V/C Ratio(X)	0.60	0.42	0.93	0.25	0.87	0.32
Avail Cap(c_a), veh/h	2118	656	377	3448	599	533
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	13.2	34.6	5.2	34.4	30.2
Incr Delay (d2), s/veh	1.2	1.8	29.6	0.2	7.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	2.8	9.9	1.3	7.0	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.7	15.1	64.2	5.3	41.7	30.8
LnGrp LOS	B	B	E	A	D	C
Approach Vol, veh/h	1547			1200	417	
Approach Delay, s/veh	15.6			22.5	39.0	
Approach LOS	B			C	D	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	23.3	24.0	42.7		66.7
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	31.0	19.5	26.0		50.0
Max Q Clear Time (g_c+I1), s	17.7	19.8	17.1		7.7
Green Ext Time (p_c), s	1.1	0.0	5.4		5.8

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	583	1004	75	323	19
Future Volume (veh/h)	16	583	1004	75	323	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	17	634	1091	82	351	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	67	3351	2910	903	396	352
Arrive On Green	0.04	0.67	1.00	1.00	0.23	0.23
Sat Flow, veh/h	1739	5149	5149	1547	1739	1547
Grp Volume(v), veh/h	17	634	1091	82	351	21
Grp Sat Flow(s),veh/h/ln	1739	1662	1662	1547	1739	1547
Q Serve(g_s), s	0.9	4.3	0.0	0.0	17.6	1.0
Cycle Q Clear(g_c), s	0.9	4.3	0.0	0.0	17.6	1.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	67	3351	2910	903	396	352
V/C Ratio(X)	0.25	0.19	0.37	0.09	0.89	0.06
Avail Cap(c_a), veh/h	203	3351	2910	903	667	593
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.95	0.95	1.00	1.00
Uniform Delay (d), s/veh	42.0	5.5	0.0	0.0	33.6	27.2
Incr Delay (d2), s/veh	2.0	0.1	0.4	0.2	7.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	0.1	0.0	7.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	5.7	0.4	0.2	41.5	27.3
LnGrp LOS	D	A	A	A	D	C
Approach Vol, veh/h		651	1173		372	
Approach Delay, s/veh		6.7	0.3		40.7	
Approach LOS		A	A		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	65.0	25.0	8.0	57.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	46.5	34.5	10.5	31.5
Max Q Clear Time (g_c+I1), s	6.3	19.6	2.9	2.0
Green Ext Time (p_c), s	4.1	0.9	0.0	7.9

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	569	338	187	896	181	244
Future Volume (veh/h)	569	338	187	896	181	244
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	618	367	203	974	197	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	2543	788	241	3483	350	312
Arrive On Green	1.00	1.00	0.14	0.70	0.20	0.20
Sat Flow, veh/h	5149	1544	1739	5149	1739	1547
Grp Volume(v), veh/h	618	367	203	974	197	265
Grp Sat Flow(s),veh/h/ln	1662	1544	1739	1662	1739	1547
Q Serve(g_s), s	0.0	0.0	10.2	6.6	9.2	14.9
Cycle Q Clear(g_c), s	0.0	0.0	10.2	6.6	9.2	14.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2543	788	241	3483	350	312
V/C Ratio(X)	0.24	0.47	0.84	0.28	0.56	0.85
Avail Cap(c_a), veh/h	2543	788	377	3483	609	542
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	37.8	5.1	32.4	34.6
Incr Delay (d2), s/veh	0.2	1.8	9.8	0.2	1.4	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	4.7	1.5	3.8	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.2	1.8	47.6	5.3	33.8	41.1
LnGrp LOS	A	A	D	A	C	D
Approach Vol, veh/h	985			1177	462	
Approach Delay, s/veh	0.8			12.6	38.0	
Approach LOS	A			B	D	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	22.6	17.0	50.4	67.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	31.5	19.5	25.5	49.5
Max Q Clear Time (g_c+I1), s	16.9	12.2	2.0	8.6
Green Ext Time (p_c), s	1.3	0.3	5.1	6.9

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

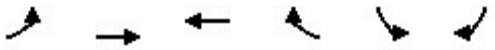
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	3	3	419	519	6
Future Vol, veh/h	6	3	3	419	519	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	7	3	3	455	564	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	802	286	571	0	-	0
Stage 1	568	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.2	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.25	-	-	-
Pot Cap-1 Maneuver	322	711	977	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	711	977	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	977	-	393	-	-
HCM Lane V/C Ratio	0.003	-	0.025	-	-
HCM Control Delay (s)	8.7	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	1332	846	228	96	31
Future Volume (veh/h)	2	1332	846	228	96	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	2	1448	920	248	104	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	9	3950	3674	1140	187	166
Arrive On Green	0.01	0.79	1.00	1.00	0.11	0.11
Sat Flow, veh/h	1739	5149	5149	1547	1739	1547
Grp Volume(v), veh/h	2	1448	920	248	104	34
Grp Sat Flow(s),veh/h/ln	1739	1662	1662	1547	1739	1547
Q Serve(g_s), s	0.1	7.6	0.0	0.0	5.1	1.8
Cycle Q Clear(g_c), s	0.1	7.6	0.0	0.0	5.1	1.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	9	3950	3674	1140	187	166
V/C Ratio(X)	0.21	0.37	0.25	0.22	0.56	0.20
Avail Cap(c_a), veh/h	203	3950	3674	1140	647	576
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.92	0.92	1.00	1.00
Uniform Delay (d), s/veh	44.6	2.7	0.0	0.0	38.1	36.6
Incr Delay (d2), s/veh	10.8	0.3	0.2	0.4	2.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.9	0.1	0.1	2.2	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	55.4	3.0	0.2	0.4	40.7	37.2
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		1450	1168		138	
Approach Delay, s/veh		3.1	0.2		39.8	
Approach LOS		A	A		D	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			75.8		14.2	5.0	70.8
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s			47.5		33.5	10.5	32.5
Max Q Clear Time (g_c+I1), s			9.6		7.1	2.1	2.0
Green Ext Time (p_c), s			12.0		0.3	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1170	256	328	781	292	99
Future Volume (veh/h)	1170	256	328	781	292	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	1272	278	357	849	317	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	2109	653	377	3438	366	325
Arrive On Green	0.56	0.56	0.22	0.69	0.21	0.21
Sat Flow, veh/h	5149	1544	1739	5149	1739	1547
Grp Volume(v), veh/h	1272	278	357	849	317	108
Grp Sat Flow(s),veh/h/ln	1662	1544	1739	1662	1739	1547
Q Serve(g_s), s	15.2	9.3	18.2	5.7	15.8	5.3
Cycle Q Clear(g_c), s	15.2	9.3	18.2	5.7	15.8	5.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2109	653	377	3438	366	325
V/C Ratio(X)	0.60	0.43	0.95	0.25	0.87	0.33
Avail Cap(c_a), veh/h	2109	653	377	3438	599	533
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	13.4	34.7	5.2	34.3	30.2
Incr Delay (d2), s/veh	1.2	1.9	33.0	0.2	7.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.9	10.4	1.3	7.0	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.9	15.3	67.8	5.4	41.8	30.8
LnGrp LOS	B	B	E	A	D	C
Approach Vol, veh/h	1550			1206	425	
Approach Delay, s/veh	15.8			23.9	39.0	
Approach LOS	B			C	D	

