

CALIFORNIA ENVIRONMENTAL QUALITY ACT
ENVIRONMENTAL INITIAL STUDY CHECKLIST FORM
ROLLING HILLS APARTMENT PROJECT
Public Review Period March 17, 2023 – April 5, 2023

- 1. PROJECT TITLE:** Rolling Hills Apartment Project
- Entitlements:** Planned Development (PD22-08), Oak Tree Removal (OTR22-16)
- 2. LEAD AGENCY:** City of Paso Robles
1000 Spring Street
Paso Robles, CA 93446
- Contact Person:** Darcy Delgado, Associate Planner
Phone Number: (805) 237-3904
Email: ddelgado@prcity.com
- 3. PROJECT LOCATION:** 1025, 1041, 1049 Creston Road
APNs: 009-641-008, -009, -010, -011, and -022
- 4. PROJECT PROPONENT:** Red Tail Land Development, LLC
- Contact Person:** Kim Berry
Phone Number: (949) 433-5610
Email: kberry@rtacq.com
- 5. GENERAL PLAN DESIGNATION:** Residential Multi-Family (RMF-20)
- 6. ZONING:** R4-20 (Residential, 20 units/acre)
- 7. PROJECT DESCRIPTION:**

The proposed residential development is a 135-unit apartment project, consisting of seven, three-story buildings, and a one-story clubhouse, on an approximately 6.12-acre site. The site has a General Plan land use designation of Residential Multi-Family (RMF-20) and is zoned R4-20 (Residential, 20 units/acre). Both the General Plan and the zoning allow for a maximum density of 20 dwelling units per acre. Fractional zoning is also allowed per the multifamily zoning designation.

The seven residential buildings alternate between two building types to create varied roof forms and massing. Of the 135 units, there are 62 one-bedroom / one-bathroom apartments, 52 two-bedroom / two-bathroom apartments, and 21 three-bedroom / two-bathroom apartments. A total of 267 onsite parking spaces are provided (1.98 spaces per unit) consisting of 82 single-car garages, 53 carports, and 13 motorcycle parking stalls. As part of the project, Creston Road will be widened to support frontage improvements.

There are numerous on-site trees, including three native oak trees, of which one tree is proposed for removal. The City has an Oak Tree Preservation Ordinance which requires the City Council to authorize

the removal of trees that are not clearly diseased or dying. This project will require the City Council review the oak tree requested for removal.

8. Surrounding Land Uses and Setting: Briefly describe the project's surroundings:

The Project site is vacant and has no existing structures or improvements. Existing access is provided to the Project property off Rolling Hills Road via a dirt driveway. There are no powerlines that run along Creston Road. The Project site has existing powerlines that run along the western and eastern property lines and are proposed to be removed. The Project site is surrounded by various uses. The property directly adjacent and to the east is home to the Children's Academy Montessori Preschool. Trinity Lutheran Church & School, a Latter-day Saint church, and American Challenge Driving School are located south of the Project site across Creston Road. Residential housing can be found north and west of the Project site and Williams Plaza, a neighborhood commercial shopping center (Planet Fitness, Dollar Tree, Rite Aid and Smart & Final) is also directly east across Rolling Hills Road.

The topography of the area is level to moderately sloping. Water flows from the North to the Southeast portion of the site where an existing drain inlet collects stormwater. Then, it is carried under Rolling Hills Road through an 18-inch stormdrain and releases it to a basin East of Rolling Hills Road.

9. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

None

10. 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.?

In accordance with AB 52, the City provided formal notification on 01/27/2023 to the designated contact or tribal representative of traditionally and culturally affiliated California Native American tribes that have requested notice. Consultation with the Xolon Salinan Tribe and the Salinan Tribe of Monterey and San Luis Obispo Counties resulted in a request for a Phase 1 be performed. Staff provided both tribes with the recommended mitigation measure to require onsite monitoring during initial ground disturbance, which was satisfactory in lieu of requiring a Phase 1. At the timing of publishing this report, no additional consultation requests have been received.

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.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture / Forestry Resources	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input type="checkbox"/>	Geology/Soils	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards & Hazardous Materials
<input type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Land Use / Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population / Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input checked="" type="checkbox"/>	Transportation	<input checked="" type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities / Service Systems	<input type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial Discussion:

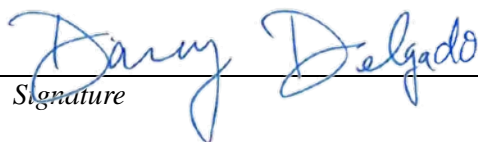
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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.


Signature

03/16/2023
Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analyses Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The project site is an infill development site in an urbanized area. It is not located along a designated state scenic highway corridor and does not provide unique scenic vistas to offsite uses. Therefore, proposed development will not have an adverse impact on a scenic vista as it complies with building height requirements and other applicable property development standards.					
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> The project site is vacant and there are no rock outcroppings; however, there are numerous on-site trees, including various native oak trees, one of which is proposed to be removed (further discussion regarding impacts to oaks is in Section IV Biological Resources). The tree is located near Rolling Hills Road and is recommended for removal due to the frontage improvements that are required which will impact the tree. The single tree proposed for removal is in poor condition, has had limbs cut due to overhead utility lines, and due to being located on an infill site inside an urban area, it does not contribute to a scenic highway. Based on these factors, removal of the trees will be a less than significant impact.					
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
<u>Discussion:</u> The proposed building height does not exceed the allowed maximum 40-foot height, per the City's Zoning Ordinance, and is no greater than three (3) stories for any building. The project has also been designed to be setback approximately 45-feet from Rolling Hills Road and 35-feet from Creston Road. Landscaping along the perimeter property lines will buffer this development from the adjacent neighborhoods. Based on the proposed building height, setbacks, and screening, the project's impacts on the visual character of the urbanized setting will be less than significant.					
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 10
<u>Discussion:</u> Existing sources of light and glare in the area includes light from surrounding residential development to the north and west, raised pole lights from the shopping center to the east, and streetlights along Creston Road and Rolling Hills Road. The additional lighting created by this project would comply with the Zoning Regulations and would not result in a noticeable increase in light or glare, or effect on the night sky. Standard conditions require that all new lighting be adequately shielded. A condition of approval requires staff to review light fixtures for proper shielding prior to the issuance of a building permit. Therefore, this project's impacts on day or nighttime views in the area will be less than significant.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<u>Discussion:</u> The project site is designated in the General Plan and is zoned on the City's Zoning Map for high density residential development. The property is not identified in the City General Plan, Open Space Element (Figure OS-1, Important Farmland) as having either prime or unique farmland of statewide importance. Therefore, the project would not result in impacts on converting prime or other significant soils to urban land uses.					
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The project would not conflict with zoning for agricultural use. The Project Site is in an urbanized area, is not zoned for agriculture, and is not under a Williamson Act Contract.					
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion (c-e):</u> The project site does not conflict with existing zoning, as the site is not designated as forest land, nor does it surround forest land. This is an infill site and all surrounding uses include built parcels with residential, commercial, and/or institutional/public facility uses. There is no rezoning process necessary for this project, as the proposed development aligns with the designation of the City's Housing Element for Residential Multi-Family uses. There is no conversion of farmland.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
<p><u>Discussion (a-c):</u></p> <p>The San Luis Obispo County area is a non-attainment area for the State standards for ozone and suspended particulate matter. The SLO County Air Pollution Control District (APCD) administers a permit system to ensure that stationary sources do not collectively create emissions which would cause local and state standards to be exceeded. The CEQA thresholds of significance established by the SLOAPCD are designed to meet the objectives of the Clean Air Plan and in doing so achieve attainment status with state standards.</p> <p>The potential for future project development to create adverse air quality impacts falls generally into two categories: Short term and Long term impacts. Short term impacts are associated with the grading and development portion of a project where earth work generates dust, but the impact ends when construction is complete. Long term impacts are related to the ongoing operational characteristics of a project and are generally related to vehicular trip generation and the level of offensiveness of the onsite activity being developed.</p> <p><i>Short term impacts:</i></p> <p>An Air Quality Assessment was prepared for the project by Padre Associates (Attachment 4). Predicted maximum daily construction-generated emissions for the proposed project are summarized in Table 2 (below). Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SLOAPCD's thresholds of significance. The emission projections in Table 2 account for the conventional construction equipment such as backhoes, dozers, compactors, excavators, graders, loaders, paving machines, scrapers, and haul trucks that will be utilized during grading and general construction activities. Additional sources of air pollutant emissions include emissions from on-road motor vehicles used to transport materials and personnel.</p> <p>As identified in the Air Quality Assessment, Table 2 Estimated Project Construction Criteria Pollutant Emissions demonstrate that although the construction activities would increase the emission of the O3 precursor pollutants ROG and NOx, DPM, and fugitive dust, it would not exceed the thresholds of significance established by the SLOAPCD for purposes of reducing air pollution and its deleterious health effects, and therefore not require mitigation. Based on the project not exceeding the established threshold, criteria pollutant emissions generated during project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.</p> <p>As recommended by Padre, since the Project is located within 1,000 feet of several sensitive receptors, the construction phase should be required to implement the SLOAPCD recommended construction mitigation measures, even though the project is not exceeding thresholds and not required to mitigate for air quality. The addition of the pollutant-reduction measures will help to minimize nuisance impacts and to reduce fugitive dust emissions. Therefore, project conditions of approval will be added to the project to ensure dust is minimized to a level of less than significant.</p>					

Table 2. Estimated Project Construction Criteria Pollutant Emissions

Peak Emissions	ROG + NO _x		PM ₁₀		DPM		Fugitive Dust	
	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)
Thresholds (Tier 1/ Tier 2)*	137	2.5/6.3	--	--	7.0	0.13/0.32	--	2.25
Project Construction Emissions	91.7	0.85	3.02	0.058	5.58	0.001	--	0.023
Threshold Exceeded for Emissions?	No	No/No	--	--	No	No/No	--	No
Notes: ROG – Reactive organic gases, NO _x – Oxides of nitrogen, PM ₁₀ – Particulate matter with a diameter of 10 microns or less, PM _{2.5} – Particulate matter with a diameter of 2.5 microns or less, CO – Carbon Monoxide, SO ₂ – Sulfur Dioxide * SLOAPCD, 2012 -- Not applicable								

Long term impacts:

Implementation of the project would result in long-term operational emissions of criteria air pollutants such as PM₁₀, PM_{2.5}, and CO as well as ozone precursors such as ROG and NO_x. Project-generated increases in emissions would be predominantly associated with motor vehicle use. Long-term operational emissions attributable to the project are identified in Table 3 and are compared to the operational significance thresholds established by the SLOAPCD. As shown in Table 3, the Project's emissions would not exceed any SLOAPCD thresholds for any criteria air pollutants, therefore impacts would be less than significant and no mitigation is required.

Table 3. Estimated Project Operational Criteria Pollutant Emissions

Peak Emissions	ROG + NO _x		PM ₁₀		DPM		Fugitive Dust	
	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)
Operational Phase*	25	25	25	25	1.25	--	--	25
Project Operational Emissions	5.9	0.41	0.27	0.02	0.55	0.034	0.00	0.00
Threshold Exceeded for Emissions?	No	No	No	No	No	No	No	No
Notes: ROG – Reactive organic gases, NO _x – Oxides of nitrogen, PM ₁₀ – Particulate matter with a diameter of 10 microns or less, PM _{2.5} – Particulate matter with a diameter of 2.5 microns or less, CO – Carbon Monoxide, SO ₂ – Sulfur Dioxide * SLOAPCD, 2012 -- Not applicable								

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11
Discussion: According to the SLOAPCD, land uses commonly considered to be potential sources of obnoxious odorous emissions include wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, and fiberglass molding. The proposed project does not include any uses identified by the SLOAPCD as being associated with odors, therefore there is no impact related to other emissions.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p>Discussion: A Biological Resources Assessment (BRA) was prepared for the Project site by Padre Associates, Inc. (Attachment 6). The field assessment was conducted in March 2022 during the typical blooming period for most special-status plant species known to occur in the Project region. The assessment did not identify any special status plants within the survey area. Based on the field survey observations and habitat conditions (periodic mowing, dominance of disturbance-adapted plant species) no special-status plant species are likely to occur within the Project Site. In addition, no special-status wildlife species or evidence of nesting birds were observed during the March 2022 field survey. However, the Project site may provide suitable habitat to support some special-status wildlife species, based on suitable habitat and regional (less than five miles) documented occurrences. These species include the Northern legless lizard, San Joaquin kit fox, American badger, and migratory nesting birds.</p> <p>Although the BRA concluded that the potential for impacts to biological resources as a result of the proposed project is considered low, direct impacts to special-status wildlife could result if present during project construction. As noted above, specific wildlife species that could be potentially impacted include the Northern legless lizard, San Joaquin kit fox, American badger, and other migratory nesting birds. Any impacts to bird species are most likely to occur if construction activities take place during the typical avian nesting season, generally February 1 through September 15. Indirect impacts may occur due to habitat loss or construction-related disturbances.</p> <p>Based on the potential impacts to occur to special-status biological resources, several mitigation measures are included for this project including the requirement for a pre-activity nesting bird survey and a pre-activity special-status species survey, both of which will help protect sensitive biological resources to the greatest extent feasible. Based on the mitigation measures proposed, impacts would be reduced to less than significant.</p>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion: Wetlands or waters do not occur within the project site, as confirmed by the BRA based on the results of their literature review and field observations.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion: See response IV.b above.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Discussion: Due to the project site being surrounded by existing residential, commercial, and institutional development, the proposed project is not expected to increase the level of fragmentation in the region nor is it expected to create a barrier to wildlife movement.					
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Discussion: As identified by the Oak Tree Impact Report (Attachment 5) prepared by Heritage Tree Arboricultural Consulting, three oak trees were inventoried on the project site, one of which is proposed to be removed due to being in poor condition, structural issues, past failures, and the likelihood of future failure once frontage improvements for Rolling Hills Road are made which is within the tree's critical root zone.

Any significant trees (oaks) will need to be protected or mitigated if removed pursuant to the Oak Tree Preservation Ordinance (Chapter 10.01) and as indicated in Section 21.16E.250 of the Municipal Code. Consistent with the City's Ordinance, the Arborist's report notes that tree replacements will be required to mitigate the loss of the oak tree to be removed.

In the event the tree is not approved for removal, mitigation measures are listed in the Mitigation Monitoring and Reporting Table, Attachment 9 to this Initial Study, to further protect the oak trees during construction and ongoing operations of the site. With the incorporation of the mitigation measures, this project's impacts on oak trees will be less than significant.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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Discussion: There are no Habitat Conservation Plans or other related plans in the City of Paso Robles. No impact will occur.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
V. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion (a-c):</u></p> <p>The applicant reported that they performed a records search and literature review, with no cultural resources coming up in the search. In addition, the applicant provided a search of the Sacred Lands File by the Native American Heritage Commission which was negative (See Attachment 7), meaning no sacred lands are recorded. Based on these searches, the potential for buried cultural resources is relatively low. There are no structures onsite to be eligible to meet historic eligibility criteria.</p> <p>Although no significant potential archaeological or cultural resources have been identified which would be impacted by development of the plan area, there is a chance for cultural resources to be uncovered during initial earthwork. Therefore, a mitigation measure has been added to the project for there to be archaeological and tribal monitoring for the initial ground disturbance. With the mitigation, project impacts would be reduced to less than significant.</p> <p>Consultation with the Xolon Salinan Tribe and the Salinan Tribe of Monterey and San Luis Obispo Counties resulted in a request for a Phase 1 be performed. Staff provided both tribes with the recommended mitigation measure, which was satisfactory in lieu of requiring a Phase 1. Mitigation is also included in the Tribal Cultural Resources section of this report.</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1

<p><u>Discussion:</u> The proposed project includes a multi-family development, consistent with the City's General Plan and does not require rezoning. The existing land use and proposed development will not use or promote the use of non-renewable resources in a wasteful and inefficient manner. Further, the project is subject to air quality and energy efficiency requirements which are often referred to as the Green Building Standards or the Building Energy Efficiency Standards, all of which are applicable standards to reduce inefficient, wasteful, or unnecessary consumption of energy.</p>					
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 5
<p><u>Discussion:</u> The Project would be required to be in full compliance with the California Building Code, including applicable green building standards and building energy efficiency standards. Furthermore, the City's General Plan and Conservation Element ensures the conservation and preservation of energy resources by increasing the energy efficiency of buildings, appliances, and buildings to the use of alternative forms of energy. Additionally, as identified in Section VIII., since the Project would not exceed the Efficiency Threshold for operational emissions or operational emission plus the amortized construction emissions, the Project would not conflict with the CAP, Updated Strategic Action Plan Update, or City of Paso Robles Climate Action Plan (PRCAP).</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 3
<p><u>Discussion:</u> The potential for and mitigation of impacts that may result from fault rupture in the project area are identified and addressed in the General Plan EIR, pg. 4.5-8. There are two known fault zones on either side of the Salinas River Valley. The Rinconada Fault system runs on the west side of the valley, and grazes the City on its western boundary. The San Andreas Fault is on the east side of the valley and is situated about 30 miles east of Paso Robles. The City of Paso Robles recognizes these geologic influences in the application of the California Building Code (CBC) to all new development within the City. Review of available information and examinations indicate that neither of these faults is active with respect to ground rupture in Paso Robles. Soils and geotechnical reports and structural engineering in accordance with local seismic influences would be applied in conjunction with any new development proposal. Based on standard conditions of approval, the potential for fault rupture and exposure of persons or property to seismic hazards is not considered significant. There are no Alquist-Priolo Earthquake Fault Zones within City limits.</p>					
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 3, 5
<p><u>Discussion:</u> The proposed project will be constructed to current CBC codes. The General Plan EIR identified impacts resulting from ground shaking as less than significant and provided mitigation measures that have been incorporated into the design of this project including adequate structural design and not constructing over active or potentially active faults. Therefore, impacts that may result from seismic ground shaking are considered less than significant.</p>					
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1, 2, 3
<p><u>Discussion:</u> Per the General Plan EIR, the project site is located in an area with soil conditions that have a low to moderate potential for liquefaction or other type of ground failure due to seismic events and soil conditions. To implement the EIR's mitigation measures to reduce this potential impact, the City has a standard condition to require submittal of soils and geotechnical reports, which include site-specific analysis of liquefaction potential for all building permits for new construction, and incorporation of the recommendations of the reports into the design of the project. Impacts will be less than significant.</p>					
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
<p><u>Discussion:</u> Per the General Plan Safety Element, the project site is in an area that is designated a moderate-risk area for landslides. The Safety Element of the General Plan contains policy that prohibits construction activities in high landslide risk areas without site specific slope stability investigations. Since this site is not high risk, the investigation is not necessary. However, if it was determined to be required as part of the construction process, the investigation would incorporate recommendations into the design of the project and reduce potential impacts due to landslides to a less than significant level.</p>					
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 3

<p><u>Discussion:</u> Per the General Plan EIR the soil condition is not erosive or otherwise unstable. As such, no significant impacts are anticipated. A geotechnical/ soils analysis will be required prior to issuance of building permits that will evaluate the site-specific soil stability and suitability of the development proposed. This study will determine the necessary grading techniques that will ensure that potential impacts due to soil stability will not occur.</p>					
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion:</u> See response to item VII.a.iii above indicates that per the General Plan EIR, the project site is located in an area with soil conditions that have a low to moderate potential for liquefaction or other type of ground failure due to seismic events and soil conditions.</p>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion:</u> See response to item VII.a.iii above. Additionally, the City has a standard condition to require submittal of soils and geotechnical reports with building permits, which include site-specific analysis of liquefaction potential for all building permits for new construction, and incorporation of the recommendations of the reports into the design of the project. The study's recommended strategies will be required at the time of building permit submittal, therefore impacts are less than significant.</p>					
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<p><u>Discussion:</u> The proposed project will be connected to the City's sewer system; and therefore, the issue of site soil ability to support septic tanks is not applicable.</p>					
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion:</u> There are no known paleontological or unique geologic features identified on-site. However, as discussed in Section V, onsite monitoring will be required during initial earthwork activities. If cultural resources are found during grading activities, appropriate recommendations will be made regarding their treatment and/or disposition. Therefore, this project will result in less than significant impacts on cultural resources.</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Discussion:

Short term:

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4 from the Air Quality and Greenhouse Gas Assessment (Attachment 4) illustrates the specific construction-generated GHG emissions that would result from construction of the project. Project construction would result in the generation of approximately 310.3 metric tons of CO₂e over the course of construction, which is below the SLOAPCD MTCO₂E Bright Line Threshold. Once construction is complete, the generation of these GHG emissions would cease.

Table 4. Estimated Project Construction GHG Emissions

Phase	N ₂ O (Tons/Year)	CH ₄ (Tons/Year)	CO ₂ (Tons/Year)	MTCO ₂ E (Per Year)
Construction Emissions	0.019	0.053	335.4	310.3
SLOAPCD MTCO₂E Bright Line Threshold				1,150
Threshold Exceeded?				No

Long term:

Operation of the project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the project as a whole (project site buildout) are identified in Table 5. Project operations would be expected to generate 1,421 metric tons of CO₂e emissions annually.

Table 5. Estimated Project Operational GHG Emissions

Phase	N ₂ O (Tons/Year)	CH ₄ (Tons/Year)	CO ₂ (Tons/Year)	MTCO ₂ E (Per Year)
Operational Emissions	0.123	12.85	1,174	1,421
SLOAPCD MTCO₂E Bright Line Threshold				1,150
SLOAPCD MTCO₂E Threshold Exceeded?				Yes
Service Population				353
MTCO₂E Emission Per Service Population Per Year				4.0
Efficiency Threshold per Service Population				4.9
Threshold Exceeded?				No
MTCO₂E Per Year (Operational + Amortized Construction)				4.0
Efficiency Threshold per Service Population				4.9
Threshold Exceeded?				No

The project is compared with the SLOAPCD efficiency-based threshold of 4.9 metric tons of CO₂e per project service population (Project residents + employees) per year. The SLOAPCD's approach is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions.