Timer - Assigned Phs	2	3	4		8
Phs Duration (G+Y+Rc), s	23.4	24.0	42.6		66.6
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	31.0	19.5	26.0		50.0
Max Q Clear Time (g_c+I1), s	17.8	20.2	17.2		7.7
Green Ext Time (p_c), s	1.1	0.0	5.4		5.8

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	3	3	384	576	8
Future Vol, veh/h	7	3	3	384	576	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	8	3	3	417	626	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	846	318	635	0	-	0
Stage 1	631	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.2	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.25	-	-	-
Pot Cap-1 Maneuver	301	678	924	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	800	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	300	678	924	-	-	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	800	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	924	-	360	-	-
HCM Lane V/C Ratio	0.004	-	0.03	-	-
HCM Control Delay (s)	8.9	0	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

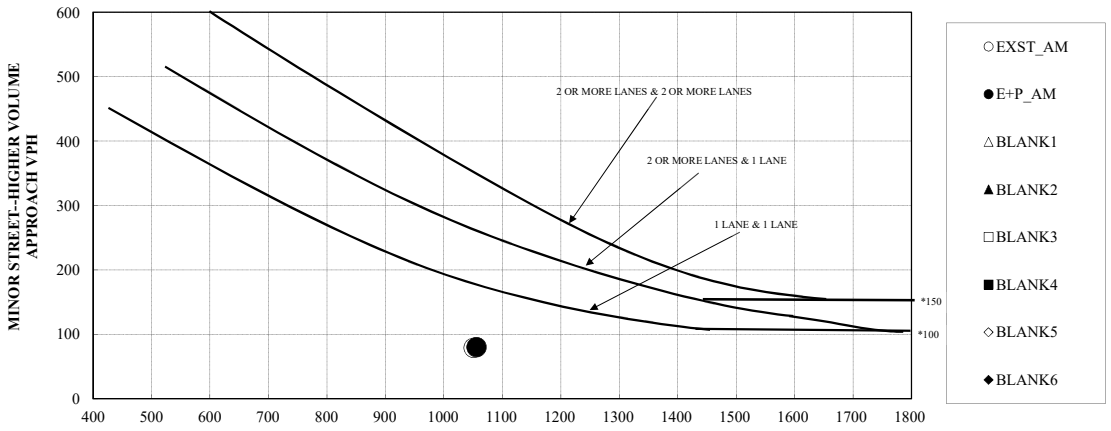
Appendix D

CA MUTCD Signal Warrant 3 Worksheets

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME
(CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	1051	79	NO
E+P_AM	1056	80	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **1**

Intersection: **Pleasant Grove Rd (North) / W Riego Rd**

Number of lanes on MAJOR street: **1**

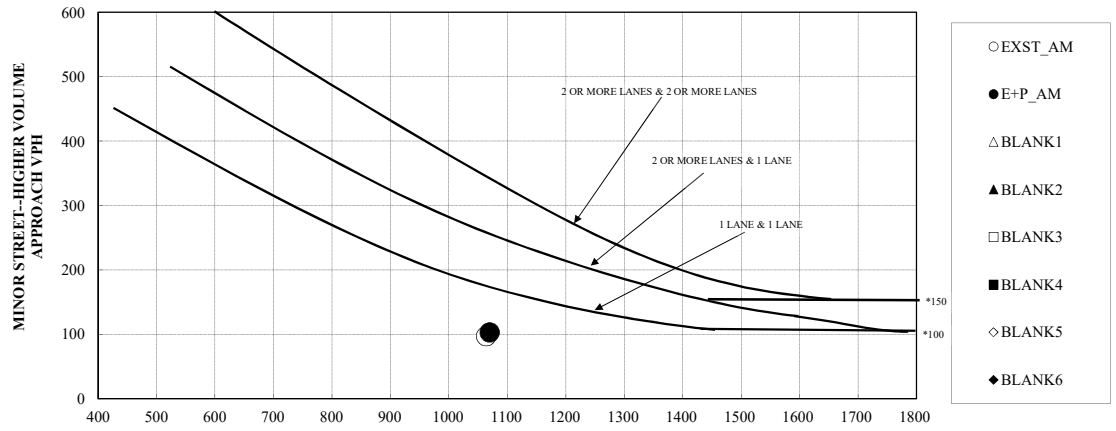
Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME
(CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	1064	97	NO
E+P_AM	1070	103	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **2**

Intersection: **Pleasant Grove Rd (South) / W Riego Rd-Ba**

Number of lanes on MAJOR street: **1**

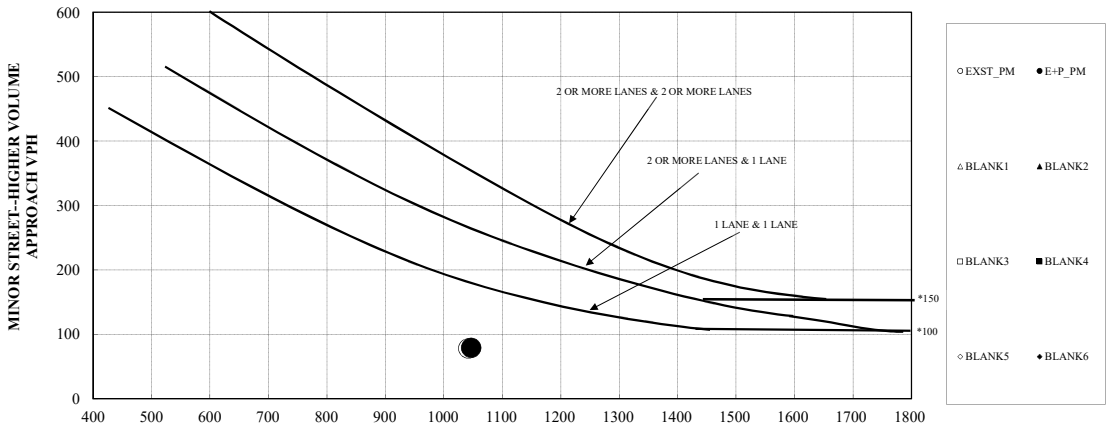
Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	1042	78	NO
E+P_PM	1047	79	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **1**

Intersection: **Pleasant Grove (North) Rd / W Riego Rd**

Number of lanes on MAJOR street: **1**

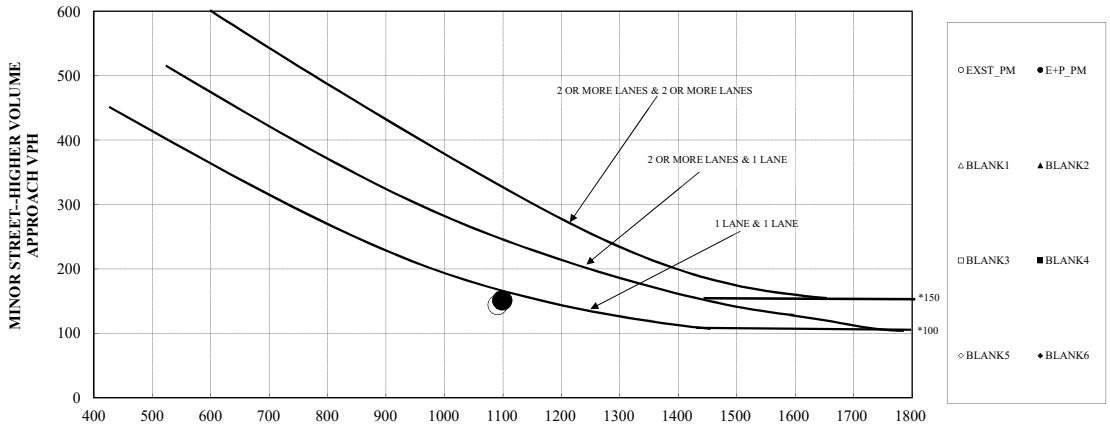
Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME
(CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	1091	144	NO
E+P_PM	1099	151	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	
BLANK5	0	0	
BLANK6	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **2**

Intersection: **Pleasant Grove (South) Rd / W Riego Rd-Baseline Rd**

Number of lanes on MAJOR street: **1**

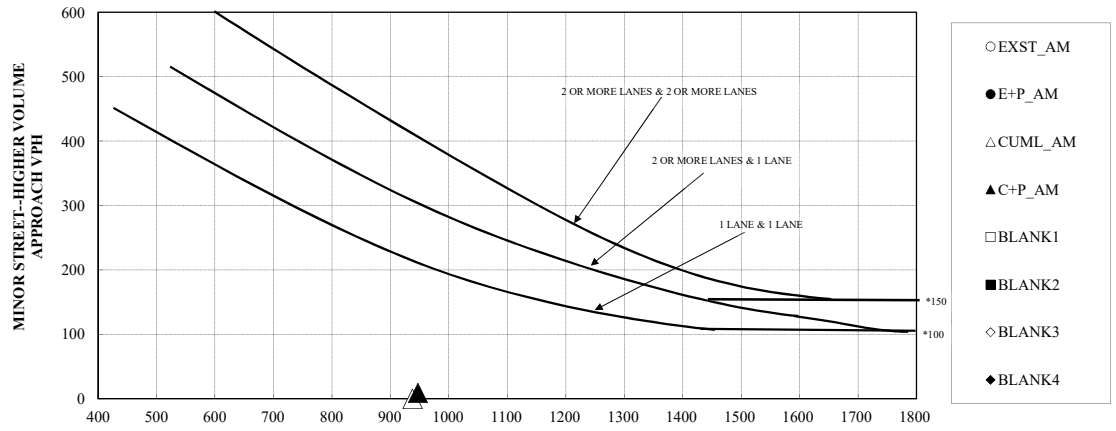
Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_AM	184	0	NO
E+P_AM	193	9	NO
CUML_AM	938	0	NO
C+P_AM	947	9	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **3**

Intersection: **Pleasant Grove Rd / Project Driveway**

Number of lanes on MAJOR street: **1**

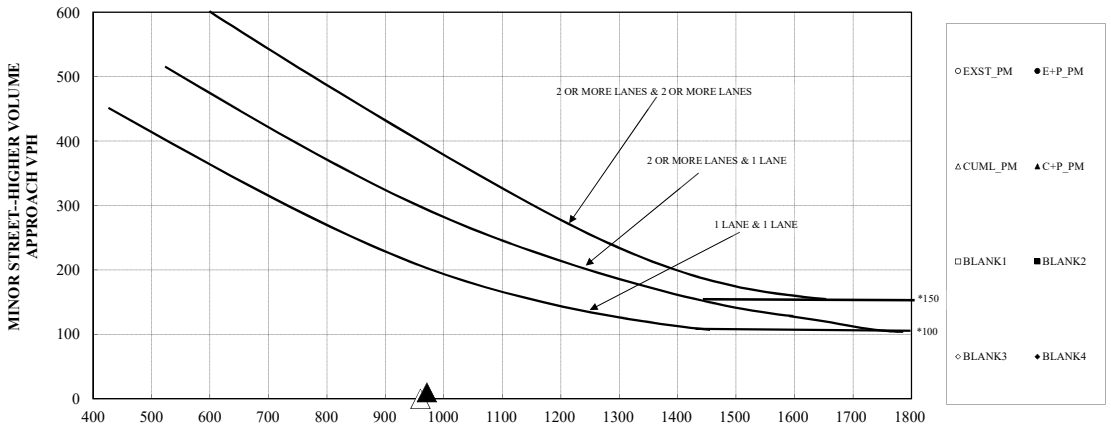
Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-3 WARRANT 3 PEAK HOUR VOLUME (CALIFORNIA MUTCD, LAST UPDATED MARCH 27, 2020)