Based on the assumptions used to determine operational GHG emissions, including a service population of 353, the Project would emit 4.0 MTCO₂E per service population per year, which is below the SLOAPCD Efficiency Threshold of 4.9 MTCO₂E per service population per year; therefore, Project operations would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. In addition, the operational emissions plus the amortized construction emissions were also estimated to be 4.0 MTCO₂E per service population per year and would not exceed the SLOAPCD Efficiency Threshold of 4.9 MTCO₂E per service population per year. Since the Project would not exceed the Efficiency Threshold the Project for operational emissions or operational emission plus the amortized construction emissions the Project would not conflict with the CAP, Updated Strategic Action Plan Update, or City of Paso Robles Climate Action Plan (PRCAP). Therefore, the project's cumulative contribution of GHG emissions would be less than significant and the project's cumulative GHG impacts would also be less than cumulatively considerable.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
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Discussion: The project is consistent with the City's General Plan designation. Since the project is consistent with the General Plan it is also consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan, and as a result, the project would not conflict with the land use assumptions or exceed the population or job growth projections used by the City to develop the 2013 Climate Action Plan (CAP).

The City of Paso Robles is a member city of the San Luis Obispo Council of Governments (SLOCOG). SLOCOG's 2019 Regional Transportation Plan (RTP)/ Sustainable Communities Strategy (SCS) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The project site is located within an existing and built-up community, consistent with the SCS. Thus, it is included in an area where urban development is both predicted and encouraged by the SLOCOG RTP/SCS. The project is considered infill development as it proposes to develop a property surrounded by urban uses with affordable housing, thereby enhancing the physical design of the urban environment by instigating land use diversity. The increases in land use diversity and mix of uses in the project area would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions. The proposed project would provide a convenient proximity to transit options, a school, and retail uses for its residents. Therefore, the project would result in less than significant impacts related to this environmental criterion.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion: The proposed project does not include the use, transport, or storage of hazardous materials and will not result in a risk of accidental explosion or release of hazardous substances. Therefore, the project will not have an impact on this environmental factor.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion: The proposed project does not include the use, transport, or storage of hazardous materials and will not result in a risk of accidental explosion or release of hazardous substances. Therefore, the project will not have an impact on this environmental factor.					
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion (c and d): c) The project site is within a quarter mile of a school, however, there is no existing hazardous emissions currently on-site nor are there any proposed as part of the proposed development and/or construction activities. d) The proposed project is not located on a list of hazardous material sites, per State Codes, and the proposed development intent is consistent with the City's land use and zoning designations for the site, and therefore would no result in the creation of a health 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Discussion: The proposed project is located over 4 miles away from the Paso Robles Municipal Airport and outside of the airport influence area, therefore, this issue does not directly impact the proposed development.					
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

<u>Discussion:</u> The City does not have any adopted emergency response plans. As proposed, the development would not interfere with emergency response.					
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> The proposed project is located in the City of Paso Robles and has development surrounded on all sides of the project site and therefore is not located in the wildland urban interface (WUI). The potential of wildland fires is the same as for any of the development in the vicinity and therefore the impact is less than significant.					

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> Water use during construction would be limited to dust control measures for grading activities. The project will not result in releasing water or wastewater from the site. The proposed project is subject to several existing regulations and programs, including the City's Storm Water Management Program and State Water Resources Control Board (SWRCB) Regulations. BMPs and PPMs are required to be incorporated into grading and construction plans for the short and long-term management and protection of water quality. The proposed project's Stormwater Management Plan includes the construction of subsurface storage chambers and disturbed soils would be stabilized by landscaping including trees, shrubs, and grasses. Therefore, considering these factors, impacts as a result of the development of this project on stormwater will be less than significant.					
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7
<p><u>Discussion:</u> The project site is within the City limits and it is zoned to allow for high density residential development. The City's municipal water supply is composed of groundwater from the Paso Robles Groundwater Basin, an allocation of the Salinas River underflow, and a surface water allocation from the Nacimiento Lake pipeline project. According to the 2020 Urban Water Management Plan (UWMP), the City of Paso Robles anticipates a water demand of 9,451 acre-feet/year at full buildout, with supply availability projected to be 15,088 acre-feet/year to serve development during normal, dry, and multiple dry years.</p> <p>The City's General Plan Housing Element identified this site for future availability for water and sewer service, with the Urban Water Management Plan (UWMP) verifying there is adequate capacity to serve the project based on the number of units. Using estimates from a comparison of unit usage rates for five large cities, the multi-family sector is estimated to use approximately 153 gpd. The project has 135 units, equating to 20,682 gpd, which is about 23 acre-feet per year. Based on these factors, water use for this project has been accounted for and is a fraction of the water demand at full buildout. Therefore impacts to groundwater supplies are less than significant.</p> <p>Lastly, standard conditions applied to all new development require the payment of development impact fees for water service expansion to mitigate its proportionate share of related impacts.</p>					
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
<p><u>Discussion:</u> The proposed new/replaced impervious surface area is approximately 3.7-acres, which qualifies the project as Tier 4, per the City and Regional Water Quality Control Board Post-Construction Stormwater Requirements (PCRs). Additionally, there is an off-site watershed that the project will account for in its stormwater design. The bypass system for off-site run-on was designed to direct off-site run-on away from the development, to defer having to mitigate the stormwater run-on for Post Storm Water Management Construction Requirements (PCRs) as outlined in the Regional Water Quality Control Board, Resolution No. R3-2013-0032. Off-site run-on is collected prior to entering the site through drain inlets located near the property lines and conveyed through storm drain pipe that forces the stormwater to bypass the site.</p> <p>PCRs 1 through 4 will be satisfied by a variety of methods. Once the off-site stormwater run-on bypasses the site and the on-site stormwater runoff is treated, the stormwater leaves the site by drain inlets used as bubble up devices at either driveway, or it is concentrated and directed to a junction structure located near Buildings 1 and 2. Stormwater runoff from the eastern driveway will bubble up and be collected by a drain inlet on Rolling Hills Road that discharges across the road to an existing roadside stormwater basin. The existing 18-inch pipe will be upsized to 24 inches to account for additional runoff from the project site. The remaining stormwater runoff is eventually collected and then conveyed in storm drain pipe that runs under and across Creston Road. The pipe will discharge at an existing concrete channel south of Creston Road. In conclusion, the project's drainage system was designed to meet minimum drainage requirements outlined in the City of Paso Robles Standard Specifications and the Regional Water Quality Control Board's PCRs. Based on the stormwater retention plan, the impact will be less than significant.</p>					
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<u>Discussion:</u> The proposed project, as discussed in Section VII. Geology/Soils, the site is generally flat, and therefore will not result in substantial erosion on or off-site. Additionally, in compliance with State and local regulations, during construction erosion and/or stormwater control measures will be implemented during site disturbance; therefore the project is not expected to result in substantial erosion or siltation.					
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion (ii-iv):</u> See the discussion in X.a (above) for discussion on the stormwater management approach. Measures and BMPs will be installed and implemented to decrease the amount/rate of surface runoff during storm events.					
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> The proposed project is located in a FEMA Flood Zone X, which is designated as an area of minimal flood hazard of 0.2% annual chance for flood hazard. The project is a residential development, so pollutants would be limited to those normally associated with oils on asphalt. Since the risk of flood is minimal, impacts related to pollutants will be less than significant.					
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> See the discussion in X.a for discussion on the stormwater management approach. Measures and BMPs will be installed and implemented to adhere to the City's Stormwater Management Program, therefore impacts would be reduced to less than significant.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
XI. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 2
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 2
<u>Discussion (a and b):</u> a) The proposed project is located in the immediate City boundary, and has development surrounded on all edges, including single family residential uses to the north and west, a commercial shopping center to the east, and single-family residential and institutional uses to the south. The proposed development is consistent with the General Plan and Zoning designations. No impact will occur. b) The proposed project is subject to the City General Plan and Zoning Code. These documents and ordinances include standards to protect aesthetic quality and scenic viewsheds, biological resources, cultural resources, and public health and safety. Specific requirements or policies identified in these documents are discussed in specific resource sections. Based on project design and compliance with existing zoning and land use regulations, the project would be consistent with policies adopted for the purpose of avoiding or mitigating environmental effects. No impact will occur.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
XII. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
<u>Discussion (a and b):</u> There are no known mineral resources at this project site. No impacts will occur.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
<p><u>Discussion:</u> The City's General Plan Noise Element acknowledges that although background ambient noise levels throughout the community have generally increased for all land uses, compatible land uses will not create noise in excess of the noise standards established. Noise generated from the project will consist of generally the same types of noise from the adjacent residential neighborhoods to the north and west. Noise resulting from vehicle trips and outdoor common areas present as normally accepted noise sources for this land use. Because the site is a compatible land use with its surrounding area, and has been designed with noise attenuation features in mind (building/common area setbacks, landscaping), the project would result in less than significant impacts.</p> <p>Construction of the project will result in short term, temporary increases in ambient noise during the daytime. Since standard conditions limit the hours of construction as 7 am to 7 pm, excludes construction on Sundays and Federal Holidays, and would be subject to a City permit, the impacts from the noise are considered less than significant.</p>					
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
<u>Discussion:</u> The levels of groundborne noise and vibration generated by project construction would be low, and noise would only occur during daytime hours of construction and would cease upon completion of the project. Therefore, impacts from groundborne vibrations are considered to be less than significant.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The project is not located within the geographic boundaries of the Airport Land Use Plan, therefore there is no impact.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<p><u>Discussion (a and b):</u></p> <p>a) The proposed project does not result in unplanned population growth. The site has been zoned for high-density development and therefore has been assumed in the City's infrastructure, among other needs, such as, but not limited to school and park fees. The proposed development will be responsible for paying the required fees as part of the City's entitlement process, therefore impacts are less than significant.</p> <p>b) There is no housing being displaced as part of this project. No impact will occur.</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 10
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<p><u>Discussion:</u> The proposed project would not result in a significant impact to fire or police protection, as the project site is located in the current service area by the City of Paso Robles Police and Fire Department. Cal Fire, County Sheriff, and California Highway Patrol may also respond to emergencies in the area. The project site is within the Paso Robles Joint Unified School District. Solid waste is managed by the San Luis Obispo Regional Integrated Waste Management Authority. Several parks and public recreational facilities are located within proximity to the project site, including but not limited to Winifred Pifer Elementary School, Daniel Lewis Middle School, Centennial Park, Paso Robles Golf Club, and the regional Barney Schwartz Park is located northeast of the site, off State Highway 46.</p> <p>The proposed project is consistent with the City General Plan and Zoning Code, and would not create significant impacts to local public services because it would not induce significant population growth and does not include a use that would significantly increase demand resulting in the requirement for new facilities. Regarding cumulative effects, the applicant is required to pay fees, which would go towards provision of municipal services. Therefore, potential impacts would be less than significant.</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
<u>Discussion (a and b):</u> The proposed project would not result in a significant population increase and is not anticipated to affect projected demand for parks and recreational facilities in the immediate area as the development plan demonstrates there will be on-site recreational facilities, including large central lot, clubhouse/gym, and pool. The City's Parks and Recreation Element of the General Plan dictates improvements of existing parks as well as periodically assessing usage of park facilities, and identifying physical changes needed to accommodate anticipated land use patterns. As a result, several renovation upgrades to existing parks have been made in the last several years. Based on these ongoing actions, impacts to recreational facilities is anticipated to be less than significant.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
XVII. TRANSPORTATION. Would the project:					
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion:</u> The 135-unit apartment project is consistent with the City's R4 and RMF-20 zoning and land use designations in conjunction with the fractional density program. The impacts of the added traffic trips from this project on the circulation system are anticipated with the City's 2019 Circulation Element, as well as the recent Creston Road Complete and Sustainable Streets Corridor Plan (Corridor Plan).</p> <p>A Traffic Impact Study (TIS) was prepared for this project by Central Coast Transportation Consulting, dated February 2023 (See Attachment 8). The purpose of the TIS is to provide the City with data that can be used to make decisions regarding potential traffic impacts of a proposed project, and any associated improvements that would be required to mitigate these impacts to a level of insignificance as defined by the City's General Plan Policies.</p> <p>The TIS estimated the project would generate 941 trips per weekday, including 65 trips during the AM peak hour and 79 trips during the PM peak hour. With construction of a single lane roundabout at Creston Road/Rolling Hills Road (#2) all study locations would operate acceptably under Existing Plus Project Conditions. Under Cumulative Conditions, the intersection would operate acceptably; however, westbound queues are expected to reach the Creston Road/Melody Drive (#3) intersection during peak periods. However, no additional lanes are recommended as the entire corridor experiences congestion during the school drop off and pick up and congestion is minimal during off peak times. The study recommends the Creston Road driveway be limited to left-in, right-in, right-out only. The study also recommends a small median in the two-way left turn lane to allow left turns into the site and the driveway across Creston Road but restrict outbound left turns on to Creston Road. It also recommends the project construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study:</p> <ul style="list-style-type: none"> • Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive. • Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk. • Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk. • Replace existing overhead flashing beacons with overhead and pole mounted rectangular rapid flashing beacons (RRFB). <p>With the recommended improvements, the project will be consistent with the Creston Road Complete and Sustainable Streets Study, City's Circulation Element, and the City's Pedestrian and Bicycle Master Plan, therefore, impacts related to transportation will be less than significant.</p>					
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<u>Discussion:</u> A Traffic Impact Study (TIS) was prepared for this project by Central Coast Transportation Consulting, dated February 2023 (Attachment 8), which concluded the project will have a less than significant impact on vehicle miles traveled (VMT) based on the City's 2022 Transportation Impact Analysis Guidelines thresholds.					
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> There are no hazardous design features associated, with, planned for or will result from this project.					
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The project has been reviewed by the City's Department of Emergency Services. The project will not impede emergency access, and is designed in compliance with all emergency access safety features and to City emergency access standards.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><u>Discussion:</u> The applicant reported that they performed a records search and literature review, with no cultural resources coming up in the search. In addition, the applicant provided a search of the Sacred Lands File by the Native American Heritage Commission which was negative (See Attachment 7), meaning no sacred lands are recorded. Based on these searches, the potential for buried cultural resources is relatively low. There are no structures onsite to be eligible to meet historic eligibility criteria.</p> <p>Although no significant potential archaeological or cultural resources have been identified which would be impacted by development of the plan area, there is a chance for cultural resources to be uncovered during initial earthwork. Therefore, a mitigation measure has been added to the project for there to be archaeological and tribal monitoring for the initial ground disturbance. With the mitigation, project impacts would be reduced to less than significant.</p> <p>Consultation with the Xolon Salinan Tribe and the Salinan Tribe of Monterey and San Luis Obispo Counties resulted in a request for a Phase 1 be performed. Staff provided both tribes with the recommended mitigation measure, which was satisfactory in lieu of requiring a Phase 1. Mitigation is also included in the Cultural Resources section of this report.</p>					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3, 7, 8
<p>Discussion: There is existing water and sewer available along Creston Road that will serve this project. Per the City's General Plan EIR, Urban Water Management Plan, and Sewer System Management Plan, the City's water and wastewater treatment facilities are adequately sized, including planned facility upgrades, to provide water needed for this project and treat effluent resulting from this project. Therefore, this project will not result in the need to construct new facilities. There are plans to improve the Creston Road Corridor that include the installation of a roundabout at the southeast corner of the project site. The proposed drainage for Creston Road II was designed in a way that when the Creston Road Corridor project moves forward, Creston Road II drainage will be able to assimilate into the corridor project's drainage.</p>					
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7
<p>Discussion: The project site is within the City limits and it is zoned to allow for high density residential development. The City's municipal water supply is composed of groundwater from the Paso Robles Groundwater Basin, an allocation of the Salinas River underflow, and a surface water allocation from the Nacimiento Lake pipeline project. According to the 2020 Urban Water Management Plan (UWMP), the City of Paso Robles anticipates a water demand of 9,451 acre-feet/year at full buildout, with supply availability projected to be 15,088 acre-feet/year to serve development during normal, dry, and multiple dry years.</p> <p>The City's General Plan Housing Element identified this site for future availability for water and sewer service, with the Urban Water Management Plan (UWMP) verifying there is adequate capacity to serve the project based on the number of units. Using estimates from a comparison of unit usage rates for five large cities, the multi-family sector is estimated to use approximately 153 gpd. The project has 135 units, equating to 20,682 gpd, which is about 23 acre-feet per year. Based on these factors, water use for this project has been accounted for and is a fraction of the water demand at full buildout. Therefore impacts to groundwater supplies are less than significant.</p> <p>Standard conditions applied to all new development require the payment of development impact fees for water service expansion to mitigate its proportionate share of related impacts.</p>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<p>Discussion: The project's generated wastewater flows would ultimately flow to the City's Wastewater Treatment Plant (WWTP). In 2020 the average daily influent flow to the WWTP was 2.11 MGD and the maximum influent flow was 2.39 MGD in August, which is well below the WWTP design capacity of 4.9 MGD. As noted above in the amount of water used by the project, there is anticipated to be an equivalent amount of wastewater received by the project's domestic water use. According to the design capacity of 4.9 MGD, the additional flow from the project would be able to be handled by the current treatment plant.</p>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<p>Discussion: The City owns a fully permitted Class III non-hazardous solid waste landfill which is estimated to have sufficient airspace capacity to the year 2077, based on a 2021 Updated Joint Technical Document that was prepared for the landfill. The City generates 45,000 tons of solid waste annually. It dumps this waste into its own landfill. The landfill has a maximum permitted capacity of 6,495,000 cubic yards and a maximum permitted throughput of 450 tons of solid waste per day and 75,000 tons per year, through October 1, 2051. As of December 31, 2017, the landfill had a remaining capacity of 4,216,402 cubic yards or approximately 65% of the maximum permitted capacity.</p> <p>Solid waste data for this project has been extrapolated from the CalRecycle Estimated Solid Waste Generation Rates webpage. Based on the available data, a multifamily use is expected to generate approximately 5 pounds of waste, per dwelling unit, per day. With 135 dwelling units, this results in approximately 675 pounds of solid waste per day, or 0.33 tons per day, or 123 tons per year. Based on the existing facility being able to take 75,000 tons per year, the amount of new waste is considered less than significant.</p>					

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The proposed project will comply with federal, state, and local management and reduction statutes and regulations.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The City of Paso Robles does not have an adopted emergency response plan or evacuation plan. The site is zoned high density residential development, such as what is proposed. Therefore, the project could not impair emergency plans.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion (b and c):</u> As previously identified, the site has development on all sides of the property and is not considered as being located within the wildland urban interface (WUI) and therefore would not need specific measures for fire-fighting purposes, beyond emergency vehicle access, clearance around buildings, and connection to water. The project has been reviewed by the City of Paso Robles Fire Department and designed with Fire Codes in mind. Given these considerations the impact will be less than significant.					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> The project site is relatively flat and not subject to landslide potential or significant drainage changes.					

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Discussion:</u> As noted within this environmental document, and with the mitigation measures outlined in the document, the projects future development impacts related to habitat for wildlife species and oak tree preservation will be less than significant with mitigation incorporated. The project would not result in impacts to fish habitat or impacts to fish and wildlife populations.					

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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> Based on the location of the project being within the City’s limits, consistency with the City’s General Plan and Zoning Ordinance, and implementation of mitigation measures including contribution of fees to existing programs or monitoring activities, the project would not result in any impacts that are cumulatively considerable.					
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Discussion:</u> Since the site is zoned for residential development which is anticipated by the existing General Plan and General Plan EIR, and since it would be developed at some point in the future with development that would have similar site disturbance such as grading and infrastructure for multiple-family development, and as a result of this study identifying mitigation measures for impacts created by the project, it is not anticipated that the project will result in substantial adverse environmental impacts on human beings, either directly or indirectly.					

EARLIER ANALYSIS AND BACKGROUND MATERIALS.

Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. CEQA Guidelines, Section 15152(b), (f).

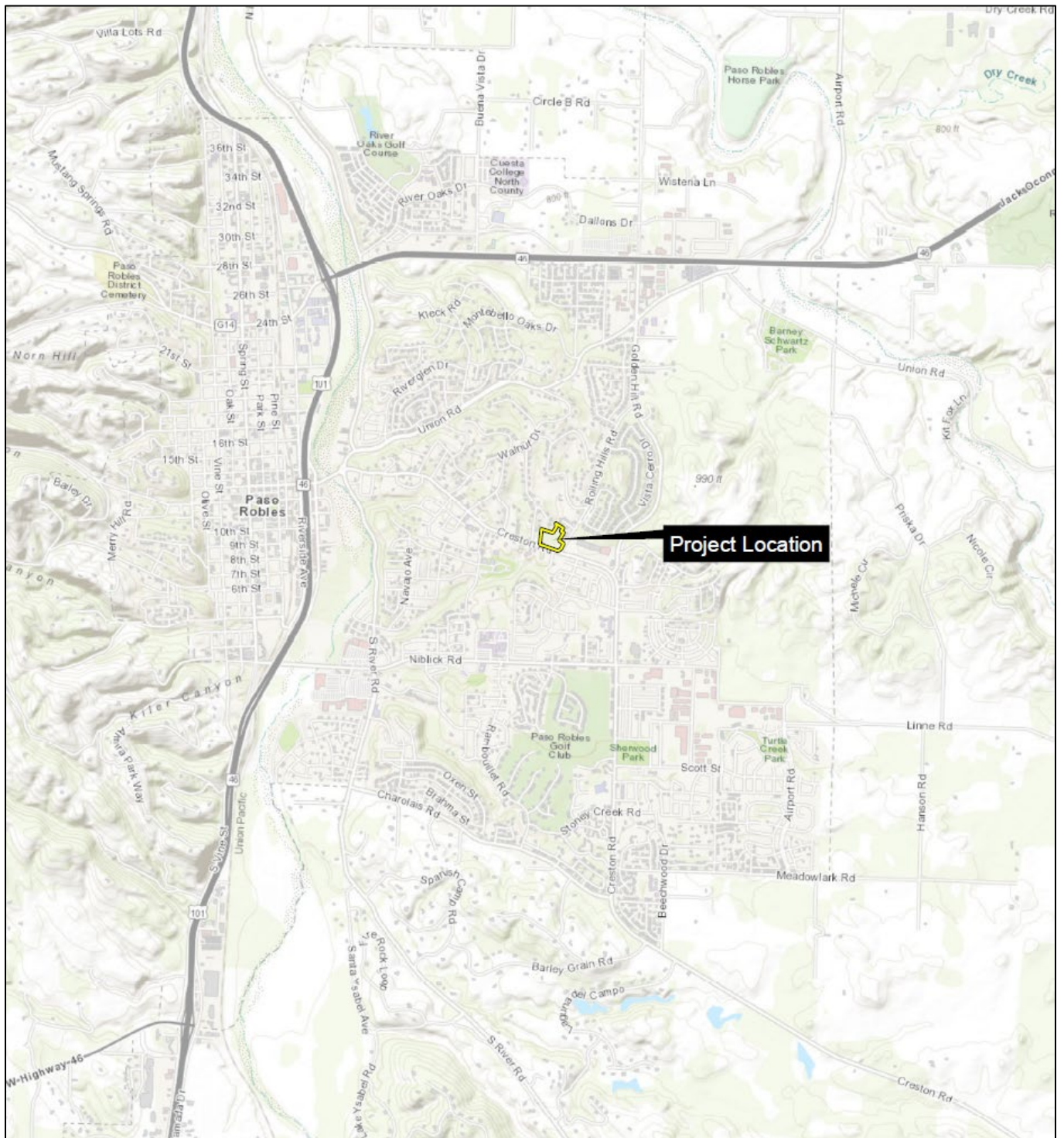
Earlier Documents Prepared and Utilized in this Analysis and Background / Explanatory Materials

<u>Reference #</u>	<u>Document Title</u>	<u>Available for Review at:</u>
1	City of Paso Robles General Plan	City of Paso Robles Community Development Department 1000 Spring Street Paso Robles, CA 93446
2	City of Paso Robles Zoning Code	Same as above
3	City of Paso Robles Environmental Impact Report for General Plan Update	Same as above
4	2005 Airport Land Use Plan	Same as above
5	City of Paso Robles Municipal Code	Same as above
6	City of Paso Robles Water Master Plan	Same as above
7	City of Paso Robles Urban Water Management Plan 2020	Same as above
8	City of Paso Robles Sewer Master Plan	Same as above
9	City of Paso Robles Housing Element	Same as above
10	City of Paso Robles Standard Conditions of Approval for New Development	Same as above
11	San Luis Obispo County Air Pollution Control District Guidelines for Impact Thresholds	APCD 3433 Roberto Court San Luis Obispo, CA 93401
12	San Luis Obispo County – Land Use Element	San Luis Obispo County Department of Planning County Government Center San Luis Obispo, CA 93408
13	USDA, Soils Conservation Service, Soil Survey of San Luis Obispo County, Paso Robles Area, 1983	Soil Conservation Offices Paso Robles, Ca 93446

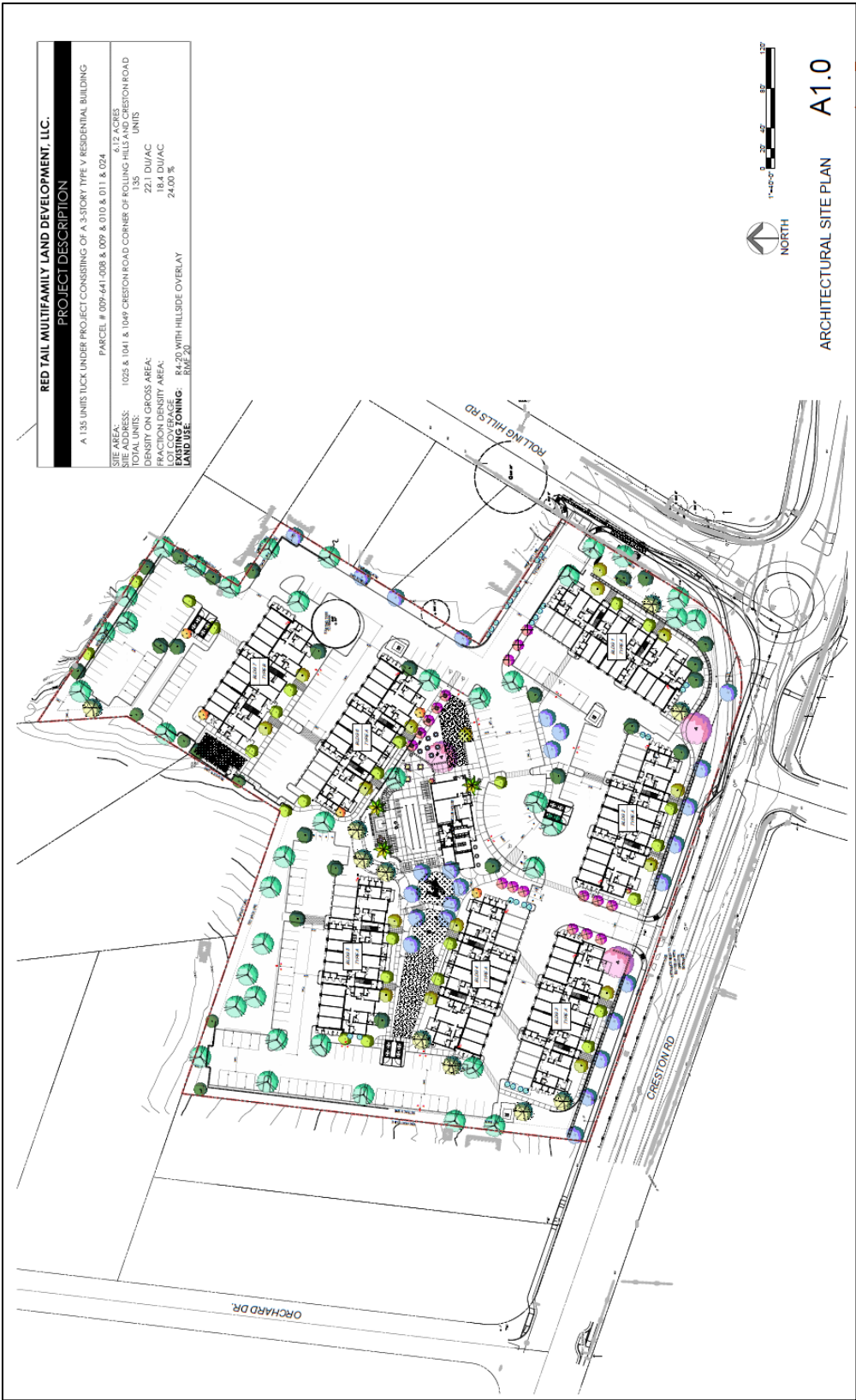
Attachments:

1. Vicinity Map
2. Site Plan
3. Perspective Renderings
4. Air Quality & Greenhouse Gas Emissions Assessment (February 2023) by Padre Associates, Inc.
5. Arborist Report (November 2022) by Heritage Tree Arboricultural Consulting
6. Biological Report (April 2022) by Padre Associates, Inc.
7. Sacred Lands File Search
8. Traffic Impact Study (February 2023) by Central Coast Transportation Consulting
9. Mitigation Monitoring & Report Plan

Vicinity Map



Site Plan







Febauray 14, 2023
Project No. 2202-0712

Red Tail Multifamily Land Development
2082 Michelson Drive, 4th Floor
Irvine, California 92612

Attention: Ms. Kim Berry

Subject: Letter Report, Air Quality and Green House Gas Emissions Analysis for the
Proposed Rolling Hills Apartment Project, Paso Robles, California

Dear Ms. Berry:

Padre Associates, Inc. (Padre), has prepared this letter-report documenting the air quality and greenhouse gas emissions analysis for the proposed residential development project (Project) at 1049 Creston Road (APN 009-641-010), Paso Robles, California (Project Site). The analysis has been prepared in accordance with the San Luis Obispo County Air Pollution Control District (SLOAPCD) California Environmental Quality Act (CEQA) Air Quality Handbook (2012).

OVERVIEW

The purpose of the Analysis is to estimate the criteria pollutants and greenhouse gas (GHG) emissions that would be emitted by the Project and compare the estimates to the SLOAPCD air quality and greenhouse gas regulations.

Site Description and Background

The Project Site is located at 1049 Creston Road in the City of Paso Robles (City), San Luis Obispo County (County), California. The Project Site consists of a 6.21-acre parcel within Assessor Parcel Number (APN) 009-641-010. Adjacent properties consist of single-family residential properties to the north, west, northeast and southeast, a preschool located to the east, religious institutions to the south and southwest, and commercial properties to the east. The Project Site has been historically used for agricultural purposes and is currently vacant. The Paso Robles Municipal Airport is located approximately 3.25 miles northeast of the Project Site.

Project Description and Schedule

Construction of the Project is anticipated to be completed over a period of approximately two months for grading and heavy equipment work and general construction for approximately 15 months. The Project consists of the development of a multifamily apartment site consisting of 135 dwelling units located within seven buildings oriented around a proposed 2,804 square

foot (SF) amenity building, a 1,184 SF pool, and landscaped common areas. Grading activities are proposed to disturb approximately 6.21 acres over the duration of the construction phase.

The grading schedule for Project could be subject to change due to permitting, field conditions and weather conditions but is currently anticipated to require a total of 17 months to complete.

Sensitive Receptors

The closest sensitive receptors to the Project Site consist of a preschool located on the adjacent property to the east, a preschool and kindergarten through 8th grade school located on the adjacent property to the southwest, residential properties located on adjacent properties to north, west, northeast, and southeast, and religious institutions located on adjacent properties to the south and southwest.

REGULATORY THRESHOLDS

The SLOAPCD has adopted two sets of criteria pollutant significance thresholds: one for project construction phase and one for project operational phase (see Table 1) (SLOAPCD, 2012a). According to the SLOAPCD CEQA Air Quality Handbook, a project would not be in conflict with an applicable clean air plan, nor violate an air quality standard and/or have a significant impact to air quality if the project's criteria pollutant emissions were below the following thresholds.

Table 1. Criteria Pollutant Thresholds

Thresholds	ROG + NO _x		PM ₁₀		DPM		Fugitive Dust	
	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)
Construction Phase (Tier 1/ Tier 2)*	137	2.5/6.3	--	--	7.0	0.13/0.32	--	2.25
Operational Phase*	25	25	25	25	1.25	--	--	25
Notes: ROG – Reactive organic gases, NO _x – Oxides of nitrogen, PM ₁₀ – Particulate matter with a diameter of 10 microns or less, PM _{2.5} – Particulate matter with a diameter of 2.5 microns or less, CO – Carbon Monoxide, SO ₂ – Sulfur Dioxide * SLOAPCD, 2012 -- Not applicable								

The SLOAPCD has adopted GHG thresholds in an effort to meet the GHG reduction goals of AB 32 (SLOAPCD, 2012a and SLOAPCD, 2012b). The two GHG significance thresholds that have been established for residential and commercial projects are as follows:

- Bright Line Threshold of 1,150 million metric tons of carbon dioxide equivalent (MTCO₂E) per year; and

- Efficiency Threshold of 4.9 MTCO₂E/Service Population (residents + employees)/year (MTCO₂E/SP/year).

Emissions from the construction phase of residential projects must be amortized over 50 years and added to the operational phase GHG emissions. The operational phase emissions plus the amortized construction emissions must be compared to the Bright Line Threshold or Efficiency Threshold.

Emissions Estimates

The primary sources of pollutant emissions for the Project's construction phase would result from the use of internal combustion engines and soil disturbance during grading activities. Specifically, conventional construction equipment such as backhoes, dozers, compactors, excavators, graders, loaders, paving machines, scrapers, and haul trucks will be utilized during grading and general construction activities. Additional sources of air pollutant emissions include emissions from on-road motor vehicles used to transport materials and personnel. Operational emissions would result primarily from emissions due to electrical consumption and from resident on-road motor vehicle use.

Emissions modeling was conducted to estimate the criteria pollutant and GHG emissions for the construction and operational phases of the Project. The emissions were estimated using the most recent emission factors and load factors obtained from the California Emissions Estimator Model® (CalEEMod) User's Guide (Environ, 2020), Emission Factors (EMFAC) model and the South Coast Air Quality Management District (SCAQMD). Detailed source information is provided in Appendix A.

Construction and operational equipment emissions were estimated using the engine horsepower, engine emission factors, engine load factors, and hours of engine use per day. On-road vehicle emissions were estimated using the vehicle type (i.e., passenger gasoline-powered vehicle, heavy-duty diesel-powered vehicle), engine emission factors, and length of daily round trips. Operational emissions from resident on-road motor vehicle use were calculated using data from a traffic study provided by the client. Electricity use and associated emissions were estimated using estimated energy usage and emissions factors. Fugitive dust emissions from proposed soil disturbance activities related to the construction phase were calculated using emission factors, volumes of earth material disturbed, and areas of earth material disturbed. A tabulation of assumptions, references, and calculations for the project emission estimates are provided in Appendix A. Tables 2 and 3 list the estimated Project criteria pollutant emissions calculated by Padre for the Project construction and operational phases. Tables 4 and 5 list the yearly GHG emissions calculated by Padre for the Project construction and operational phases.

Table 2. Estimated Project Construction Criteria Pollutant Emissions

Peak Emissions	ROG + NO _x		PM ₁₀		DPM		Fugitive Dust	
	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)
Thresholds (Tier 1/ Tier 2)*	137	2.5/6.3	--	--	7.0	0.13/0.32	--	2.25
Project Construction Emissions	91.7	0.85	3.02	0.058	5.58	0.001	--	0.023
Threshold Exceeded for Emissions?	No	No/No	--	--	No	No/No	--	No
Notes: ROG – Reactive organic gases, NO _x – Oxides of nitrogen, PM ₁₀ – Particulate matter with a diameter of 10 microns or less, PM _{2.5} – Particulate matter with a diameter of 2.5 microns or less, CO – Carbon Monoxide, SO ₂ – Sulfur Dioxide * SLOAPCD, 2012 -- Not applicable								

Table 3. Estimated Project Operational Criteria Pollutant Emissions

Peak Emissions	ROG + NO _x		PM ₁₀		DPM		Fugitive Dust	
	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)	Daily (lbs.)	Quarterly (tons)
Operational Phase*	25	25	25	25	1.25	--	--	25
Project Operational Emissions	5.9	0.41	0.27	0.02	0.55	0.034	0.00	0.00
Threshold Exceeded for Emissions?	No	No	No	No	No	No	No	No
Notes: ROG – Reactive organic gases, NO _x – Oxides of nitrogen, PM ₁₀ – Particulate matter with a diameter of 10 microns or less, PM _{2.5} – Particulate matter with a diameter of 2.5 microns or less, CO – Carbon Monoxide, SO ₂ – Sulfur Dioxide * SLOAPCD, 2012 -- Not applicable								

As shown in Tables 2 and 3, implementation of the Project is not expected to result in an exceedance of SLOAPCD construction or operational thresholds. The emissions analysis spreadsheets and the basis of criteria pollutant emissions analysis are provided in Appendix A.

Table 4. Estimated Project Construction GHG Emissions

Phase	N ₂ O (Tons/Year)	CH ₄ (Tons/Year)	CO ₂ (Tons/Year)	MTCO ₂ E (Per Year)
Construction Emissions	0.019	0.053	335.4	310.3
SLOAPCD MTCO₂E Bright Line Threshold				1,150
Threshold Exceeded?				No

Table 5. Estimated Project Operational GHG Emissions

Phase	N ₂ O (Tons/Year)	CH ₄ (Tons/Year)	CO ₂ (Tons/Year)	MTCO ₂ E (Per Year)
Operational Emissions	0.123	12.85	1,174	1,421
SLOAPCD MTCO₂E Bright Line Threshold				1,150
SLOAPCD MTCO₂E Threshold Exceeded?				Yes
Service Population				353
MTCO₂E Emission Per Service Population Per Year				4.0
Efficiency Threshold per Service Population				4.9
Threshold Exceeded?				No
MTCO₂E Per Year (Operational + Amortized Construction)				4.0
Efficiency Threshold per Service Population				4.9
Threshold Exceeded?				No

The Project's GHG construction emissions do not exceed the SLOAPCD emissions threshold of 1,150 MTCO₂E per year for the Project construction phase. The operational phase emissions do exceed the SLOAPCD Bright Line threshold of 1,150 MTCO₂E per year, but do not exceed the SLOAPCD emissions threshold of 4.9 MTCO₂E per service population. Additionally, the operational phase emissions plus the amortized construction emissions do exceed the SLOAPCD Bright Line threshold of 1,150 MTCO₂E per year, but do not exceed the SLOAPCD emissions threshold of 4.9 MTCO₂E per service population. The emissions analysis spreadsheets and the basis of criteria pollutant emissions analysis are provided in Appendix A.

Required Construction Mitigation Measures

The Project is located within 1,000 feet of several sensitive receptors and is proposed to grade 6.21 acres. Per the SLOAPCD CEQA Air Quality Handbook, the construction phase of the Project would at a minimum be required to implement the following SLOAPCD Mitigation Measures:

Fugitive PM₁₀ Mitigation Measures. The following measures shall be implemented during construction activities to reduce fugitive dust emissions. Reduce the amount of the disturbed area where possible.

- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the SLOAPCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should

be used whenever possible. Please note that since water use is a concern due to drought conditions, the contractor or builder shall consider the use of an SLOAPCD-approved dust suppressant where feasible to reduce the amount of water used for dust control.

- All dirt stockpile areas should be sprayed daily and covered with tarps or other dust barriers as needed.
- Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities.
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD.
- All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code (CVC) Section 23114.
- "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in CVC Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified.
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water used where feasible. Roads shall be pre-wetted prior to sweeping when feasible.

- All PM₁₀ mitigation measures required should be shown on grading and building plans.
- The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints and reduce visible emissions below the SLOAPCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork, or demolition.

CRITERIA POLLUTANT IMPACT ANALYSIS

Based on an analysis of the Project scope and the criteria pollutant emissions calculation results, the Project construction and operational phases would not conflict with the SLOAPCD's 2001 Clean Air Plan (CAP), violate any air quality standard, substantially contribute to any air current quality violation, or generate a cumulatively considerable net increase in criteria pollutants O₃ and PM₁₀. The sections below provide a discussion of the results of the analysis.

Construction Phase

Criteria pollutant emissions would be generated by equipment used for the construction phase of the Project. These emissions include NO_x and ROG_s which are considered O₃ precursors, potentially resulting in atmospheric O₃ formation. The County is currently in non-attainment status for both the 8-hour and 1-hour ozone standards (SLOAPCD, 2023). Emissions would also include PM₁₀ for which the County is in non-attainment status (SLOAPCD, 2023). The construction phase would include diesel powered backhoes, bulldozers, compactors, cranes, excavators, graders, loader, lifts, paving machines, scrapers and a skid steer. All equipment used during the Project would have Tier 3 and Tier 4 compliant engines.

Emissions resulting from Project construction equipment would temporarily increase local pollutant concentrations. Daily or quarterly emissions would not exceed SLOAPCD thresholds; therefore, the incremental increases in NO_x, ROG_s, and PM₁₀ that would contribute to non-attainment would not be cumulatively considerable. Additionally, the Project would implement the required Fugitive PM₁₀ Mitigation Measures during construction activities to further minimize PM₁₀ generation from fugitive dust at the Project site. Therefore, the Project construction activities would not conflict with or obstruct implementation of the CAP, violate any emissions standards, or contribute substantially to an existing or projected air quality violation.

Criteria pollutants and odors from fuel combustion would be generated by the construction equipment but would be temporary during construction activities. Odors would likely dissipate quickly in the open air. The contractor or builder will locate equipment staging area at locations on site that are furthest from adjacent sensitive receptors. Dust would be mitigated by implementation of the Fugitive PM₁₀ Mitigation Measures. Therefore, the Project

would not expose sensitive receptors to substantial pollutant concentrations and would not create objectionable odors affecting a substantial number of people.

Operational Phase

Criteria pollutant emissions during the operational phase would primarily be generated by resident vehicle trips. Daily or quarterly emissions would not exceed SLOAPCD thresholds; therefore, the incremental increases in NO_x, ROG_s, and PM₁₀ that would contribute to non-attainment would not be cumulatively considerable. The Project operational phase would also not violate any emissions standards or contribute substantially to an existing or projected air quality violation.

The SLOAPCD indicates that a Project is consistent with the CAP if it shows conformance with land use and transportation control measures and strategies. The control measures and strategies that are applicable to the Project consists of the following:

Local and Regional Transit System Improvements. The purpose of this measure is to encourage the use of public transportation. The area of the Project Site is serviced by the San Luis Obispo RTA. Access to the RTA is located within walking distance of the Project Site. Easy access to the RTA would result in increased use of public transportation.

Bicycling and Bikeway Improvements. The purpose of this measure is to increase the County average use to bicycle modal share of five percent or more. The Project Site is located in an area of the City that has access to numerous Class II bicycle lanes.

Traffic Flow Improvements and Circulation Management. The purpose of this measure is to improve traffic flow to allow improved non-motorized transportation. The Project would include improvements to Creston Road to enhance traffic flow.

Compact Communities and Mixed Land Use Planning. The general purpose of these strategies is to regulate growth to reduce dependence on motorized transportation and provide a mix of compatible land uses that will encourage the use of non-motorized transportation. The area of the Project Site is located at a convenient proximity to public transportation, retail stores, private schools, public schools, and religious institutions, which will increase the likelihood the residents will use non-motorized transportation and public transportation.

Jobs and Housing Planning. The purpose of this strategy is to ensure that there is housing available near areas of potential employment opportunities. The Project proposes 135 affordable dwelling units. As indicated above the Project is located within close proximity to public transportation, retail stores, private schools, public schools, and religious institutions.

The Project would not conflict with any of the applicable control measures and strategies, therefore, would be consistent with the CAP.