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
EXST_PM	243	0	NO
E+P_PM	254	10	NO
CUML_PM	960	0	NO
C+P_PM	971	10	NO
BLANK1	0	0	
BLANK2	0	0	
BLANK3	0	0	
BLANK4	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **March 25, 2021** Intersection No.: **3**

Intersection: **Pleasant Grove Rd / Project Driveway**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

Appendix E

ITE Trip Generation Data for Use Code 151 Mini-Warehouse

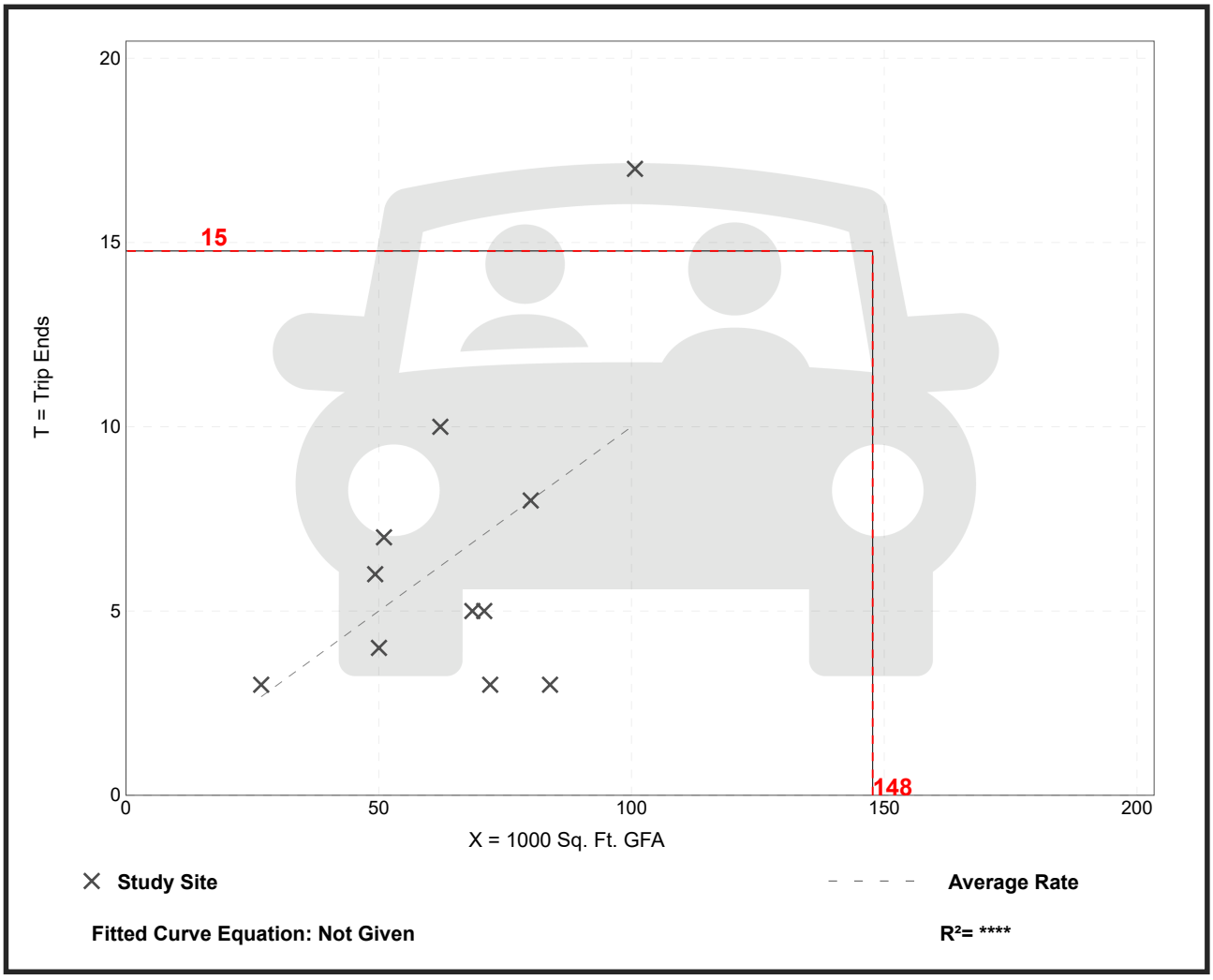
Mini-Warehouse
(151)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 65
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.10	0.04 - 0.17	0.05

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= **

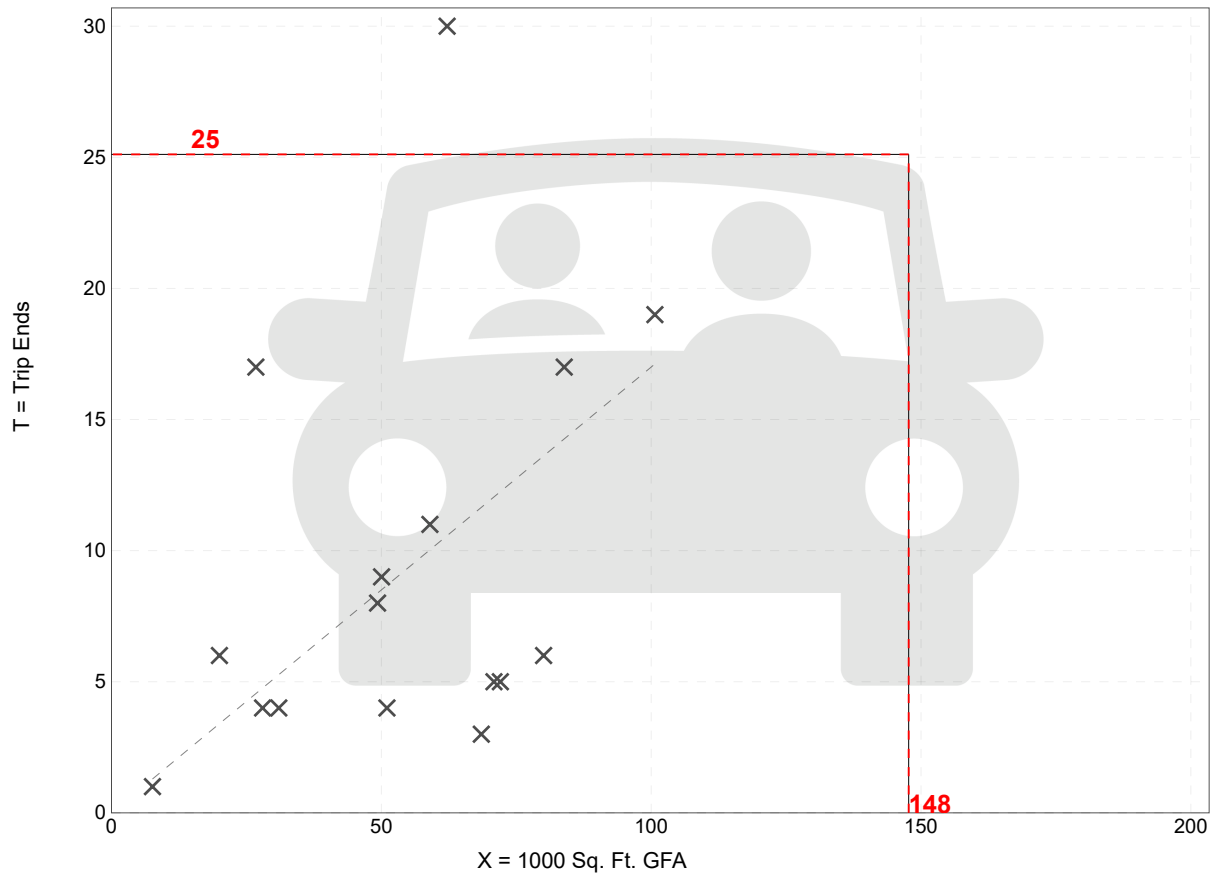
Mini-Warehouse
(151)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	16
Avg. 1000 Sq. Ft. GFA:	54
Directional Distribution:	47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.04 - 0.64	0.14

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

Mini-Warehouse
(151)

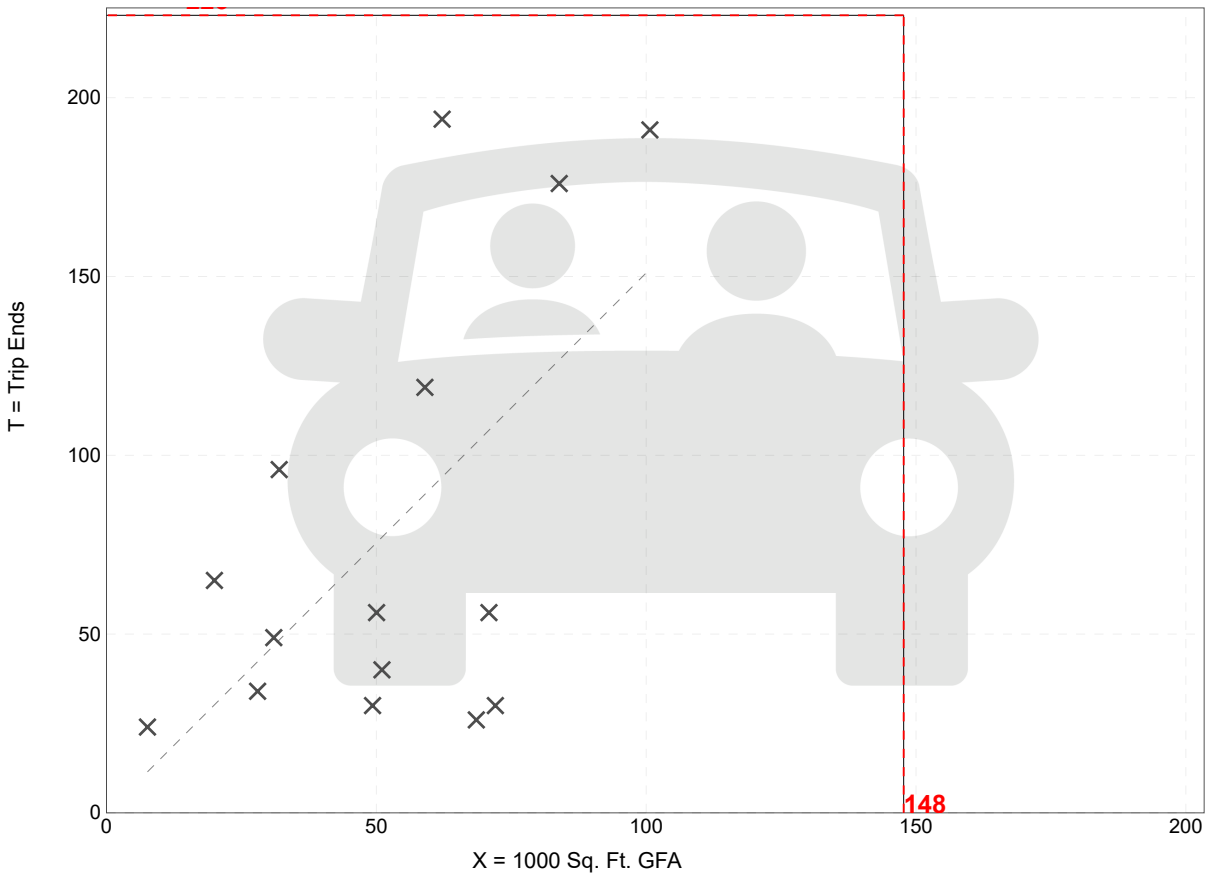
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 15
Avg. 1000 Sq. Ft. GFA: 52
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.51	0.38 - 3.25	0.95