Criteria pollutants and odors generated by the operational phase would be similar to the criteria pollutants and odors generated by the adjacent residential properties to the northwest, east and southeast of the Project Site; therefore, the Project would not expose sensitive

receptors to substantial pollutant concentrations or create objectionable odors affecting a substantial number of people.

GHG IMPACT ANALYSIS

Based on an analysis of the Project scope and the GHG emissions calculation results the Project construction and operational phases would not conflict with an applicable clean air plan or generate GHG emissions that may have a significant impact on the environment. The sections below provide a discussion of the results of the analysis.

Construction Phase

GHG emissions would be generated by equipment used for the construction phase of the Project. The construction phase would include diesel powered backhoes, bulldozers, compactors, cranes, excavators, graders, loader, lifts, paving machines, scrapers and a skid steer. All equipment used during the Project would have Tier 3 and Tier 4 compliant engines.

Based on the emissions calculations, Project construction activities would emit a total of approximately 310.3 MTCO₂E for the Project, which is well below the SLOAPCD GHG Bright Line threshold of 1,150 MTCO₂E. The Project construction activities would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. Since the Project would not exceed the Bright Line Threshold the Project would not conflict with the CAP.

Operational Phase

GHG emissions during the operational phase would primarily be generated by resident vehicle trips. Based on the emissions calculations, Project operations would emit a total of approximately 1,421 MTCO₂E per year for the Project, which slightly exceeds the SLOAPCD GHG Bright Line threshold of 1,150 MTCO₂E per year. However, based on a service population of 353 the Project would emit 4.0 MTCO₂E per service population per year, which is below the SLOAPCD Efficiency Threshold of 4.9 MTCO₂E per service population per year; therefore, Project operations would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. In addition, the operational emissions plus the amortized construction emissions were also estimated to be 4.0 MTCO₂E per service population per year would exceed the SLOAPCD Efficiency Threshold of 4.9 MTCO₂E per service population per year. Since the Project would not exceed the Efficiency Threshold the Project for operational emissions or operational emission plus the amortized construction emissions the Project would not conflict with the CAP, Updated Strategic Action Plan Update, or City of Paso Robles Climate Action Plan (PRCAP).

CONCLUSION

Based on the results of this analysis implementation of the Project will not result in the following:

- Conflict with applicable clean air plans;
- Violate any air quality standards or contribute substantially to an existing or projected air quality violation.
- A cumulatively considerable net increase of any criteria pollutant (including ozone precursors) for which the County is in non-attainment status under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations or create objectionable odors affecting a substantial number of people.
- Generation of GHG emissions that may have a significant impact on the environment.

CLOSURE

If you have any questions or require additional information regarding the Analysis, please contact Mr. Robert Vander Weele at (805) 748-8605 or rvanderweele@padreinc.com.

Sincerely,
Padre Associates, Inc.



Robert Vander Weele, P.G.
Senior Geologist

Attachments:

References

Appendix A – Emissions Model Tables

REFERENCES

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APPENDIX A
EMISSIONS MODEL TABLES

ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 1: CONSTRUCTION EMISSIONS SUMMARY

Source	Peak Day Emissions, lbs/day										Quarterly Emissions, tons								Annual Emissions, tons/yr			MTCO ₂ e
	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	Fugitive Dust	N ₂ O	CH ₄	CO ₂	
Construction Phase	87.30	4.36	5.13	3.02	5.58	101.71	0.48	5.23	4.73	48,749	0.774	0.071	0.058	0.039	0.001	1.352	0.003	0.023	0.019	0.053	335.4	310.3
<i>Peak Day within San Luis Obispo County</i>	91.7		5.13	3.02	5.58	101.71	0.48	5.23	4.73	48,749	--	--	--	--	--	--	--	--	--	--	--	--
<i>Emissions within San Luis Obispo County</i>	--		--	--	--	--	--	--	--	--	0.774	0.071	0.058	0.039	0.001	1.352	0.003	0.023	0.019	0.053	335.4	310.3
<i>SLOAPCD Significance Thresholds</i>	137		--	--	7.0	--	--	--	--	--	2.5/6.3		--	--	0.13/0.32	--	--	2.25	--	--	--	--
<i>Threshold exceeded?</i>	No		--	--	No	--	--	--	--	--	No/No		--	--	No/No	--	--	No	--	--	--	--
GHG - MTCO ₂ e conversions																			273	28	1	--
Total MTCO ₂ e Per Year																			310.3			
SLOAPCD MTCO ₂ e Per Year Significance Threshold																			1,150			
Threshold exceeded?																			No			

Notes:
- Global Warming Potentials (273 for N₂O, 27.9 for CH₄, and 1 for CO₂, Table 7.SM.6, Intergovernmental Panel on Climate Change (IPCC). 2021. Sixth Assessment Report
SLOAPCD - San Luis Obispo Air Pollution Control District
MTCO₂e - Metric Tons if Carbon Dioxide Equivalent
NO_x - Oxides of Nitrogen
ROG - Reactive Organic Gases
PM_{2.5} - Particulate Matter 2.5 Microns or Less
PM₁₀ - Particulate Matter 10 Microns or Less
DPM - Diesel Particulate Matter
CO - Carbon Monoxide
SO₂ - Sulfur Dioxide
N₂O - Nitrous Oxide
CH₄ - Methane
CO₂ - Carbon Dioxide



ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 2: OPERATION EMISSIONS SUMMARY

Source	Peak Day Emissions (lbs/day)											Annual Emissions (tons/yr)												
	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	Fugitive* Dust	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	DPM	CO	SO ₂	Fugitive Dust*	N ₂ O	CH ₄	CO ₂	MTCO ₂ e	
Operation Phase	3.50	2.45	0.27	0.27	0.55	103.73	0.07	0.000	0.50	0.36	7229	0.326	0.083	0.017	0.017	0.034	1.220	0.063	0.000	0.123	12.847	1174	1,421	
Peak Day within San Luis Obispo County	5.9		0.27	0.27	0.55	103.73	0.07	0.00	0.50	0.36	7,229	-	-	-	-	-	-	-	-	-	-	-	-	
Annual Emissions within San Luis Obispo County	--		--	--	--	--	--	--	--	--	--	0.326	0.083	0.017	0.017	0.034	1.220	0.063	0.000	0.123	12.847	1,174	1,421	
SLOAPCD Significance Thresholds	25		25	--	1.25	550	--		--	--	--	25		25	--	--	--	--	25	--	--	--	--	
Threshold exceeded?	No		No	--	No	No	--		--	--	--	No		No	--	--	--	--	No	--	--	--	--	
GHG - MTCO ₂ e conversions																					273	28	1	--
Total MTCO ₂ e Per Year																					1,421			
SLOAPCD MTCO2e Per Year Significance Threshold																					1,150			
Threshold Exceeded?																					Yes			
Service Population																					353			
MTCO2e Emission Per Service Population Per Year																					4.0			
Emissions Threshold Per Service Population Per Year																					4.9			
Threshold exceeded?																					No			
Amortized Construction Emissions Per Year																					6.2			
Total MTCO ₂ e Per Year (Operational + Amortized Construction)																					1,427			
MTCO2e Emission Per Service Population Per Year																					4.0			
Emissions Threshold Per Service Population Per Year																					4.9			
Threshold exceeded?																					No			

Notes:
- Global Warming Potentials (273 for N₂O, 27.9 for CH₄, and 1 for CO₂, Table 7.SM.6, Intergovernmental Panel on Climate Change (IPCC). 2021. Sixth Assessment Report
* No significant sources of fugitive dust are expected therefore fugitive dust emissions are assumed to be negligible.

MTCO₂e - Metric Tons if Carbon Dioxide Equivalent
SLOAPCD - San Luis Obispo Air Pollution Control District
NO_x - Oxides of Nitrogen
ROG - Reactive Organic Gases
PM_{2.5} - Particulate Matter 2.5 Microns or Less
PM₁₀ - Particulate Matter 10 Microns or Less
DPM - Diesel Particulate Matter
CO - Carbon Monoxide
SO₂ - Sulfur Dioxide
N₂O - Nitrous Oxide
CH₄ - Methane
CO₂ - Carbon Dioxide

Assumptions:
Operations assumed 7 days per week.



ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 3: Grading Phase

On-Site Sources

Source	BHP	Load Factor	Number	Hours/ Day*	Duration (days)	Emission Factors (g/bhp-hr)										Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂			
Asphalt Fugitive	--	--	1	0	0	--	2.600	--	--	--	--	--	--	--	--	0.0E+00	--	--	--	--	--	--	--	0.0E+00	--	--	--	--	--	--	--				
Backhoe-1	97	37	1	8	40	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.154	475	0.165	0.038	0.005	0.005	2.342	0.003	0.003	0.097	300.8	0.003	0.001	0.000	0.000	0.047	0.000	0.000	0.002	6.015			
Backhoe-2	97	38	1	8	10	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.154	475	1.781	0.078	0.125	0.125	2.405	0.003	0.003	0.100	308.9	0.009	0.000	0.001	0.001	0.012	0.000	0.000	0.001	1.544			
Compressor	78	48	1	0	0	3.400	0.489	0.224	0.224	3.698	0.006	0.004	0.044	568	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Crane	231	29	1	0	0	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Dozer-1	247	43	1	8	40	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	473	0.487	0.112	0.015	0.015	4.121	0.009	0.008	0.287	885.9	0.010	0.002	0.000	0.000	0.082	0.000	0.000	0.006	17.72			
Dozer-2	247	43	1	8	10	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	473	0.487	0.112	0.015	0.015	4.121	0.009	0.008	0.287	885.9	0.002	0.001	0.000	0.000	0.021	0.000	0.000	0.001	4.430			
Dozer-3	247	43	1	8	10	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	473	4.346	0.225	0.165	0.165	4.870	0.009	0.008	0.287	885.9	0.022	0.001	0.001	0.001	0.024	0.000	0.000	0.001	4.430			
Excavator-1	158	38	1	8	30	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.275	0.064	0.008	0.008	3.918	0.005	0.004	0.162	500.1	0.004	0.001	0.000	0.000	0.059	0.000	0.000	0.002	7.502			
Excavator-2	158	38	1	8	39	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.275	0.064	0.008	0.008	3.918	0.005	0.004	0.162	500.1	0.005	0.001	0.000	0.000	0.076	0.000	0.000	0.003	9.752			
Forklift-1	89	20	1	0	0	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Forklift-2	89	20	1	0	0	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Forklift-3	89	20	1	0	0	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Generator	84	74	1	0	0	3.173	0.364	0.179	0.179	3.380	0.006	0.004	0.032	568	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Grader	187	41	1	8	30	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.154	475	0.352	0.081	0.011	0.011	2.975	0.007	0.006	0.208	642.7	0.005	0.001	0.000	0.000	0.045	0.000	0.000	0.003	9.641			
Loader-1	97	36	1	8	40	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.151	466	0.160	0.037	0.005	0.005	2.279	0.003	0.003	0.093	286.8	0.003	0.001	0.000	0.000	0.046	0.000	0.000	0.002	5.736			
Loader-2	97	36	1	8	10	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.151	466	1.688	0.074	0.118	0.118	2.279	0.003	0.003	0.093	286.8	0.008	0.000	0.001	0.001	0.011	0.000	0.000	0.000	1.434			
Paving Equipment-1	132	36	1	0	0	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.152	471	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Paving Equipment-2	132	36	1	0	0	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.152	471	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Paving Machine-1	130	42	1	0	0	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Paving Machine-2	130	42	1	0	0	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Paving Roller-1	80	38	1	0	0	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	474	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Paving Roller-2	80	38	1	0	0	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	474	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Scraper-1	367	48	1	8	30	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	472	7.208	0.373	0.273	0.273	8.078	0.016	0.013	0.475	1,467	0.108	0.006	0.004	0.004	0.121	0.000	0.000	0.007	22.01			
Scraper-2	367	48	1	8	30	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	472	7.208	0.373	0.273	0.273	8.078	0.016	0.013	0.475	1,467	0.108	0.006	0.004	0.004	0.121	0.000	0.000	0.007	22.01			
Water Truck-1	225	48	1	8	40	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	472	0.495	0.114	0.015	0.015	4.191	0.010	0.008	0.291	899.4	0.010	0.002	0.000	0.000	0.084	0.000	0.000	0.006	17.99			
Welders	46	45	1	0	0	4.304	0.937	0.238	0.238	4.840	0.007	0.004	0.084	568	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Total						24.93	1.745	1.038	1.038	53.57	0.099	0.083	3.018	9,317	0.299	0.023	0.012	0.012	0.749	0.001	0.001	0.042	130.2												

On-Road Sources

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)									Peak Day Emissions (lb/day)										Total Emissions (tons)									
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂		
Passenger Vehicle - LDA (offsite)	1	1	13	60	40	0.062	0.013	0.001	0.001	0.841	0.003	0.006	0.003	293	0.104	0.022	0.002	0.002	1.419	0.005	0.010	0.005	493.8	0.002	0.000	0.000	0.000	0.028	0.000	0.000	0.000	9.875		
Light-Duty Truck - LDT2 (offsite)	1	1	4	60	40	0.069	0.014	0.007	0.006	0.137	0.003	0.052	0.001	331	0.039	0.008	0.004	0.004	0.077	0.002	0.029	0.000	186.2	0.001	0.000	0.000	0.000	0.002	0.000	0.001	0.000	3.724		
Med-Heavy Duty - T6 Utility (offsite)	1	1	1	60	8	0.817	0.016	0.004	0.004	0.072	0.011	0.178	0.001	1128	0.108	0.002	0.001	0.001	0.009	0.001	0.024	0.000	149.2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.597		
Heavy Duty Haul Truck - T7T (offsite)	1	1	2	60	8	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1675	0.524	0.007	0.005	0.005	0.035	0.004	0.070	0.000	443.1	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.772		
Heavy Duty Haul Truck - T7T (offsite)	1	1	1	60	8	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1675	0.262	0.004	0.003	0.003	0.017	0.002	0.035	0.000	221.5	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.886		
Heavy Duty Haul Truck - T7T (offsite)	1	1	21	60	30	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1675	5.504	0.076	0.057	0.055	0.367	0.044	0.733	0.004	4,652	0.083	0.001	0.001	0.001	0.005	0.001	0.011	0.000	69.787		
Heavy Duty Haul Truck - T7T (offsite)	1	1	13	60	1	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1675	3.407	0.047	0.035	0.034	0.227	0.027	0.454	0.002	2,880	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.440		
Heavy Duty Haul Truck - T7T (offsite)	1	1	9	60	1	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1675	2.359	0.033	0.025	0.023	0.157	0.019	0.314	0.002	1,994	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.997		
						Total	12.31	0.20	0.13	0.13	2.31	0.105	1.668	0.014	11,020	0.092	0.002	0.001	0.001	0.036	0.001	0.013	0.000	89.08										

ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 4: Building Construction and Paving Phase

On-Site Sources

Source	BHP	Load Factor	Number	Hours/ Day*	Duration (days)	Emission Factors (g/bhp-hr)									Emissions (lb/day)									Total Emissions (tons)								
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Asphalt Fugitive	--	--	1	0.145	15	--	2.600	--	--	--	--	--	--	--	--	8.3E-06	--	--	--	--	--	--	--	6.2E-08	--	--	--	--	--	--	--	
Backhoe-1	97	37	1	8	333	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.154	475	0.165	0.038	0.005	0.005	2.342	0.003	0.003	0.097	300.8	0.027	0.006	0.001	0.001	0.390	0.001	0.000	0.016	50.08
Backhoe-2	97	38	1	0	0	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.154	475	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Compressor	78	48	1	6	333	3.400	0.489	0.224	0.224	3.698	0.006	0.004	0.044	568	1.684	0.242	0.111	0.111	1.831	0.003	0.002	0.022	281.4	0.280	0.040	0.018	0.018	0.305	0.000	0.000	0.004	46.86
Crane	231	29	1	7	333	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	473	2.398	0.124	0.091	0.091	2.688	0.005	0.004	0.158	488.9	0.399	0.021	0.015	0.015	0.448	0.001	0.001	0.026	81.41
Dozer-1	247	43	1	0	0	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Dozer-2	247	43	1	0	0	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Dozer-3	247	43	1	0	0	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Excavator-1	158	38	1	0	0	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Excavator-2	158	38	1	0	0	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Forklift-1	89	20	1	8	333	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.153	472	0.082	0.019	0.003	0.003	1.162	0.002	0.001	0.048	148.0	0.014	0.003	0.000	0.000	0.193	0.000	0.000	0.008	24.65
Forklift-2	89	20	1	8	333	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	472	0.860	0.038	0.060	0.060	1.162	0.002	0.001	0.048	148.0	0.143	0.006	0.010	0.010	0.193	0.000	0.000	0.008	24.65
Forklift-3	89	20	1	8	333	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	472	0.860	0.038	0.060	0.060	1.162	0.002	0.001	0.048	148.0	0.143	0.006	0.010	0.010	0.193	0.000	0.000	0.008	24.65
Generator	84	74	1	8	333	3.173	0.364	0.179	0.179	3.380	0.006	0.004	0.032	568	3.479	0.399	0.196	0.196	3.706	0.007	0.005	0.035	623.0	0.579	0.066	0.033	0.033	0.617	0.001	0.001	0.006	103.7
Grader	187	41	1	0	0	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.154	475	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Loader-1	97	36	1	8	333	0.260	0.060	0.008	0.008	3.700	0.005	0.004	0.151	466	0.160	0.037	0.005	0.005	2.279	0.003	0.003	0.093	286.8	0.027	0.006	0.001	0.001	0.379	0.001	0.000	0.015	47.75
Loader-2	97	36	1	8	333	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.151	466	1.688	0.074	0.118	0.118	2.279	0.003	0.003	0.093	286.8	0.281	0.012	0.020	0.020	0.379	0.001	0.000	0.015	47.75
Paving Equipment-1	132	36	1	8	15	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.152	471	1.944	0.101	0.094	0.094	3.101	0.004	0.004	0.127	394.5	0.015	0.001	0.001	0.001	0.023	0.000	0.000	0.001	2.959
Paving Equipment-2	132	36	1	8	15	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.152	471	1.944	0.101	0.094	0.094	3.101	0.004	0.004	0.127	394.5	0.015	0.001	0.001	0.001	0.023	0.000	0.000	0.001	2.959
Paving Machine-1	130	42	1	8	15	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.153	473	2.234	0.116	0.108	0.108	3.563	0.005	0.004	0.147	455.3	0.017	0.001	0.001	0.001	0.027	0.000	0.000	0.001	3.415
Paving Machine-2	130	42	1	8	15	2.320	0.120	0.112	0.112	3.700	0.005	0.004	0.153	473	2.234	0.116	0.108	0.108	3.563	0.005	0.004	0.147	455.3	0.017	0.001	0.001	0.001	0.027	0.000	0.000	0.001	3.415
Paving Roller-1	80	38	1	8	15	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	474	1.469	0.064	0.103	0.103	1.984	0.003	0.002	0.082	254.1	0.011	0.000	0.001	0.001	0.015	0.000	0.000	0.001	1.905
Paving Roller-2	80	38	1	8	15	2.740	0.120	0.192	0.192	3.700	0.005	0.004	0.153	474	1.469	0.064	0.103	0.103	1.984	0.003	0.002	0.082	254.1	0.011	0.000	0.001	0.001	0.015	0.000	0.000	0.001	1.905
Scraper-1	367	48	1	0	0	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Scraper-2	367	48	1	0	0	2.320	0.120	0.088	0.088	2.600	0.005	0.004	0.153	472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Water Truck-1	225	48	1	8	333	0.260	0.060	0.008	0.008	2.200	0.005	0.004	0.153	472	0.495	0.114	0.015	0.015	4.191	0.010	0.008	0.291	899.4	0.082	0.019	0.003	0.003	0.698	0.002	0.001	0.049	149.7
Welders	46	45	1	8	333	4.304	0.937	0.238	0.238	4.840	0.007	0.004	0.084	568	1.571	0.342	0.087	0.087	1.767	0.003	0.002	0.031	207.5	0.262	0.057	0.014	0.014	0.294	0.000	0.000	0.005	34.54
Total						24.737	2.026	1.361	1.361	41.86	0.064	0.052	1.678	6.026	2.323	0.248	0.130	0.130	4.220	0.007	0.006	0.166	652.4									

On-Road Sources

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)									Peak Day Emissions (lb/day)									Total Emissions (tons)								
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA (offsite)	1	1	20	60	333	0.062	0.013	0.001	0.001	0.841	0.003	0.006	0.003	293	0.160	0.034	0.004	0.003	2.170	0.007	0.015	0.008	755.2	0.027	0.006	0.001	0.001	0.361	0.001	0.003	0.001	125.7
Light-Duty Truck - LD72 (offsite)	1	1	7	60	333	0.069	0.014	0.007	0.006	0.137	0.003	0.052	0.001	331	0.059	0.012	0.006	0.006	0.117	0.003	0.045	0.001	284.8	0.010	0.002	0.001	0.001	0.020	0.000	0.007	0.000	47.42
Med-Heavy Duty - T6 Utility (offsite)	1	1	2	60	67	0.817	0.016	0.004	0.004	0.072	0.011	0.178	0.001	1,128	0.216	0.004	0.001	0.001	0.019	0.003	0.047	0.000	298.3	0.007	0.000	0.000	0.000	0.001	0.000	0.002	0.000	9.935
Heavy Duty Haul Truck - T7T (offsite)	1	1	5	60	333	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	1.310	0.018	0.014	0.013	0.087	0.010	0.175	0.001	1,108	0.218	0.003	0.002	0.002	0.015	0.002	0.029	0.000	184.4
Heavy Duty Haul Truck - T7T (offsite)	1	1	35	60	15	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	9.173	0.127	0.095	0.091	0.61	0.073	1.222	0.006	7,754	0.069	0.001	0.001	0.001	0.005	0.001	0.009	0.000	58.16
Heavy Duty Haul Truck - T7T (offsite)	1	1	20	60	15	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	5.242	0.073	0.054	0.052	0.35	0.042	0.698	0.003	4,431	0.039	0.001	0.000	0.000	0.003	0.000	0.005	0.000	33.23
Heavy Duty Haul Truck - T7T (offsite)	1	1	1	60	67	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	0.262	0.004	0.003	0.003	0.017	0.002	0.035	0.000	222	0.009	0.000	0.000	0.000	0.001	0.000	0.001	0.000	7.378
Heavy Duty Haul Truck - T7T (offsite)	1	1	15	60	1	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	3.931	0.054	0.041	0.039	0.262	0.031	0.524	0.003	3,323	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.662
Heavy Duty Haul Truck - T7T (offsite)	1	1	19	60	1	1.981	0.027	0.021	0.020	0.132	0.016	0.264	0.001	1,675	4.980	0.069	0.052	0.050	0.332	0.040	0.663	0.003	4,209	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.105
Total						25.33	0.40	0.27	0.26	3.96	0.212	3.423	0.025	22,385	0.383	0.013	0.005	0.005	0.404	0.005	0.057	0.002	470.1									