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= **

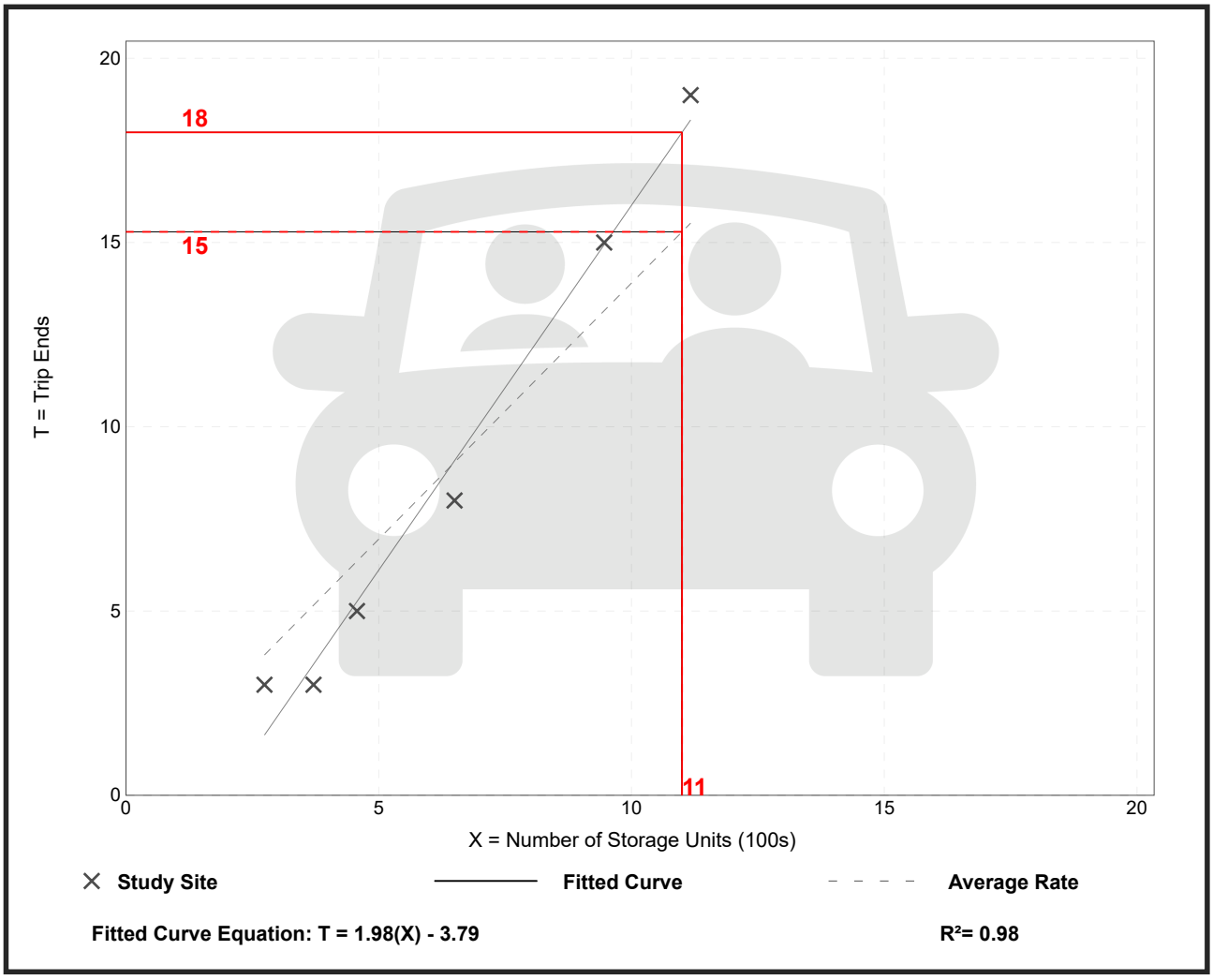
Mini-Warehouse
(151)

Vehicle Trip Ends vs: **Storage Units (100s)**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Storage Units (100s): 6
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.39	0.81 - 1.70	0.33

Data Plot and Equation



Fitted Curve Equation: T = 1.98(X) - 3.79

R^2= 0.98

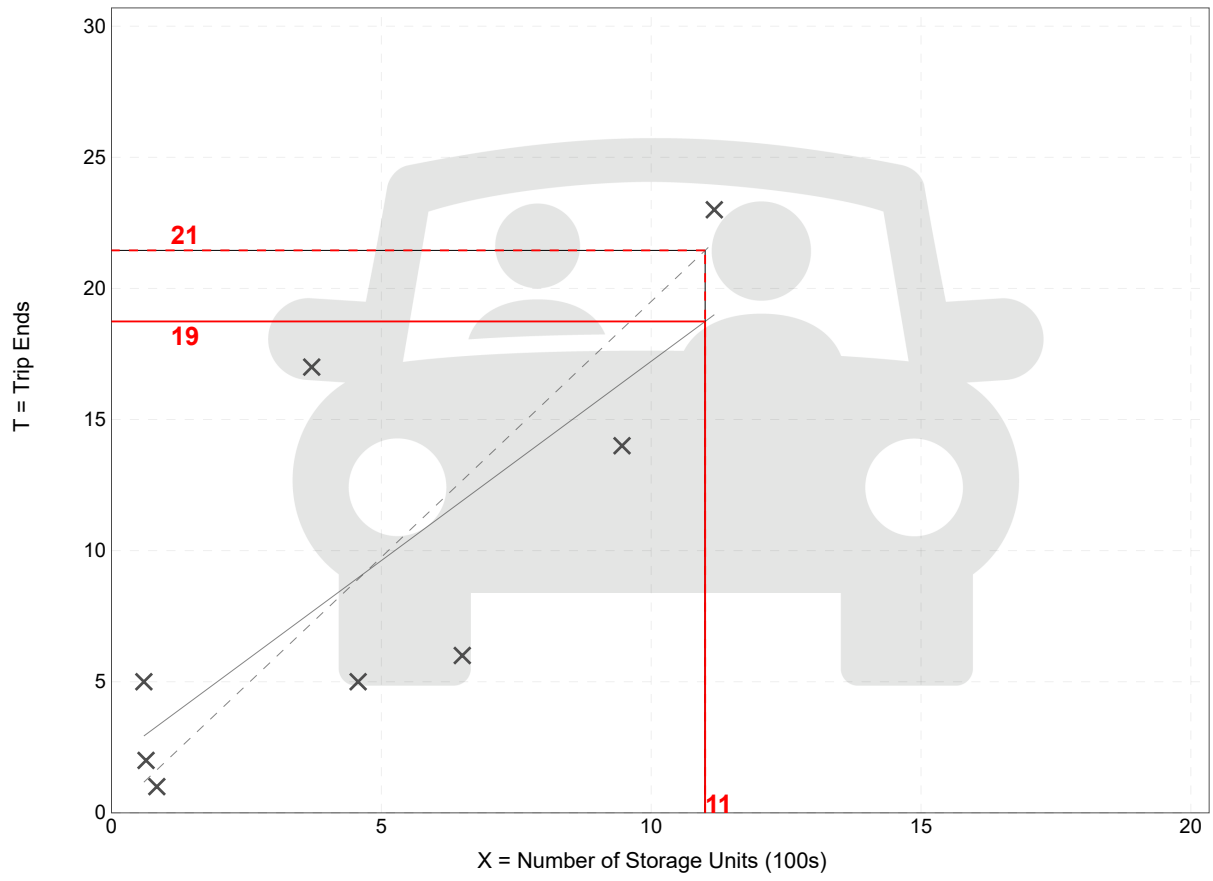
Mini-Warehouse
(151)