ROLLING HILLS APARTMENT PROJECT
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TABLE 5: Construction Phase / Operation Phase - Fugitive Dust Emissions

Grading

Activity	Source	Source Units	Number of Days	Emission Factor	Emission Factor, Units	Peak Day Emissions (lbs/day)		Total Emissions (tons)	
						PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
Site Grading	4.0	acres/day	40	0.429	lbs PM10/day/acre	1.716	0.156	0.034	0.003
Truck Loading & Dumping (Grading Phase)	477	tons/day	40	1.72E-04	lbs/ton	0.082	0.012	0.002	0.000
Vehicle Miles Off-Road	2	vehicle-miles/day	40	1.17	lbs/vehicle-mile	2.331	0.233	0.047	0.005
Max/Total						2.331	0.233	0.083	0.008

Fugitive Dust Emissions: Inputs for the Table

Emission factors based on following inputs

Mean number of rain days per year	0	worst case
Silt content of soil, fill storage pile, %	1.5	SCAQMD default value
Roadway inputs (paved and unpaved, as per URBEMIS)		
Roads mean vehicle weight, tons	20.61	based on project description, HHDT + LDT and vehicles weight (average of full and empty)
unpaved dirt road silt content, %	8.4	AP-42 construction sites
Truck Loading inputs		
k, particle size multiplier, default=0.35 fpr pm10	0.35	
U, mean wind speed, mph range 1.3-15	8.15	
M, moisture content, default=12%	12	
PM2.5/PM10 ratio truck loading	0.15	
Site grading emissions from CalEEMod for grading	0.091	ratio of PM2.5/PM10 CalEEMod
Demolition materials, tons/yds3	1.000	estimated for concrete debris
Fill materials, tons/yds3	1.000	estimated for soils
Mitigation: demolition area watering (fraction reduction)		
	0.61	0.61 for watering every 3 hours (SCAQMD)
Mitigation: grading/dist area watering (fraction reduction)		
	0.61	0.61 for watering every 3 hours (SCAQMD)
Mitigation: dumping soil moisture (fraction reduction)		
	0.69	0.69 for minimum 12% soil moisture (SCAQMD)
Mitigation: storage piles (fraction reduction)		
	0.90	0.90 for watering by hand and covering (SCAQMD)
Mitigation: roads (fraction reduction)		
	0.55	0.55 for watering 3X per day (SCAQMD), 0.80 for soil binders applied monthly (AP-42)

Notes:

PM2.5/PM10 ratio as per AP-42 k factor for PM10 and PM2.5

Demolition dust calculations as per EPA AP-42 11.19 and 13.2.4

Truck loading dumping cut/fill based on CalEEMod

Storage pile emissions based on SCAQMD Handbook (URBEMIS does not address emissions from storage piles)

Paved and unpaved road dust emissions based on AP-42 2006 (unpaved) Chapt 13. EPA AP-42 2006 is the same as URBEMS and CalEEMod

One month assumes 22 days of activity, as per URBEMIS

ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 6: Operations

Landscaping Equipment Sources

						Emission Factors (g/bhp-hr)								Emissions (lb/day)								Total Emissions (tons)										
Source	BHP	Load Factor	Number	Hours/ Day	Duration (days)	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Ridding Lawn Mower	25	33	1	4	26	5.430	7.641	0.370	0.370	543.131	0.021	0.004	0.429	858.879	0.395	0.556	0.027	0.027	39.51	0.002	0.000	0.031	62.48	0.005	0.007	0.000	0.000	0.514	0.000	0.000	0.000	0.812
Trimmer	5	91	1	3	26	8.589	19.581	0.338	0.338	380.309	0.029	0.004	1.101	858.879	0.258	0.589	0.010	0.010	11.44	0.001	0.000	0.033	25.85	0.003	0.008	0.000	0.000	0.149	0.000	0.000	0.000	0.336
Leaf Blower	5	94	2	4	26	2.987	12.022	1.861	1.861	480.736	0.029	0.004	0.676	858.880	0.248	0.997	0.154	0.154	39.85	0.002	0.000	0.056	71.20	0.003	0.013	0.002	0.002	0.518	0.000	0.000	0.001	0.926
Total						0.901	2.142	0.191	0.191	90.8	0.005	0.001	0.120	159.5	0.012	0.028	0.002	0.002	1.181	0.0001	0.000	0.002	2.074									

On-Road Sources

Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	Emission Factors (g/mile)								Peak Day Emissions (lb/day)								Total Emissions (tons)										
						NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA (offsite)	1	1	653	10	365	0.062	0.013	0.001	0.001	0.841	0.003	0.006	0.003	293	0.891	0.190	0.020	0.018	12.10	0.042	0.085	0.0467	4.212	0.163	0.035	0.004	0.003	2.209	0.008	0.016	0.009	768.6
Light-Duty Truck - LDT2 (offsite)	1	1	218	10	365	0.069	0.014	0.007	0.006	0.137	0.003	0.052	0.001	331	0.329	0.069	0.032	0.031	0.655	0.015	0.250	0.0032	1.588	0.060	0.013	0.006	0.006	0.120	0.003	0.046	0.001	289.9
Med-Heavy Duty - T6 Utility (offsite)	1	1	2	10	26	0.817	0.016	0.004	0.004	0.072	0.011	0.178	0.001	1,128	0.036	0.001	0.000	0.000	0.003	0.000	0.008	0.0000	49.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.646	
Heavy Duty Trucks - T7TC (offsite)	1	1	2	22	52	10.10	0.015	0.015	0.014	0.041	0.039	0.649	0.001	4,121	0.979	0.001	0.001	0.001	0.004	0.004	0.063	0.0001	399.8	0.025	0.000	0.000	0.000	0.000	0.000	0.002	0.000	10.39
Total						2.235	0.261	0.054	0.051	12.76	0.061	0.406	0.0500	6,249.4	0.249	0.047	0.010	0.009	2.328	0.010	0.063	0.009	1,069.5									

Land Use Sources

Source	Units or Sq Feet	Electricity Use kW/units/yr	Electricity Lighting Use kW/units/yr	Electricity Water Use kW/yr	Emission Factor (lb/kWh)			Emissions (lb/kWh/day)			Emissions (metric tons/kWh/yr)		
					N ₂ O	CH ₄	CO ₂	N ₂ O	CH ₄	CO ₂	N ₂ O	CH ₄	CO ₂
Residential Areas	135	295.03	810.36	8.695	0.000004	0.00003	0.5279	0.0016	0.0135	215.8	0.0003	0.0025	39.39
Clubhouse	2,804	5.31	5.51	0.549	0.000004	0.00003	0.5279	0.0003	0.0027	43.89	0.0001	0.0005	8.010
Pool	1,184	0.000	0.000	0.068	0.000004	0.00003	0.5279	0.0000	0.0000	0.013	0.0000	0.0000	0.002
Parking Lot	43,092	0.000	0.880	0.000	0.000004	0.00003	0.5279	0.0004	0.0034	54.86	0.0001	0.0006	10.01
Exterior Lighting	6,908	0.000	0.880	0.000	0.000004	0.00003	0.5279	0.0001	0.0006	8.805	0.0000	0.0001	1.607
Total					0.00245	0.02022	323.4	0.00045	0.00369	59.0			

Notes:

- Equipment, number of personnel, hours and days of operation were estimated.
- Square footage and number of units provided by client
- Occupancy rate of approximately 100% used
- Round trips for LDA and LDT2 were estimated.

Natural Gas

			Emission Factors, g/kBTU									Emissions (lb/day)									Total Emissions (tons)						Total Emissions (metric tons)		
Source	kBTU/unit or SF	Units or SF	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Natural Gas Residential	10,164	135	0.042	0.005	0.003	0.003	0.018	0.000	0.001	0.001	53	0.346	0.041	0.028	0.028	0.147	0.002	0.008	0.008	442.3	0.063	0.007	0.005	0.005	0.027	0.000	0.057	0.007	0.005
Natural Gas NonResidential	20	2,804	0.044	0.005	0.003	0.003	0.037	0.000	0.001	0.001	53	0.015	0.002	0.001	0.001	0.013	0.000	0.000	0.000	18.08	0.003	0.000	0.000	0.000	0.002	0.000	0.002	0.000	0.000
Total												0.362	0.042	0.029	0.029	0.160	0.002	0.008	0.009	460.3	0.066	0.008	0.005	0.005	0.029	0.000	0.060	0.007	0.005

Wastewater Treatment		Emission Factor (lb/gal)			Emissions (pound/day)			Emissions (metric tons/year)		
Source	Wastewater Generated (gallons/yr)	N ₂ O	CH ₄	CO ₂	N ₂ O	CH ₄	CO ₂	N ₂ O	CH ₄	CO ₂
Project Site	15,359,293	0.0000019	0.0000030	0.00086	0.079	0.125	36.18	0.00004	0.00006	0.01809
Total					0.079	0.125	36.18	0.00004	0.00006	0.01809

Solid Waste		Emission Factor (tons/ton)		Emissions (pound/day)		Emissions (tons/year)	
Source	Solid Waste Generated (tons/yr/unit)	CH ₄	CO ₂	CH ₄	CO ₂	CH ₄	CO ₂
Residential Unit	301.3	0.04257	0.14307	0.0387	0.1302	12.83	43.11
Total		0.0387	0.1302	12.83	43.11		

ROLLING HILLS APARTMENT PROJECT
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS - REVISED
TABLE 7: Emission Factors and Assumptions

Onsite Construction				Emission Factors (g/bhp-hr)									Emission Factors (lb/bhp-hr)								
Source	Tier	Operational Horsepower	Load Factor	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Asphalt Fugitive	EF = lb/acre	--	--	--	2.600	--	--	--	--	--	--	--	--	0.0057	--	--	--	--	--	--	--
Backhoe-1	4	97	37	0.260	0.060	0.008	0.008	3.700	0.005	0.0042	0.154	475	0.0006	0.0001	0.0000	0.0000	0.0082	0.00001	0.00001	0.00034	1.0475
Backhoe-2	3	97	38	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.154	475	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00034	1.0475
Compressor	--	78	48	3.400	0.489	0.224	0.224	3.698	0.006	0.0042	0.044	568	0.0075	0.0011	0.0005	0.0005	0.0082	0.00001	0.00001	0.00010	1.2529
Crane	3	231	29	2.320	0.120	0.088	0.088	2.600	0.005	0.0042	0.153	473	0.0051	0.0003	0.0002	0.0002	0.0057	0.00001	0.00001	0.00034	1.0427
Dozer-1	4	247	43	0.260	0.060	0.008	0.008	2.200	0.005	0.0042	0.153	473	0.0006	0.0001	0.0000	0.0000	0.0049	0.00001	0.00001	0.00034	1.0427
Dozer-2	4	247	43	0.260	0.060	0.008	0.008	2.200	0.005	0.0042	0.153	473	0.0006	0.0001	0.0000	0.0000	0.0049	0.00001	0.00001	0.00034	1.0427
Dozer-3	3	247	43	2.320	0.120	0.088	0.088	2.600	0.005	0.0042	0.153	473	0.0051	0.0003	0.0002	0.0002	0.0057	0.00001	0.00001	0.00034	1.0427
Excavator-1	4	158	38	0.260	0.060	0.008	0.008	3.700	0.005	0.0042	0.153	472	0.0006	0.0001	0.0000	0.0000	0.0082	0.00001	0.00001	0.00034	1.0412
Excavator-2	4	158	38	0.260	0.060	0.008	0.008	3.700	0.005	0.0042	0.153	472	0.0006	0.0001	0.0000	0.0000	0.0082	0.00001	0.00001	0.00034	1.0412
Forklift-1	4	89	20	0.260	0.060	0.008	0.008	3.700	0.005	0.0042	0.153	472	0.0006	0.0001	0.0000	0.0000	0.0082	0.00001	0.00001	0.00034	1.0395
Forklift-2	3	89	20	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.153	472	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00034	1.0395
Forklift-3	3	89	20	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.153	472	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00034	1.0395
Generator	--	84	74	3.173	0.364	0.179	0.179	3.380	0.006	0.0042	0.032	568	0.0070	0.0008	0.0004	0.0004	0.0075	0.00001	0.00001	0.00007	1.2529
Grader	4	187	41	0.260	0.060	0.008	0.008	2.200	0.005	0.0042	0.154	475	0.0006	0.0001	0.0000	0.0000	0.0049	0.00001	0.00001	0.00034	1.0479
Loader-1	4	97	36	0.260	0.060	0.008	0.008	3.700	0.005	0.0042	0.151	466	0.0006	0.0001	0.0000	0.0000	0.0082	0.00001	0.00001	0.00033	1.0266
Loader-2	3	97	36	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.151	466	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00033	1.0266
Paving Equipment-1	3	132	36	2.320	0.120	0.112	0.112	3.700	0.005	0.0042	0.152	471	0.0051	0.0003	0.0002	0.0002	0.0082	0.00001	0.00001	0.00034	1.0378
Paving Equipment-2	3	132	36	2.320	0.120	0.112	0.112	3.700	0.005	0.0042	0.152	471	0.0051	0.0003	0.0002	0.0002	0.0082	0.00001	0.00001	0.00034	1.0378
Paving Machine-1	3	130	42	2.320	0.120	0.112	0.112	3.700	0.005	0.0042	0.153	473	0.0051	0.0003	0.0002	0.0002	0.0082	0.00001	0.00001	0.00034	1.0423
Paving Machine-2	3	130	42	2.320	0.120	0.112	0.112	3.700	0.005	0.0042	0.153	473	0.0051	0.0003	0.0002	0.0002	0.0082	0.00001	0.00001	0.00034	1.0423
Paving Roller-1	3	80	38	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.153	474	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00034	1.0447
Paving Roller-2	3	80	38	2.740	0.120	0.192	0.192	3.700	0.005	0.0042	0.153	474	0.0060	0.0003	0.0004	0.0004	0.0082	0.00001	0.00001	0.00034	1.0447
Scraper-1	3	367	48	2.320	0.120	0.088	0.088	2.600	0.005	0.0042	0.153	472	0.0051	0.0003	0.0002	0.0002	0.0057	0.00001	0.00001	0.00034	1.0410
Scraper-2	3	367	48	2.320	0.120	0.088	0.088	2.600	0.005	0.0042	0.153	472	0.0051	0.0003	0.0002	0.0002	0.0057	0.00001	0.00001	0.00034	1.0410
Water Truck-1	4	225	48	0.260	0.060	0.008	0.008	2.200	0.005	0.0042	0.153	472	0.0006	0.0001	0.0000	0.0000	0.0049	0.00001	0.00001	0.00034	1.0410
Welders	--	46	45	4.304	0.937	0.238	0.238	4.840	0.007	0.0042	0.084	568.3	0.0095	0.0021	0.0005	0.0005	0.0107	0.00002	0.00001	0.00019	1.2529

Onsite Construction				Emission Factors (g/bhp-hr)									Emission Factors (lb/bhp-hr)								
Source	Tier	Operational Horsepower	Load Factor	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Ridding Lawn Mower	--	25	33	5.430	7.641	0.370	0.370	543	0.021	0.0042	0.429	859	0.0120	0.0168	0.0008	0.0008	1.1974	0.00005	0.00001	0.00095	1.8935
Trimmer	--	5	91	8.589	19.581	0.338	0.338	380	0.029	0.0042	1.101	859	0.0189	0.0432	0.0007	0.0007	0.8384	0.00006	0.00001	0.00243	1.8935
Leaf Blower	--	5	94	2.987	12.022	1.861	1.861	481	0.029	0.0042	0.676	859	0.0066	0.0265	0.0041	0.0041	1.0598	0.00006	0.00001	0.00149	1.8935

Onsite				Emission Factors, g/kBTU									Emission Factors (lb/kBTU)								
Source	Tier	Operational Horsepower	Load Factor	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Natural Gas Residential	--	--	--	0.041802	0.004892	0.003380	0.003380	0.017788	0.000267	0.000978	0.001023	53.363808	0.000092	0.000011	0.000007	0.000007	0.000039	0.000001	0.000002	0.000002	0.117647
Natural Gas NonResidential	--	--	--	0.044470	0.004892	0.003380	0.003380	0.037355	0.000267	0.000978	0.001023	53.363808	0.000098	0.000011	0.000007	0.000007	0.000082	0.000001	0.000002	0.000002	0.117647

Offsite				Emission Factors (g/mile)									Emission Factors (lb/mile)								
Source	Tier	Region		NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO ₂	N ₂ O	CH ₄	CO ₂
Passenger Vehicle - LDA (offsite)	--	SLO County		0.0619	0.0132	0.0014	0.0013	0.8413	0.0029	0.0059	0.0032	293	0.0001	0.0000	0.0000	0.0000	0.0019	0.00001	0.00001	0.00001	0.6455
Light-Duty Truck - LDT2 (offsite)	--	SLO County		0.0687	0.0144	0.0068	0.0065	0.1367	0.0031	0.0522	0.0007	331	0.0002	0.0000	0.0000	0.0000	0.0003	0.00001	0.00012	0.00000	0.7303
Med-Heavy Duty - T6 Utility (offsite)	--	SLO County		0.8171	0.0159	0.0043	0.0041	0.0716	0.0107	0.1777	0.0007	1128	0.0018	0.0000	0.0000	0.0000	0.0002	0.00002	0.00039	0.00000	2.4862
Heavy Duty Haul Truck - T71 (offsite)	--	SLO County		1.9814	0.0274	0.0206	0.0197	0.1320	0.0159	0.2639	0.0013	1675	0.0044	0.0001	0.0000	0.0000	0.0003	0.00003	0.00058	0.00000	3.6925
Heavy Duty Trucks - T7TC (offsite)	--	SLO County		10.0957	0.0149	0.0150	0.0144	0.0414	0.0390	0.6493	0.0007	4121	0.0223	0.0000	0.0000	0.0000	0.0001	0.00009	0.00143	0.00000	9.0859

Electricity Emission Factors		Emission Factors (lb/kWhr)	
Source	Electricity Use Region	N ₂ O	CH ₄ CO ₂
Electricity Usage	California	0.000004	0.00003 0.5279

Recycling and Composting	
Recycling and Composting Program	Percentage of Waste Recycled or Composted
	0

Electricity Use by Land Use		
Source	kWhr/Unit per SQF)	
	Electricity	Lighting Electricity
Residential Areas	295	810
Clubhouse	5.31	5.51
Pool	0.00	0.00
Parking Lot	0.00	0.88
Exterior Lighting	0.00	0.88

Natural Gas Use by Land Use	
Source	kBtu/Unit
Residential Natural Gas Use	8,907

Solid Waste Disposal Rate		
Source	Region	Rate (tons/yr)
Residential Unit	Statewide	2.2

Solid Waste Emissions Factors		
Landfill Type	CH ₄ (tons/ton)	CO ₂ (tons/ton)
No Landfill Gas Collection	0.042565854	0.143068564

Water Use Rates				Water Use		
Source	Units or Square Feet	Indoor Water Use (gal/unit or gal/Square Feet per yr)	Outdoor Water Use (gal/unit or gal/Square Feet per yr)	Total Indoor Water Use (gal)	Total Outdoor Water Use (gal)	Total Water Use (gal)
Low Rise Apartments	135	65,154	41,075	8,795,790	5,545,125	14,340,915
Clubhouse	2,804	304	19	851,109	54,325	905,434
Pool	1,184	59	36	70,025	42,919	112,944
Total				9,716,925	5,642,369	15,359,293

Wastewater Treatment		Emission Factor (lb/gal)	
Source		N ₂ O	CH ₄ CO ₂
Project Site		0.0000019	0.000003 0.00086

Climate Zone	4
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- Notes:**
- Equipment list and engine sizes estimated.
 - Equipment criteria pollutant emission factors and load factors were obtained from CalEEMod, Appendix D 2021.
 - Landscape equipment load factors obtained from Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling, 2010, EPA
 - Electricity and Natural Gas Emission Factors were obtained from CalEEMod, Appendix D 2021.
 - Electricity Use by Land Use obtained from CalEEMod, Appendix D 2021.
 - N₂O emission factors for equipment were obtained from CFR Part 98 Table C-2 and CalEEMod Appendix D- 20164. Kg/mmbtu was converted to kg/bhp-hr using a diesel energy density of 7000 btu/hp-hr.
 - CO₂ and CH₄ emission factors for construction equipment were obtained from CalEEMod Appendix D 2021.
 - Vehicle emissions factors obtained from EMFAC-2



1343 Bishop Street, San Luis Obispo, CA 93401

Tel: 805 234 8760 Email: rodney@heritagetreeconsulting.com

November 2, 2022

To: Kim Berry – Red Tail Acquisitions, LLC – TK Consulting, Inc.
2082 Michelson Drive 3rd Floor Irvine, CA 92612

From: Rodney Thurman - Heritage Tree Arboricultural Consulting

Re: Update of Oak Tree Impact & Tree Protection Report for Rolling Hills Apartments located at the northwest corner of Creston Road and Rolling Hills Road in, Paso Robles, CA.

Ms. Berry,

In response to your request for an updated Oak Tree Impact & Tree Protection Report regarding your revised site plans to construct a multi-family housing complex at 709 Rolling Hills Road, I have produced the following report. The previous Oak Tree Impact & Tree Protection Reports I provided to you on February 10th 2022 and May 10th 2022, shall no longer be referenced.

Assignment

Produce written oak tree impact and tree protection report based on International Society of Arboriculture best management practices for tree protection during construction and City of Paso Robles Oak Tree Ordinance 835 N.S.

Report to include:

- Ã Inventory of all oak trees with diameters of 6 inches or greater
- Ã Condition assessment of all inventoried native oaks
- Ã Critical root zone calculations
- Ã Tree protection zone calculations
- Ã Tree impact assessment
- Ã Tree protection requirements and standards
- Ã Site maps with tree locations
- Ã Photographs

Summary

The proposed project is for the construction of a multi-family apartment complex. I have proposed the removal of 1 native oak tree due to road construction and underground utility impacts in addition to if being in poor condition. I recommended two native oaks to be retained and protected.

Tree replacements will be required for all native oak trees removed that are six (6) inch diameter and larger.

For this project, eight (8) native oak trees at 1.5-inch caliper, twenty-four-inch box size or six (6) native oaks at 2-inch caliper, twenty-four-inch box size, will be required to be planted if the recommended oak tree removal is approved.

An International Society of Arboriculture Certified Arborist shall observe and approve all construction activities proposed in or within 5 feet of the critical root zone (CRZ) of any native oak tree being retained. Any work outside the CRZ will not require arborist oversight.

A pre-construction meeting shall be held with the project arborist and all parties involved in the project. All tree protection fencing, and tree protection measures shall be in place before any construction activity begins.

Introduction

The property is a combination of several adjacent lots where single-family homes formerly stood. The land has many of its original contours and will need to be graded, filled and compacted in order to build on the site.

Per the City of Paso Robles Oak Preservation Ordinance, all native oak trees 6-inches in diameter and greater, that will have construction impacts in the CRZ or within 5 feet of the CRZ must be inventoried. The native oak trees shall be retained and protected if possible. The majority of the trees on site were non-native species that were part of a former landscape or were volunteer seedlings. There were 3 native California oaks with diameters 6-inches or greater, growing on the site. Two were valley oak (*Quercus lobata*) and 1 was a coast live oak (*Quercus agrifolia*). See Appendix A - Tree Inventory and Tree Protection. See also Appendix B - Site Maps - Map 1- Tree Inventory.

Methodology

Tree Diameter Measurements

Diameter at Standard Height (DSH) was measured at 4.5' above ground. For multi-stem trees that divided below 4.5', I measured below the division at the narrowest point on the trunk. If it was not possible to measure below the division, I measured each stem individually, then squared the diameter of each stem. Finally, I summed the squared diameters and took the square root of the sum to get the diameter of the tree.

Critical Root Zone Measurements

CRZ's were determined by giving a radius of 1-foot per every inch of tree diameter. E.g., a 12-inch diameter tree would have a 12-foot CRZ radius measured from the outside of the trunk.

Tree Protection Zone Measurements

Generally, tree protection zone (TPZ) distances follow the distances listed for CRZs. The exception is if there are proposed tree-root encroachments into the CRZ of 25% or less. In most cases encroachments of less than 25% can be allowed unless the structure or health of the tree would be compromised.

Tree Condition Ratings

All trees in the inventory were given a condition rating. The rating was based on the health, structure and presence of disease and insects. See the following definitions:

- **Dead** = Severely declining or no foliage, large dead branches, decay cavities, loss of bark, roots decayed or dead.
- **Very Poor** = Evidence of multiple large past failures, advanced disease, uncontrollable pest infestations or disease infection. Tree in severe decline.
- **Poor** = Tree may be suppressed, drought stressed, or had at least 1 large branch failure. Disease or pest infestations may be present. Can potentially be retained with attention to mitigation pruning, cultural care changes, pest and disease control.
- **Fair** = May have had minor past failures. Some pests or structural defects may be present, small deadwood. Minor to moderate drought stress present. Defects may be mitigated with pruning and pests can be controlled.
- **Good** = A relatively healthy tree with minor to no structural defects with minimal to no pest observed. Defects can be mitigated with pruning and pests can be controlled.
- **Very Good** = Trees that have had professional arboricultural care. No structural defects, disease or pests identified.
- **Excellent** = Specimen tree with superior form, root structure and health. Tree has been regularly cared for by professional arborists over its lifetime, E.g., estate or arboretum tree.

Trees Inventoried

In total, I inventoried 3 native oak trees with DSHs measuring 6 inches or greater and having CRZs within or adjacent to the proposed building footprints and construction impact areas. The complete inventory, including tree numbers, species, CRZ and TPZ measurements, is provided in Appendix A- Tree Inventory and Tree Protection. I numbered all trees in the field with a metal tag which I attached to the trunk at approximately 4-feet above ground. Tag numbers assigned were 82, 83 & 84. All inventoried trees were plotted on the Tree Inventory Map included in Appendix B Site Maps – Map 1.

Tree 82 – A 44-inch diameter valley oak located along Rolling Hills Road, approximately 150 feet north of the intersection of Creston Road. See Appendix B - Site Maps – Map 1. The tree appeared to be growing in the city-owned right of way approximately 2-feet east of the property line. The trunk of the tree was 17- feet from the current white line at the edge of Rolling Hills Road. See Appendix E- Photographs - Photos 1-4.

The tree was in **Poor** condition for the following reasons.

- **Poor** Tree was drought stressed which was indicated by dead wood in its canopy
- **Poor** Tree had two large, previous, branch failures due to excessive end-weight
- **Poor** Lowest, large, cracked and decayed branch on north side of tree was structurally unstable
- **Poor** Numerous, large diameter branches were overextended
- **Poor** Tree has been pruned for utility line clearance which has removed no less than 25% of the live canopy over the years. See Appendix E- Photographs – Photos 1-4.

Tree 83 – A 12-inch diameter coast live oak was located at the fenceline separating your property from the 711 Rolling Hills Road property. According to the tree survey map, the tree appears that it may be jointly owned by the neighboring property owner. See Appendix B - Site Maps – Map 1- Tree Inventory. See Appendix E - Photographs – Photo 5.

The tree was in **Fair** condition for the following reasons.

- Ã** The tree was young and had good vigor
- Ã** No notable disease or pest issues
- Ã** Structurally, it was asymmetrical and had a lean to the west which was caused by competition from adjacent larger trees.

Tree 84 – A 24-inch diameter valley oak was located in the northeast section of the property approximately 50-feet west of the fenceline. See Appendix B - Site Maps – Map 1. See Appendix E- Photographs – Photo 6.

The tree was in **Good** condition for the following reasons.

- Ã** The tree was young and had good vigor
- Ã** No notable disease or pest issues
- Ã** Structurally, the tree had some minor issues with competing branches, but they can be mitigated through pruning.

Tree Removals

Tree 82 – A 44-inch diameter valley oak will require removal if this project is approved.

Reasons for Removal:

- Ã** The tree was in poor condition. It has had two major branch failures and another large branch on the north side of the tree is cracked, decayed and has a high potential to fail. Furthermore, multiple branches in the canopy are overextended due to utility pruning. See Appendix E- Photographs - Photos 1-4
- Ã** Removing the large branch on the north side of the tree and reducing the numerous overextended branches to mitigate branch failure hazards would eliminate approximately 50% of its live canopy. The standard maximum for live canopy removal is 25% per pruning event. Removing up to 50% of the canopy would cause extreme stress to the tree.
- Ã** Based on the site and grading plan this tree will have impacts within 7' of its trunk. Critical and structural roots will need to be cut. Up to 50% of the tree's CRZ will be impacted due to curb, gutter and street improvements required by the city. The tree will not survive the impacts and its root stability would likely be compromised. See Appendix B - Site Maps – Maps 2&3. See also Appendix E- Photographs – Photo 2.
- Ã** Civil plans show a convergence of storm drainage pipes to be installed beneath the tree. This would contribute further to the damage of the roots and the trees decline. See Appendix B - Site Maps – Map 3.

- The combination of root encroachments from road widening and sidewalk installation as well as underground drainage installation and significant canopy reduction, would cause impacts that this tree would not survive. Short of the city waiving the requirement for road widening, curb, gutter and sidewalk improvements and redesigning storm drainage, I don't see a way to protect and preserve this tree.

Tree Protection

Critical Root Zones were determined by giving a radius of 1-foot per every inch of tree diameter. E.g., a 12-inch diameter tree would have a 12-foot CRZ radius measured from the outside of the trunk. Distances for CRZs are listed in the Tree Inventory & Tree Protection table included in Appendix A. Trees requiring arborist supervision are also called out in the Tree Inventory & Tree Protection table.

Fencing shall be provided for all trees listed for tree protection in the inventory provided in Appendix A and shall be set according to specifications listed. If there is any confusion about where to place fencing, contact the project arborist, Rodney Thurman at 805 234 8760.

Tree protection signs shall be placed on the TPZ fencing and be spaced 10 feet apart. Signs shall be weatherproof, and state, "Tree Protection Zone – Do Not Enter". The signs shall also include the project manager's and project arborist's phone numbers. Signs shall remain in place until completion of the project. See Appendix C – Tree Protection Diagrams - Diagram 1 – Tree Protection Fencing for further detail.

No construction or ground disturbance shall be allowed inside the fenced TPZ without the project arborist's permission and/or oversight. If you are unsure whether an activity is allowed, refer to Appendix D - Tree Protection Requirements – Quick Reference List or contact the project arborist.

Trees to be Protected

I have recommended Trees 83 & 84 for protection. They will require tree protection fencing and trunk protection according to the specifications provided below. Supervision of any construction work in or adjacent to the CRZ shall be conducted by the project arborist.

Tree 83 has a proposed storm drainage pipe 15' to the northwest of the trunk of the tree as well as road paving within 13' of the tree. I have set the TPZ fencing limit at 11' northwest of the trunk of the tree and 14' northeast and southwest of the trunk, on the project side of the tree, which will allow for construction activities and still protect the tree. For TPZ delineations, see Appendix B - Site Maps – Map 4.

The trunk shall also be protected by installing 2x4's against the trunk and securing them with zip-ties or wire. Do not anchor wood or wire directly to trunk. See Appendix C - Tree Protection Diagrams – Diagram 2 for further instruction.

A block wall or poured concrete property line fencing is also proposed adjacent to the tree and will likely intersect its trunk. To avoid damage to the tree, the fence within the 14' CRZ shall be constructed of wood panels mounted on driven, steel posts rather than block or concrete.

All work within or adjacent to the CRZ of Tree 83 will require an arborist's supervision to ensure that all tree protection measures are implemented. To limit damage to critical roots, **all digging within or adjacent to tree CRZ shall be performed by hand**. If a root 1" diameter or larger is exposed, it shall not be cut without the project arborist's permission.

If the project arborist determines that a root over 1-inch diameter needs to be cut, it shall be cut by hand with a pruning saw or reciprocating saw "Sawzall". Once roots are severed, the project arborist may approve use of machinery to complete excavation and grading.

Tree 84 is proposed to be in a greenspace area. Your grading plan has allowed for an adequate TPZ. Some roots, however, will likely need to be cut on the north and northwest sides of the tree to allow for the retaining wall to be built. The wall will be far enough from the tree that stability will not be compromised, and tree health will not be substantially impacted.

Tree 84 has a diameter of 24-inches; therefore, it will have a CRZ radius of 24 feet. I have allowed for the Tree Protection Zone (TPZ) to be established at a 22-foot radius from the trunk of the tree. Tree protection fencing shall be set at 22 feet from the **outside** of the tree trunk to form an enclosed, circular TPZ beneath the tree. For TPZ delineations, see Appendix B - Site Maps – Map 5.

The trunk shall also be protected by installing 2x4's against the trunk and securing them with zip-ties or wire. Do not anchor wood or wire directly to trunk. See Appendix C - Tree Protection Diagrams – Diagram 2 for further instruction.

A retaining wall shall be installed around the north and northwest sides of the tree at a distance of 22' measured from the **outside** of the tree trunk to prevent fill soil from smothering roots or encroaching upon the trunk. Your plan already includes a provision for the wall. The plan specifies a wall no taller than 4 feet. That will be a sufficient height to retain fill. The wall may be built using reinforced concrete poured in place or mortared and reinforced concrete blocks. See Appendix C- Tree Protection Diagrams – Diagram 3 for more detail.

All work within or adjacent to the CRZ of Tree 84 will require an arborist's supervision to ensure that all tree protection measures are implemented. To limit damage to critical roots, **all digging within or adjacent to tree CRZ shall be performed by hand**. If a root 1" diameter or larger is exposed, it shall not be cut without the project arborist's permission.

If the project arborist determines that a root over 1-inch diameter needs to be cut, it shall be cut by hand with a pruning saw or reciprocating saw "Sawzall". Once roots are severed, the project arborist may approve use of machinery to complete excavation and grading.

Pruning

Oak trees being retained in this project will require some pruning maintenance to give clearance for vehicles to pass beneath or beside them when the project is complete. In general, clearance for fire, garbage and delivery trucks require 13.5 feet of vertical clearance above the roadway. Large branches extending into the roadway should be trimmed to the edge of the roadway or removed at the trunk connection to give long term safety clearance. Any deadwood 2' diameter and larger or structurally unstable branches should also be removed. All pruning work shall be performed before any project construction starts.

Oak Tree Replacements

The City of Paso Robles requires replacements for any native oak removed that is 6-inches in diameter or greater. This requirement is at the discretion of the Director of Public Works. The following is excerpted from the city's Oak Tree Ordinance 835 N.S.:

Replacement oaks being equivalent to twenty-five percent of the diameter of the removed tree(s). (For example, the replacement requirement for removal of two trees of fifteen-inch DBH (thirty total diameter inches), would be seven and one-half inches (thirty inches removed multiplied by twenty-five hundredths replacement factor).

This requirement could be satisfied by planting five, one and one-half inch caliper trees, or three, two-and one-half-inch caliper trees or any other combination totaling seven and one-half inches). A minimum of two, twenty-four-inch box, one and one-half inch minimum trunk caliper measurement trees shall be required for each oak tree removed.

Replacement trees shall be located on the same property as where the tree is approved for removal or, subject to approval of the director, arrangements can be made to locate the replacement trees on public property. Planting standards for replacement trees shall be consistent with City Standard Details and Specification L-4 except that deep root barriers shall not be required if the trees are not adjacent to sidewalk areas. Oak tree preservation and maintenance measures shall be consistent with the provisions of this chapter.

The combined diameter of oak trees proposed for removal within your project is 44 inches. Twenty-five percent of 44 inches is 11 inches. Therefore, eight (8) native oaks at the minimum 1.5-inch caliper, twenty-four-inch box size or six (6) native oaks at 2-inch caliper, twenty-four-inch box size, would be required to be planted on the premises or somewhere in the city, upon the Public Works Director's approval.

When incorporating new oak trees into your landscape, you will need to allow for at least an 8' x 8' planting area. Curbing for the planting area shall not count as part of the planting area dimensions. Planting areas smaller than 8'x 8' will result in sidewalk and curb buckling when tree roots mature. Distances between oak trees should be no less than 25 feet. If oak trees can be incorporated into open, non-hardscape areas, they will have a higher success rate.

Pre-Construction Meeting

Prior to any construction or ground disturbing activities for this project, the project arborist shall meet with all contractors involved with the construction of the home to review tree protection measures. Any new contractors brought on site shall also meet or communicate with the project arborist to ensure they are aware of all tree protection measures.

Conclusion

There were three (3) native oaks on the site you are planning to develop. You have designed the apartment complex to retain trees 83 & 84, which are the highest quality oaks on site. Tree 82, due to road widening improvements as well as storm drainage installation, would be severely impacted and not likely survive. Even if you were able to design around the tree, it was in poor condition and would not warrant the additional effort and expense for the limited years it would continue to live.

Respectfully Submitted,

A handwritten signature in black ink, reading "Rodney D. Thurman". The signature is fluid and cursive, with the first name "Rodney" and last name "Thurman" clearly distinguishable.

Rodney D. Thurman

ISA Board Certified Master Arborist PN-2684BUM

ISA Municipal Specialist

ISA Utility Arborist

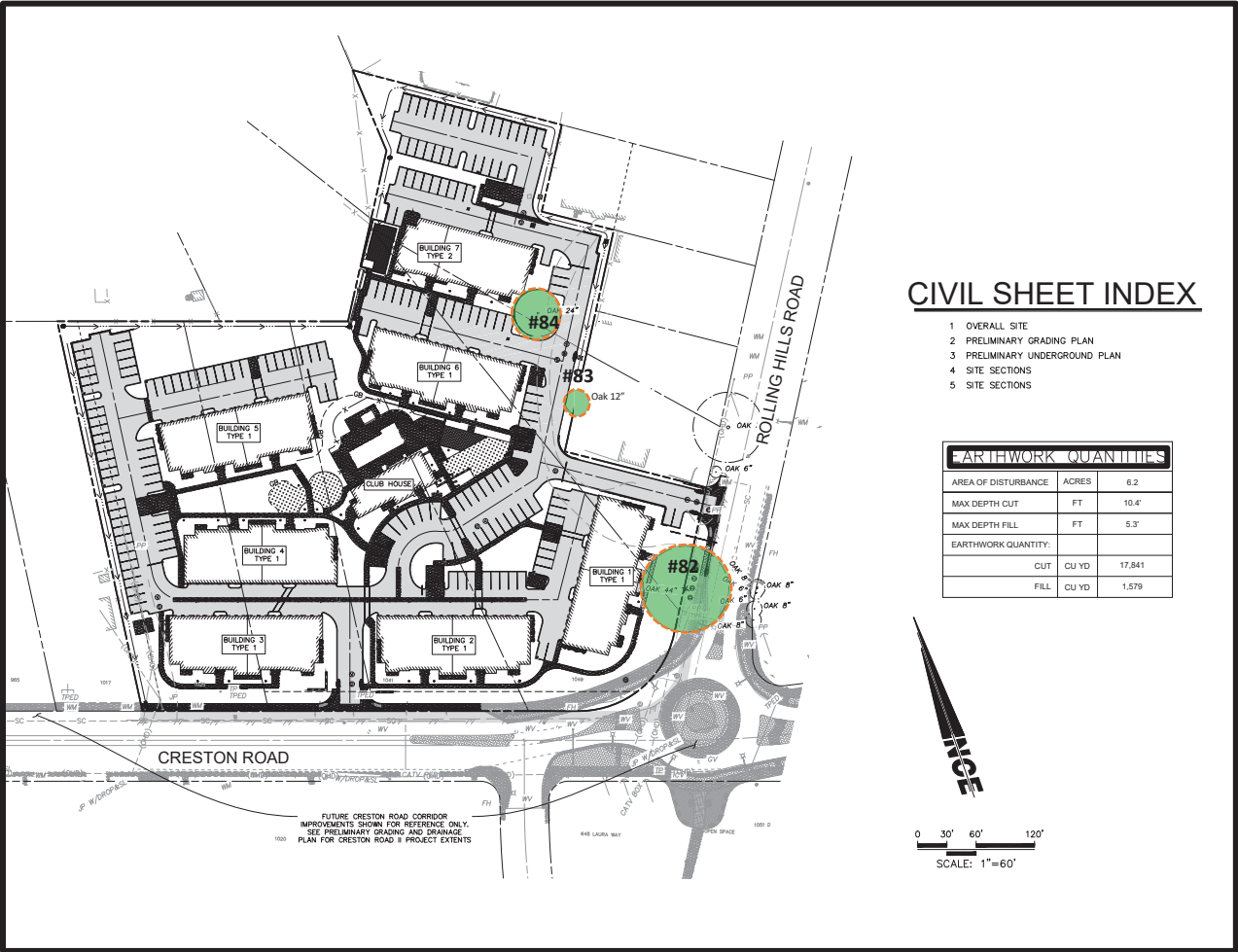
ISA Tree Risk Assessor Qualification

Appendices: *tree inventory, site maps, tree protection diagrams, tree protection requirements quick reference list, photographs*

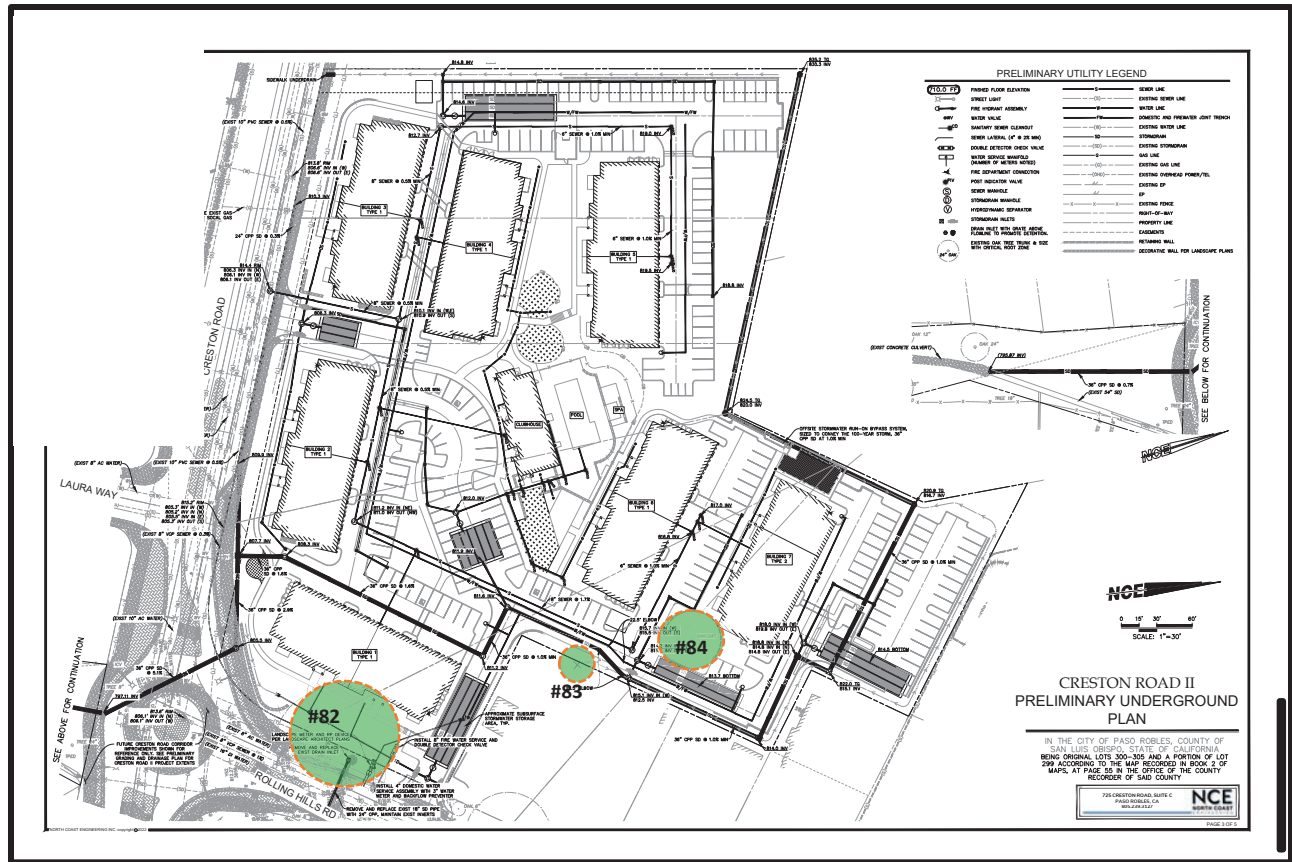
Appendix A – Tree Inventory & Tree Protection

#	Botanical name	Common name	Diameter	Cond.	CRZ Radius	Impact	TPZ Fence Radius from tree	Protect	Comments
82	Quercus lobata	valley oak	44"	poor	44'	50%	none	NO	Remove – Based on site and grading plan, this tree will have impacts of at least 50% to its CRZ due to curb, gutter, street and utility improvements. Tree will not survive impacts.
83	Quercus douglasii	coast live oak	12"	fair	12'	Less than 5%	11' northwest, 14' all other direction on project side of tree.	YES	Retain - Based on site and grading plan the tree can be retained if all tree protection measures are followed. Arborist supervision of work in or adjacent to CRZ required.
84	Quercus lobata	valley oak	24"	good	24'	Less than 5%	22' all directions	YES	Retain - Based on site and grading plan the tree can be retained if all tree protection measures are followed. Installation of retaining wall on north side of tree will be needed. Arborist supervision of work in or adjacent to CRZ required.