Vehicle Trip Ends vs:	**Storage Units (100s)**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	8
Avg. Num. of Storage Units (100s):	5
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
1.95	0.92 - 8.33	1.40

Data Plot and Equation



Fitted Curve Equation: T = 1.52(X) + 2.02

R^2= 0.61

Mini-Warehouse
(151)

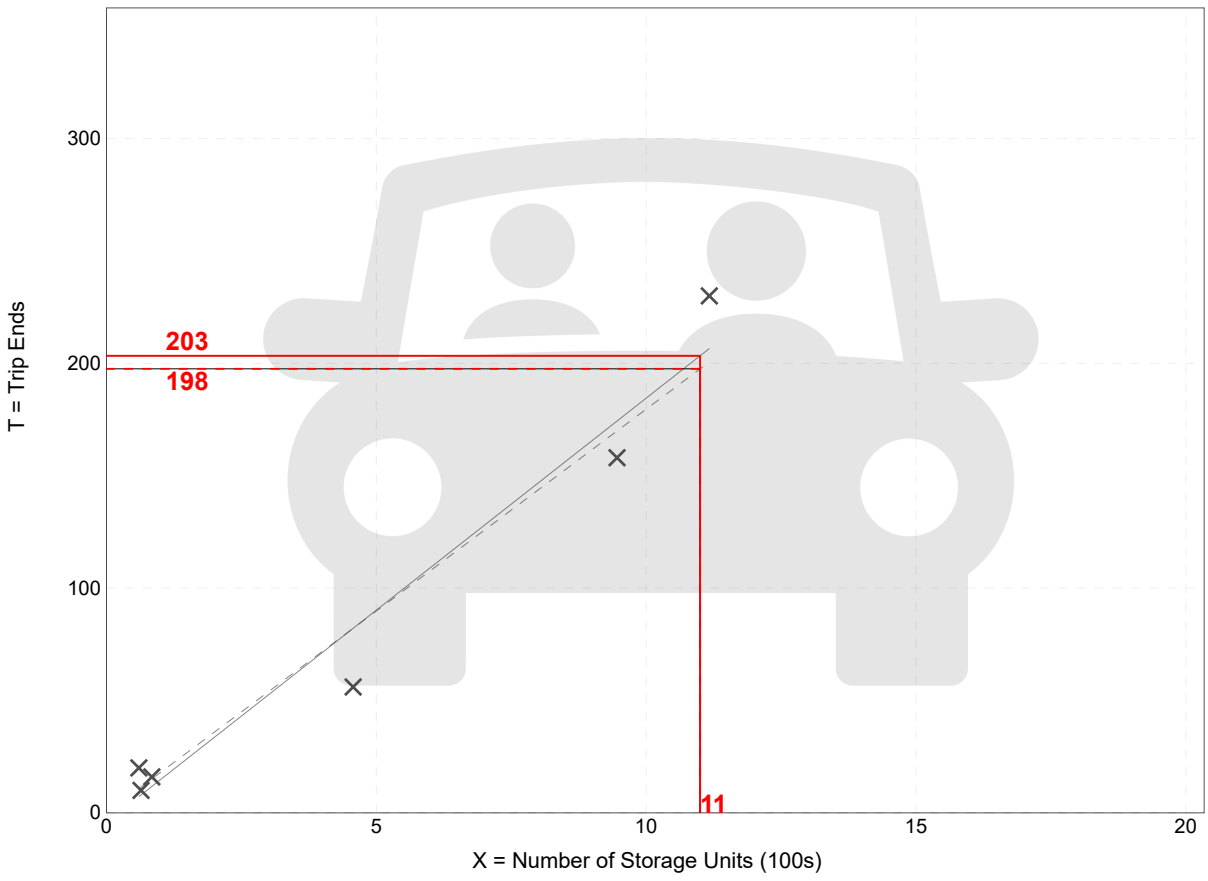
Vehicle Trip Ends vs: **Storage Units (100s)**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Storage Units (100s): 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Storage Unit (100s)