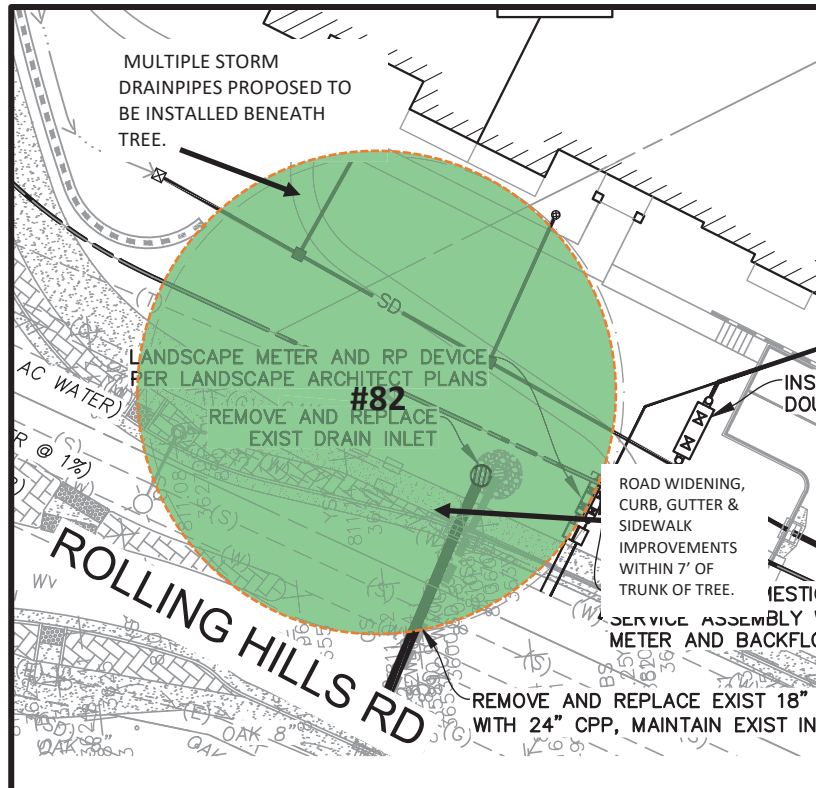
Appendix B – Site Maps



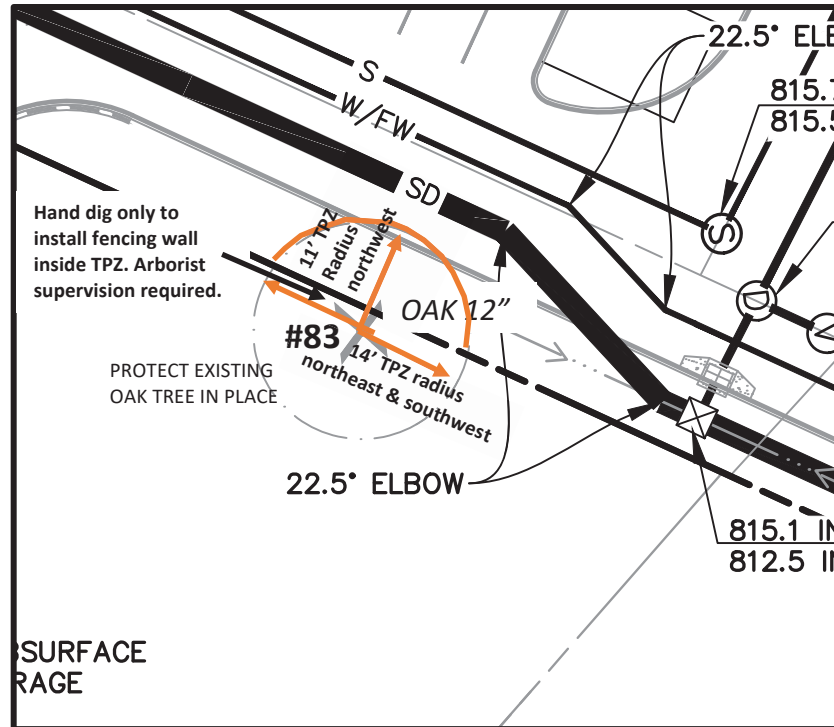
Map 1 - Tree Inventory Map – Overall Site Plan - Green highlighted circles indicate location of native oak trees 6’ diameter and greater. Tree numbers correlate with numbers provided in Appendix A - Tree Inventory and Protection.



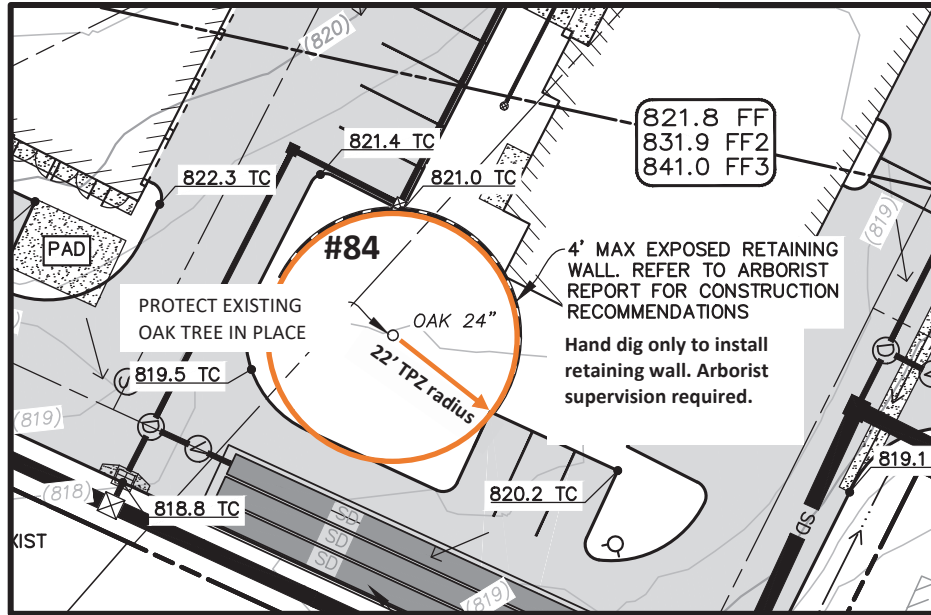
Map 2 - Grading Plan – Current underground plan showing proposed storm drainage pipe route.



Map 3 – Detail of Grading Plan & Civil improvements Tree #82 – Overall health of tree is Poor. Proposed roadway improvements, sidewalk and storm drainage pipe route all encroach and impact tree's CRZ 50% or more.



Map 4 – Detail of Grading Plan & Civil Improvements Tree #83 – Storm drainage pipe has been re-routed around the tree to give 15' distance northwest of the tree. Impact to critical roots will be negligible. Provide 11'tpz NW, and 14' NE and SW.



Map 5 – Detail of Grading Plan with TPZ Limits Delineated - Tree #84 – TPZ fencing to be set at 22' from trunk of tree. Orange highlight shows TPZ fencing limit. Retaining wall to be constructed on the north and northwest side of tree as drawn.

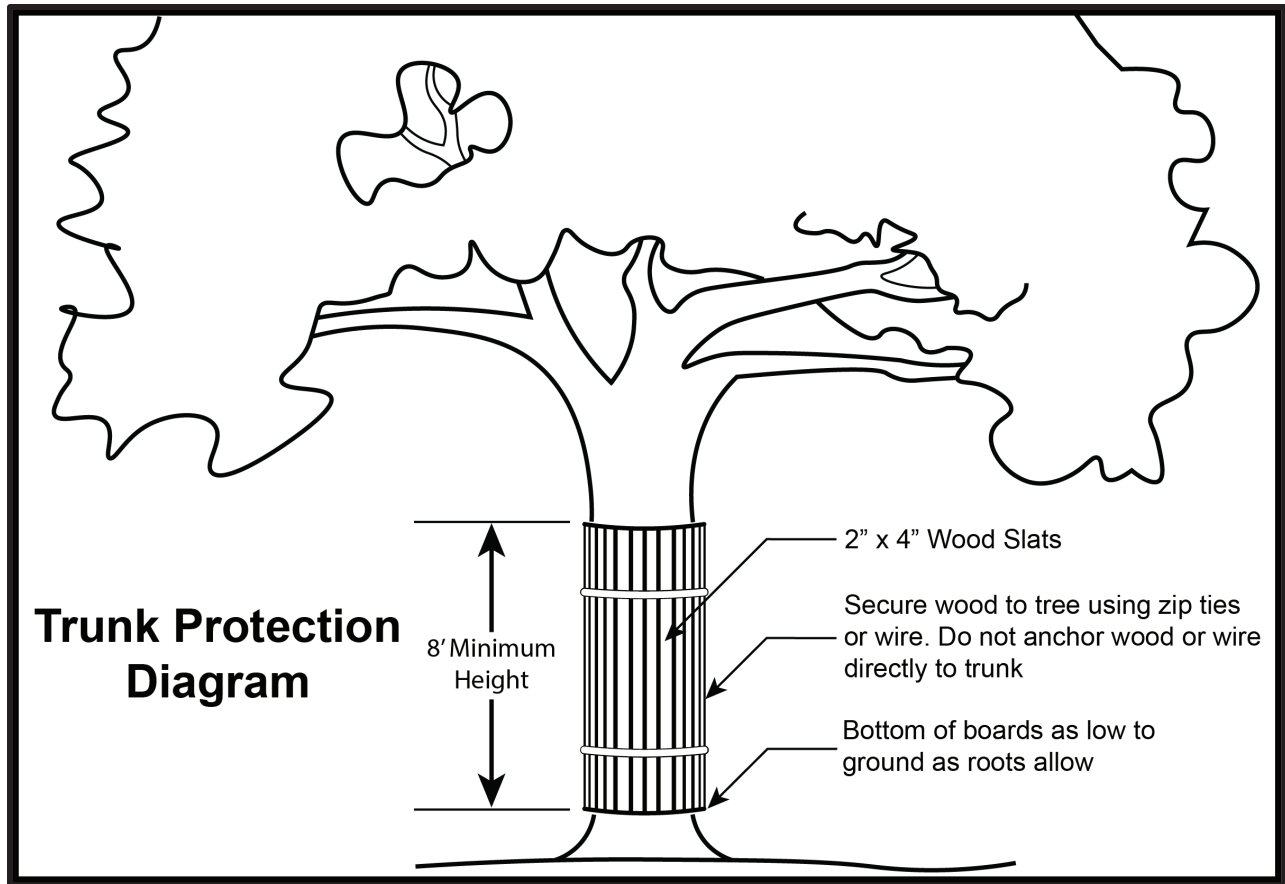


Diagram 2 – Trunk Protection – Secure wood to tree using zip ties or wire. Do not anchor wood or wire directly to trunk.

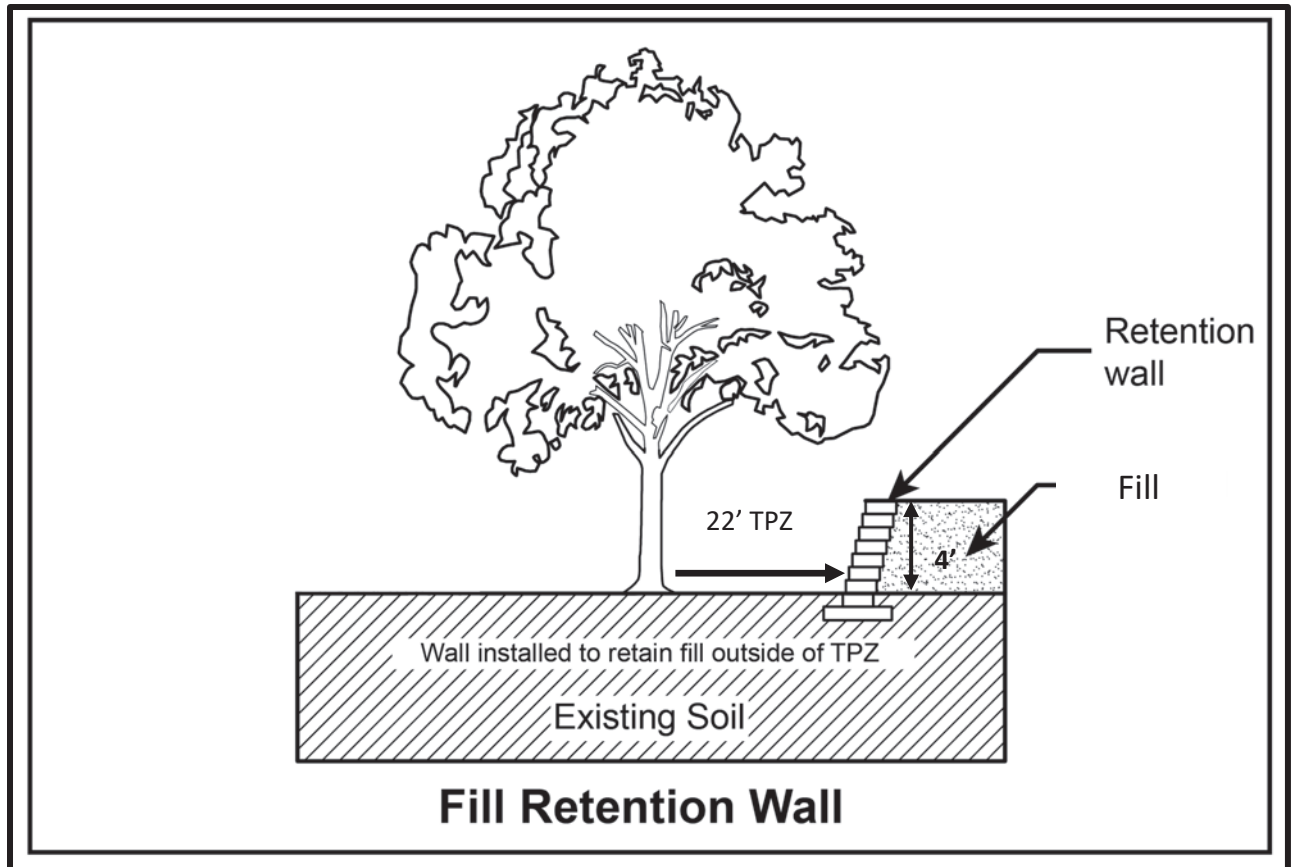


Diagram 3 – 4' maximum height retaining wall to be installed at 22' from trunk of tree on north and northwest sides of tree to prevent fill soil from suffocating critical roots.

Appendix D - Tree Protection Requirements - Quick Reference List

- **Tree Protection During Construction** - Tree protection shall be provided during the entire time construction activities occur. A Tree Protection Zone (TPZ) shall be established and maintained to ensure protected roots remain undisturbed.
- **Tree Protection Fencing** - Tree protection fencing is required to be in place for the duration of the construction project and shall be installed before starting any ground disturbing activities. Do not remove any tree protection fencing or enter the TPZ without approval of the project arborist. The fencing shall delineate and protect the tree protection zone. The fencing shall be 4 feet tall and made of orange, high density, polyethylene with 3.5" x 1.5" openings. It shall be installed on steel posts 8 feet on center and tightly stretched to prevent sagging. See Appendix C - Tree Protection Diagrams - Diagram 1 – Tree Protection Fencing.
- **Trunk Protection** - Tree protection fencing is required See Appendix C - Tree Protection Diagrams - Diagram 2 – Trunk Protection.
- **Tree Protection Signage** - Weatherproof, tree protection signs stating "Tree Protection Zone – Do Not Enter" shall be placed on the fencing and be spaced 10 feet apart. Signs shall remain in place until completion of the project. See Appendix C - Tree Protection Diagrams - Diagram 1 – Tree Protection Fencing.
- **Pre-Construction Meeting** - A meeting with all contractors involved in the project shall occur with the project arborist before beginning construction activities. Any new contractors brought on site shall also meet or communicate with the project arborist to ensure they are aware of tree protection measures.
- **Preparing Tree Protection Zone** - If construction occurs during the months of June through November, the TPZ's shall be irrigated to a depth of 12 inches before construction begins. This will ensure the trees are properly hydrated. Additional irrigations during "heat-waves" may be recommended by the project arborist.
- **Root Protection** - No grading, trenching, paving or any other soil disturbance shall occur within or adjacent to the TPZ of the tree without permission and supervision by the project arborist. No trenching or excavation for footings, foundations, utilities or roadways shall occur within or adjacent to the TPZ without first, hand trenching the location and exposing roots.

If possible, conduit or other utilities shall be "fished" below roots larger than 1-inch diameter. Any roots 1-inch diameter or larger that are approved for pruning shall be hand cut with a clean pruning saw or Sawzall. Once roots are hand cut, machinery can remove the severed roots. Cutting any roots 1-inch diameter or larger requires supervision by the project arborist.

- **Root Pruning** - If the project arborist determines that a root over 1-inch diameter needs to be cut, it shall be cut by hand with a pruning saw or reciprocating saw "Sawzall". After cutting a root, the area shall be backfilled as soon as possible with moist soil or covered with wet burlap until backfill can be completed. Burlap shall be kept wet the entire time it is in use for cut-root protection.

- **Ä Dumping, Cleanout or Storage of Materials** - No construction materials, soils, or debris shall be stored in the TPZ. No concrete, plaster, paint or chemical washout shall be allowed within the TPZ or Critical Root Zone (CRZ).
- **Ä Monitoring** - An initial inspection shall be completed by the project arborist prior to commencement of construction activities to ensure that all tree protection measures have been put in place. Weekly inspections of the TPZ and associated fencing shall also be completed by the project arborist until construction is complete. Any root pruning, excavation, grading or filling within 5 feet of the TPZ shall a be monitored by the project arborist.
- **Ä Project Arborist Contact Information** - Rodney Thurman – Heritage Tree Arboricultural Consulting – Cell: 805 234 8760 – Email: rodney@heritagetreeconsulting.com

Appendix E – Photographs



Photo 1 - View of Tree 82 from Rolling Hills Road.



Photo 2 - View of Tree 82 from corner of Creston Road. Utility line clearance pruning, overextended branches. Proposed road improvements within 7' of trunk of tree. Storm drains proposed beneath tree.



Photo 3 - View of broken branch west side of tree circled in yellow.



Photo 4 - View of decayed and cracked scaffold north side of tree circled in yellow.



Photo 5 - View of Tree 83. Proposed storm drainpipes and paving will not significantly impact tree. Set TPZ fence at 11' to northwest, and 14' to the northeast and southwest. Tree will need pruned for vehicle clearance.



Photo 6 - View of Tree 84 – 22' TPZ radius measured from outside of trunk. Set TPZ fence at 22'. Hand dig only - required when constructing retaining wall.

BIOLOGICAL RESOURCES ASSESSMENT REPORT

ROLLING HILLS APARTMENT PROJECT 1049 CRESTON ROAD PASO ROBLES, CALIFORNIA

Project No. 2202-0711

Prepared for:

Red Tail Multifamily Land Development
2082 Michelson Drive, 4th Floor
Irvine, California 92612

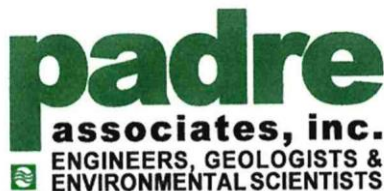
Prepared by:

Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, California 93401

APRIL 2022



Authenticity and Signature Page



Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, California 93401

Padre Associates, Inc. hereby certifies that all statements furnished in the following Biological Resources Assessment Report and all supporting information acquired for this biological assessment are true and correct to the best of our knowledge and belief. Further, we certify that the field survey associated with this report was performed by Padre and that the report accurately represents all information retained from the field visit.