Average Rate	Range of Rates	Standard Deviation
17.96	12.25 - 33.33	4.13

Data Plot and Equation



Fitted Curve Equation: T = 18.86(X) - 4.09

R^2= 0.96

Appendix F

Sunset Area Plan and Placer Ranch Specific Plan Cumulative Volumes

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	581	1002	74	322	19
Future Volume (veh/h)	16	581	1002	74	322	19
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	17	632	1089	25	350	6
Adj No. of Lanes	1	3	3	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	30	2646	2000	604	443	395
Arrive On Green	0.02	0.53	0.40	0.40	0.25	0.25
Sat Flow, veh/h	1757	5202	5202	1520	1757	1568
Grp Volume(v), veh/h	17	632	1089	25	350	6
Grp Sat Flow(s),veh/h/ln	1757	1679	1679	1520	1757	1568
Q Serve(g_s), s	0.4	3.1	7.5	0.5	8.4	0.1
Cycle Q Clear(g_c), s	0.4	3.1	7.5	0.5	8.4	0.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	30	2646	2000	604	443	395
V/C Ratio(X)	0.57	0.24	0.54	0.04	0.79	0.02
Avail Cap(c_a), veh/h	430	4373	2579	778	1213	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	5.8	10.4	8.3	15.7	12.6
Incr Delay (d2), s/veh	15.8	0.0	0.2	0.0	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	3.5	0.2	4.4	0.0
LnGrp Delay(d),s/veh	37.8	5.8	10.6	8.3	18.9	12.6
LnGrp LOS	D	A	B	A	B	B
Approach Vol, veh/h		649	1114		356	
Approach Delay, s/veh		6.7	10.6		18.8	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				28.6		16.3	5.8	22.8
Change Period (Y+Rc), s				5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s				39.0		31.0	11.0	23.0
Max Q Clear Time (g_c+I1), s				5.1		10.4	2.4	9.5
Green Ext Time (p_c), s				13.8		1.0	0.0	8.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰	↑↑↑	↰	↱
Traffic Volume (veh/h)	569	335	184	896	178	241
Future Volume (veh/h)	569	335	184	896	178	241
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	618	85	200	974	193	105
Adj No. of Lanes	3	1	1	3	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1727	520	260	3052	288	257
Arrive On Green	0.34	0.34	0.15	0.61	0.16	0.16
Sat Flow, veh/h	5202	1517	1757	5202	1757	1568
Grp Volume(v), veh/h	618	85	200	974	193	105
Grp Sat Flow(s),veh/h/ln	1679	1517	1757	1679	1757	1568
Q Serve(g_s), s	4.0	1.7	4.8	4.1	4.5	2.6
Cycle Q Clear(g_c), s	4.0	1.7	4.8	4.1	4.5	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1727	520	260	3052	288	257
V/C Ratio(X)	0.36	0.16	0.77	0.32	0.67	0.41
Avail Cap(c_a), veh/h	2549	768	606	4867	728	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	9.9	17.8	4.2	17.1	16.3
Incr Delay (d2), s/veh	0.1	0.1	4.8	0.1	2.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.7	2.6	1.9	2.4	1.2
LnGrp Delay(d),s/veh	10.8	10.1	22.6	4.2	19.8	17.3
LnGrp LOS	B	B	C	A	B	B
Approach Vol, veh/h	703			1174	298	
Approach Delay, s/veh	10.7			7.4	18.9	
Approach LOS	B			A	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.1	11.4	19.9				31.3
Change Period (Y+Rc), s		5.0	5.0	5.0				5.0
Max Green Setting (Gmax), s		18.0	15.0	22.0				42.0
Max Q Clear Time (g_c+I1), s		6.5	6.8	6.0				6.1
Green Ext Time (p_c), s		0.6	0.3	8.9				13.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	1330	844	227	95	31
Future Volume (veh/h)	2	1330	844	227	95	31
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	2	1385	879	99	99	5
Adj No. of Lanes	1	2	2	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	4	2351	1947	847	181	162
Arrive On Green	0.00	0.67	0.56	0.56	0.10	0.10
Sat Flow, veh/h	1757	3597	3597	1524	1757	1568
Grp Volume(v), veh/h	2	1385	879	99	99	5
Grp Sat Flow(s),veh/h/ln	1757	1752	1752	1524	1757	1568
Q Serve(g_s), s	0.1	9.5	6.6	1.4	2.4	0.1
Cycle Q Clear(g_c), s	0.1	9.5	6.6	1.4	2.4	0.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	4	2351	1947	847	181	162
V/C Ratio(X)	0.50	0.59	0.45	0.12	0.55	0.03
Avail Cap(c_a), veh/h	437	3172	1947	847	795	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	4.0	5.8	4.7	18.8	17.8
Incr Delay (d2), s/veh	74.4	0.2	0.2	0.1	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.5	3.1	0.6	1.3	0.1
LnGrp Delay(d),s/veh	96.4	4.2	6.0	4.7	21.4	17.9
LnGrp LOS	F	A	A	A	C	B
Approach Vol, veh/h		1387	978		104	
Approach Delay, s/veh		4.3	5.9		21.2	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				34.7		9.6	5.1	29.6
Change Period (Y+Rc), s				5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s				40.0		20.0	11.0	24.0
Max Q Clear Time (g_c+I1), s				11.5		4.4	2.1	8.6
Green Ext Time (p_c), s				18.1		0.2	0.0	11.8

Intersection Summary	
HCM 2010 Ctrl Delay	5.7
HCM 2010 LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1170	253	323	781	289	95
Future Volume (veh/h)	1170	253	323	781	289	95
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845
Adj Flow Rate, veh/h	1258	75	347	840	311	62
Adj No. of Lanes	2	1	1	2	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1403	608	384	2379	354	316
Arrive On Green	0.40	0.40	0.22	0.68	0.20	0.20
Sat Flow, veh/h	3597	1520	1757	3597	1757	1568
Grp Volume(v), veh/h	1258	75	347	840	311	62
Grp Sat Flow(s),veh/h/ln	1752	1520	1757	1752	1757	1568
Q Serve(g_s), s	28.1	2.6	16.1	8.5	14.4	2.7
Cycle Q Clear(g_c), s	28.1	2.6	16.1	8.5	14.4	2.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1403	608	384	2379	354	316
V/C Ratio(X)	0.90	0.12	0.90	0.35	0.88	0.20
Avail Cap(c_a), veh/h	1426	618	420	2474	441	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	15.8	31.8	5.7	32.4	27.7
Incr Delay (d2), s/veh	7.8	0.1	21.3	0.1	15.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	1.1	10.1	4.1	8.4	1.2
LnGrp Delay(d),s/veh	31.2	15.9	53.1	5.8	47.8	28.0
LnGrp LOS	C	B	D	A	D	C
Approach Vol, veh/h	1333			1187	373	
Approach Delay, s/veh	30.4			19.6	44.5	
Approach LOS	C			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		21.8	23.3	38.5				61.7
Change Period (Y+Rc), s		5.0	5.0	5.0				5.0
Max Green Setting (Gmax), s		21.0	20.0	34.0				59.0
Max Q Clear Time (g_c+I1), s		16.4	18.1	30.1				10.5
Green Ext Time (p_c), s		0.5	0.2	3.4				22.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C