A handwritten signature in black ink, appearing to read "Christina Santala", written over a horizontal line.

Christina Santala
Project Biologist

A handwritten signature in black ink, appearing to read "Shannon Gonzalez", written over a horizontal line.

Shannon Gonzalez
Project Biologist

A handwritten signature in black ink, appearing to read "Alyssa Berry", written over a horizontal line.

Alyssa Berry
Senior Biologist

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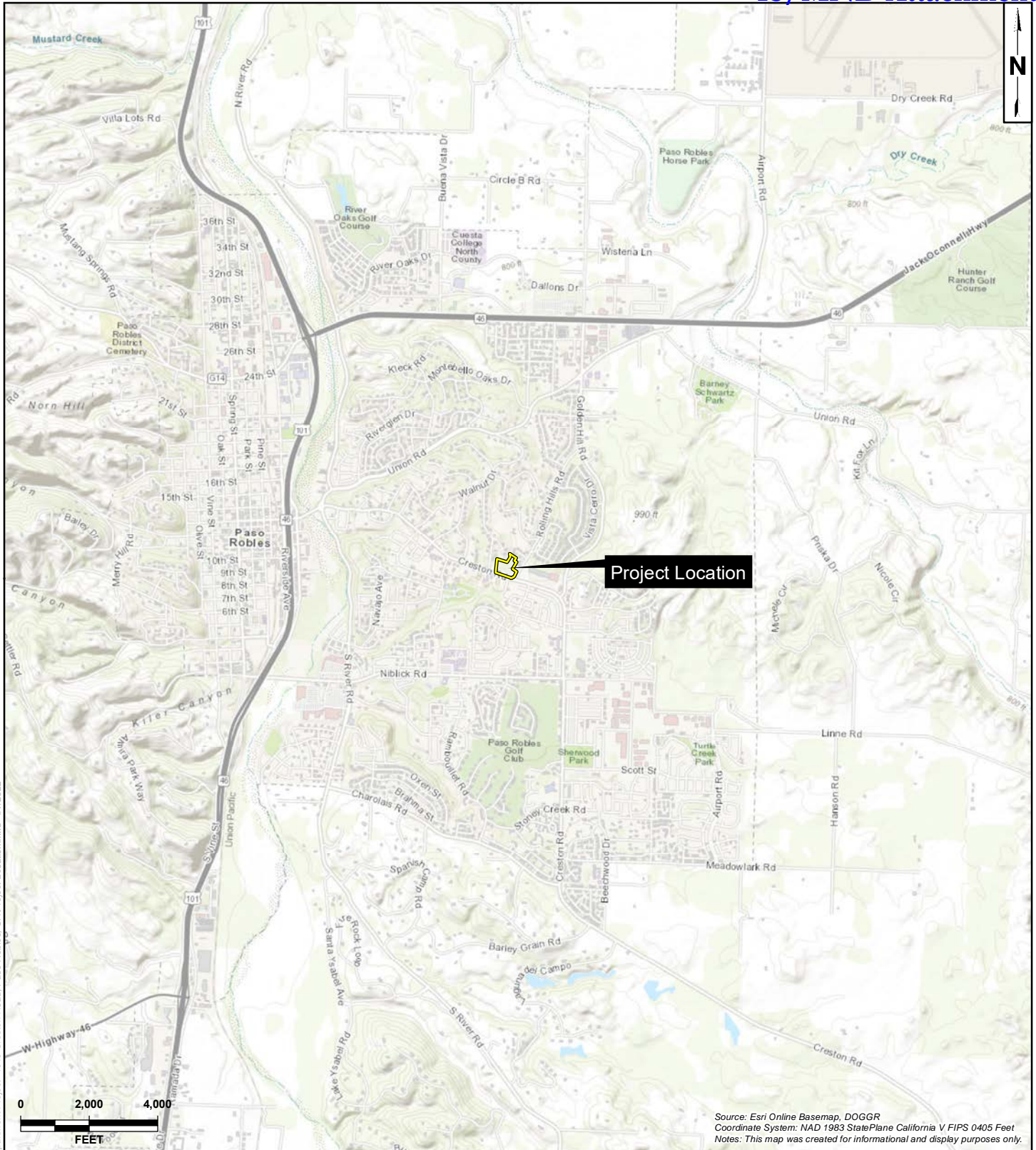
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APPENDICES

Appendix A	Site Photographs
Appendix B	Vascular Plant List
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Appendix D	CNDDDB Results

1.0 INTRODUCTION

Padre Associates, Inc. (Padre) has prepared this Biological Resources Assessment Report (Report) on behalf of Red Tail Multifamily Land Development (Client) to document the results of a biological resources assessment completed in support of the environmental review process for the proposed Rolling Hills Apartment Project (Project) at 1049 Creston Road, Paso Robles, San Luis Obispo County, California (Project Site) (Figure 1-1 – Project Location). The Project Site consists of one parcel of land approximately 6.21-acres in size. This Report documents the results of a desktop review and field survey, and includes a discussion of existing biological resources, special-status biological resources that have the potential to occur within the proposed Project Site, potential Project impacts to these resources, and recommendations for impact avoidance and minimization measures.



LEGEND:

Project Boundary

MAP EXTENT:



padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

PROJECT NAME:
ROLLING HILLS APARTMENT PROJECT-
1049 CRESTON ROAD, PASO ROBLES,
SAN LUIS OBISPO COUNTY, CA
PROJECT NUMBER: 2202-0711
DATE: April 2022

PROJECT LOCATION

FIGURE
1-1

2.0 REGULATORY FRAMEWORK

The regulatory framework identifies policies and plans administered by resource agencies pertaining to biological resources that are known to exist and/or have the potential to occur within the Project region.

2.1 FEDERAL REGULATIONS

2.1.1 Endangered Species Act of 1972.

The Federal Endangered Species Act (FESA), administered by the U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service (NMFS), provides protection to species listed as Threatened or Endangered, and critical habitat designated for the protection of such species. The FESA prohibits “take” of Threatened and Endangered species (including plants) except under certain circumstances and only with authorization from the USFWS through a permit under sections 4(d), 7, or 10(a) of the FESA. Under the FESA, take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Critical Habitat is defined in Section 3(5)(A) of the FESA as: (1) specific areas within the geographical area occupied by the species at the time of listing, on which are found those physical or biological features that are essential to the conservation of the listed species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of a listed species.

The FESA also provides protection to those species proposed to be listed under FESA or critical habitats proposed to be designated for such species. In addition to the listed species, the federal government also maintains lists of species that are neither formally listed nor proposed but could potentially be listed in the future. These federal candidate species include taxa for which substantial information on biological vulnerability and potential threats exist and are maintained to support the appropriateness of proposing to list the taxa as an Endangered or Threatened species.

2.1.2 Migratory Bird Treaty Act

The USFWS also administers the Federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). Under the MBTA, it is unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts of birds, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21). In 2017, Solicitor of the Department of the Interior issued a legal opinion (M-37050 or M-Opinion) stating that “The Migratory Bird Treaty Act Does Not Prohibit Incidental Take” which in effect revoked take protections under the MBTA. On January 5, 2021, the USFWS published a final rule that defined the scope of the MBTA stating that incidental take of birds resulting from an activity is not prohibited when the underlying purpose of that activity is not to take birds. On May 6, 2021, the USFWS announced a proposed rule to revoke the January 7 final regulation that limited the scope of the MBTA, in an effort to reinstate federal MBTA protections. The proposed rule is pending as of June 2021.

In the interim, migratory birds are protected (for take) through AB 454 California Migratory Bird Protection Act (California Fish and Game Code 3513).

2.2 STATE REGULATIONS

2.2.1 California Fish and Game Code.

The California Department of Fish and Wildlife (CDFW) administers a number of laws and programs designed to protect plants, fish, and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA - Fish and Game Code Section 2050) that regulates the listing and take of State Endangered and Threatened species. CDFW also maintains lists of Candidate-Endangered species and Candidate-Threatened species. California candidate species are afforded the same level of protection as listed species. CDFW manages the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900, *et seq.*), which was enacted to identify, designate, and protect rare plants. The California Native Plant Society (CNPS) operates under a Memorandum of Understanding (MOU) with the CDFW which outlines broad cooperation in rare plant assessment and protection and formalizes cooperative ventures such as data sharing and production of complementary information sources for rare plants.

2.3 LOCAL REGULATIONS

San Luis Obispo County (County) incorporates all USFWS, CDFW, Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers (ACOE) standards when assessing project impacts to vegetation, wildlife, and wetland habitats, as well as the California Environmental Quality Act (CEQA) evaluation process, when applicable. The County has developed a framework of land use policies and recommendations intended to reduce impacts to sensitive biological resources.

Oak trees are protected under San Luis Obispo County Land Use Ordinance, Title 22; Chapters 22.56 (Tree Preservation) and 22.58 (Oak Woodland Ordinance) (San Luis Obispo County, 2021).

3.0 METHODS

Methods to collect biological resources information included a desktop review and field survey of the Biological Study Area (BSA), which encompassed the entire Project Site.

3.1 DESKTOP REVIEW

Prior to conducting the field survey, a query of the CDFW California Natural Diversity Data Base (CNDDDB) was conducted to identify documented occurrences of special-status plant and wildlife species, and sensitive habitats within the vicinity of the BSA. The CNDDDB is a continually refined and updated computerized inventory of rare animals, plants, and natural community location information in California, including species that are listed as federally and/or State endangered/threatened. All wildlife taxa listed with the CNDDDB are considered “special animals” in which the CDFW is interested in tracking, regardless of their legal protection status.

The Project Site is located within both the Paso Robles and Templeton 7.5-minute United States Geological Survey (USGS) quadrangle, and the CNDDDB search was focused on these and seven adjacent quadrangles within approximately ten miles of the BSA, including Templeton, Adelaida, York Mountain, Estrella, Creston, San Miguel, Atascadero, and Santa Margarita. The USFWS Critical Habitat database was also investigated to identify critical habitat for federally listed species within the BSA or surrounding region. In addition, the USFWS National Wetlands Inventory (NWI) was accessed to identify previously documented wetlands within the BSA or surrounding area.

3.2 FIELD SURVEYS

On March 24, 2022, Padre Biologists, Christina Santala and Shannon Gonzalez completed a field survey within the BSA focused on the existing biological resources, presence/absence of special-status plant and wildlife species and habitats, as well as the suitability of habitat to support these species within the BSA.

Field survey methods consisted of walking paths of opportunity throughout the BSA and recording wildlife species observed by visual observation using binoculars, indirect signs (e.g., tracks, scat, skeletal remains, and burrows), and/or auditory cues (i.e., calls and songs). Field notes on botanical resources and vegetation communities/habitats were also recorded. Field surveys were conducted in March, within the typical blooming period for most special-status plant species known to occur in the proposed Project region. All oak trees (*Quercus* sp.) within the Project Site were documented (e.g., diameter at breast height [DBH] and overall health) and mapped using GPS in the field.

Vegetation within the BSA was divided and classified into vegetation types based on *A Manual of California Vegetation, Second Edition* (MCV2) (Sawyer, et. al., 2009), or described as site-specific vegetation and/or land use cover types not treated in the MCV2 (i.e., ruderal). All identifiable plant species observed within the BSA were documented. Plant specimens that were not positively identified in the field were further examined using appropriate botanical keys, including *The Jepson Manual Vascular Plants of California* (Baldwin et. al., 2012).

4.0 FINDINGS

The following discussion of biological resources includes those that were observed within the BSA, those identified in the desktop review, and resources that have the potential to occur based on the presence of suitable habitat. Supporting documentation includes Figure 4-1 – Biological Resources Assessment Results, Figure 4-2 – Regional Special-Status Biological Resources, Appendix A – Site Photographs, Appendix B – Plant List, Appendix C – Wildlife List, and Appendix D – CNDDB Results.

4.1 ENVIRONMENTAL SETTING

The Project Site is located on the corner of Creston Road and Rolling Hills Road, approximately 1.2 miles east of Highway 101 within the City of Paso Robles, San Luis Obispo County, California. The Project Site is a vacant lot surrounded by residential and commercial development and infrastructure. The topography of the area is level to moderately sloping and is situated approximately 2.5 miles east of the Santa Lucia Range and approximately 9.5 miles southeast of the Cholame Hills.

4.2 BIOLOGICAL RESOURCES

4.2.1 Botanical

A list of plant species identified in the BSA during the March 2022 field survey is provided in Appendix B – Plant List. Vegetation communities documented to occur within the Project Site are described in the following paragraphs.

Wild oats and annual brome grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance). The Wild oats and annual brome grassland alliance occurs in all topographic settings in foothills, waste places, rangelands, and openings in woodlands. This alliance is characterized by presence of slender wild oats (*Avena barbata*), wild oats (*Avena fatua*), false brome (*Brachypodium distachyon*), rattlesnake grass (*Briza maxima*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*) and/or foxtail barley (*Hordeum murinum*) as dominant or co-dominant with other non-natives in the herbaceous layer; cover is open to continuous (Sawyer et. al., 2009). As observed during the field survey, this alliance occurred throughout the BSA, and appeared to be periodically mowed and/or disked, likely for fire fuel reduction purposes. Dominant to co-dominant species included slender wild oats, wild oats, ripgut brome, red brome (*Bromus madritensis* ssp. *rubens*), redstem filaree (*Erodium cicutarium*), fiddleneck (*Amsinckia* sp.), with sparse to moderate occurrences of telegraph weed (*Heterotheca grandiflora*), miniature lupine (*Lupinus bicolor*), soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*) and Mediterranean vetch (*Vicia benghalensis*). Intermittent occurrences of mature trees and shrubs included Valley oak (*Quercus lobata*), Coast live oak (*Quercus agrifolia*), cultivated almond (*Prunus* sp.), Western sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), coyote brush (*Baccharis pilularis*), and planted yucca (*Yucca* sp.). This alliance is not considered sensitive by the CDFW and is not protected under CEQA.

Ornamental. Within this Report Ornamental is a site-specific vegetation classification that describes the planted landscape trees that overlap a portion of the western boundary of the Project Site. Tree species included blue gum (*Eucalyptus globulus*), pine (*Pinus* sp.) and Coast live oak. Ornamental trees may provide suitable foraging and nesting habitat for fauna. This vegetation community is not considered sensitive by the CDFW and is not protected under CEQA.

Ruderal. Within this Report, Ruderal is a term used to describe the unpaved access roads and parking areas within the BSA. Disturbed areas that are not paved can support vegetative cover consisting primarily of disturbance adapted plant species (ruderal species). As observed during the field survey, ruderal areas ranged from bare ground to moderate vegetative cover comprised of non-native species including remnant wild oats (*Avena* spp.), ripgut grass, English plantain (*Plantago lanceolata*), and red-stem filaree. This vegetation community is not considered sensitive by the CDFW and is not protected under CEQA.

4.2.2 Wildlife

Wildlife was identified during the survey through indirect sign and direct observations of individuals. Species observed and detected included western fence lizard (*Sceloporus occidentalis*), California scrub jay (*Aphelocoma californica*), house finch (*Haemorhous mexicanus*), phainopepla (*Phainopepla nitens*), and Botta's pocket gopher (*Thomomys bottae*). A complete list of observed wildlife species can be found in Appendix C – Wildlife Species Observed within the BSA.

4.2.3 Aquatic Resources

Based on the results of the desktop review and field observations, no aquatic resources were identified within the BSA, however, several aquatic features were identified within one mile outside of the BSA. The NWI recorded features include a Riverine unnamed drainage approximately 0.2 miles southwest and the Salinas River approximately 0.9 miles west, a Freshwater Pond approximately 0.73 miles south, and a Freshwater/Forested /Shrub Wetland approximately 0.76 miles southwest of the BSA (USFWS, 2022b).

4.2.4 Oak Trees

Two valley oak tree (*Quercus lobata*) and two coast live oak trees were observed within the BSA. Table 4-1 lists the species and Diameter at Breast Height (DBH).

Table 4-1. Oak Trees Observed

Oak Species	DBH	Notes
Valley oak 1	24 inches	Mature, healthy; located on southwestern perimeter of Project limits along Rolling Hills Road
Valley oak 2	43 inches	Mature, healthy; located near unpaved driveway in western portion of the Project Site.
Coast live oak 1	3 inches	Sapling, healthy, situated in small group of cottonwood saplings.
Coast live oak 2	3 inches	Sapling, healthy, situated in clump of coyote brush and ornamental vegetation.

4.3 SPECIAL-STATUS BIOLOGICAL RESOURCES

Results of the nine-quadrangle (approximately ten miles surrounding the Project Site) CNDDDB query for regional occurrences of special-status plant and wildlife species, and sensitive vegetation communities can be found in Appendix D (CDFW, 2022a). This Report focuses on the special-status plants and wildlife biological resources within five miles of the BSA (Project region) that have a greater potential to occur within the Project Site based on proximity of documented occurrences and suitable habitat. Figure 4-2 depicts CNDDDB occurrences and USFWS Critical Habitat within five miles of the Project Site.

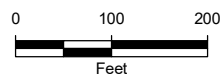


Source: Esri Online Imagery, Basemap, County of San Luis Obispo
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only.

LEGEND:

- | | |
|------------------|--------------------------------------|
| Project Boundary | Vegetation Communities |
| Coast live oak | Wild oats and annual brome grassland |
| Valley oak | Ruderal |
| | Ornamental |

MAP EXTENT:



padre
 associates, inc.
 ENGINEERS, GEOLOGISTS &
 ENVIRONMENTAL SCIENTISTS

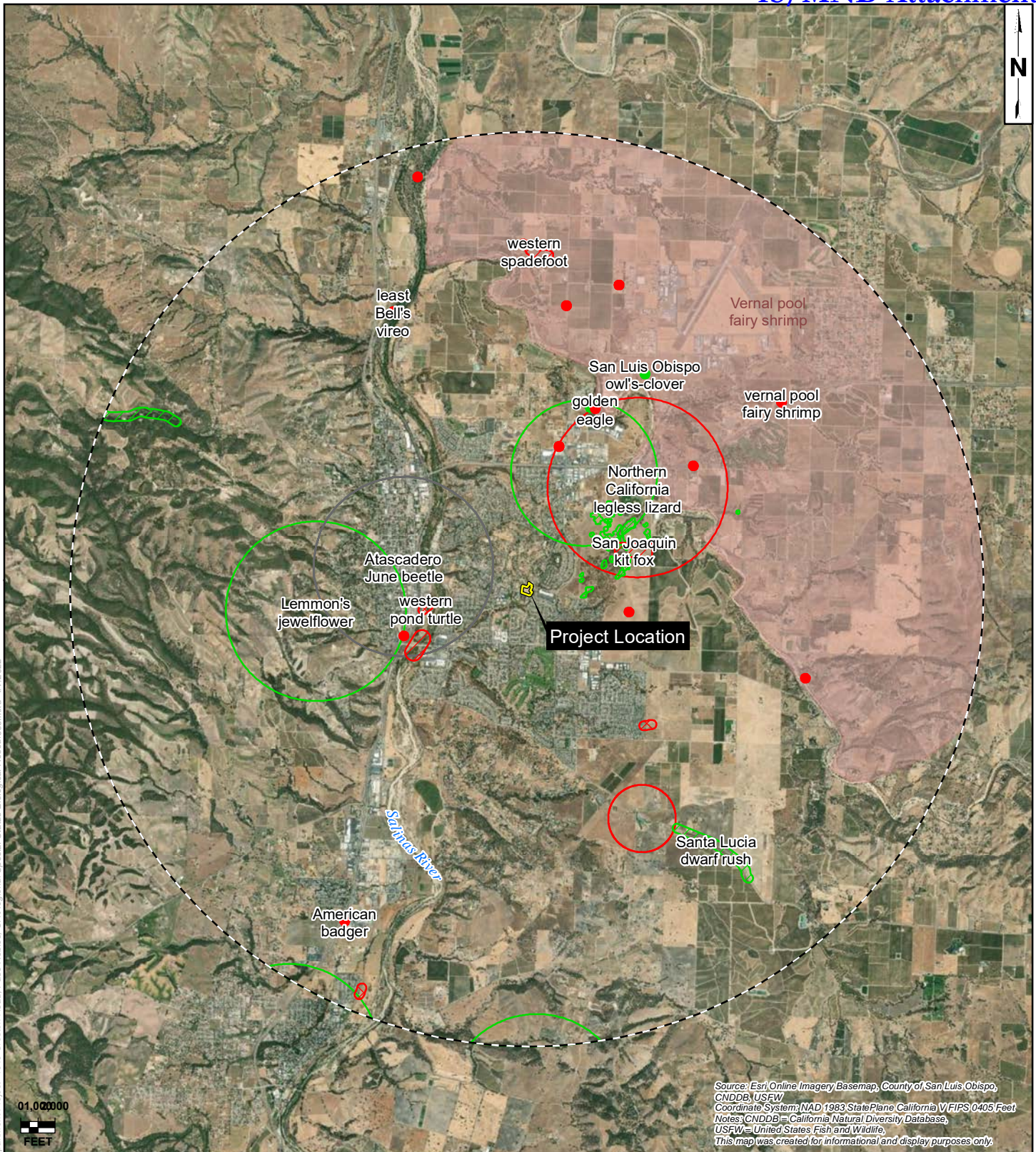
PROJECT NAME:
 ROLLING HILLS APARTMENT PROJECT-
 1049 CRESTON ROAD, PASO ROBLES,
 SAN LUIS OBISPO, CA

PROJECT NUMBER:
 2202-0711

DATE:
 April 2022

**BIOLOGICAL RESOURCE
 ASSESSMENT RESULTS MAP**

**FIGURE
 4-1**

**LEGEND:**

Project Boundary	CNDDDB Occurrences	Plant (non-specific)	Animal (specific)
Buffer- 5 miles	Plant (80m)	Plant (circular)	Animal (non-specific)
USFWS Critical Habitat	Plant (specific)	Animal (80m)	Animal (circular)
		Multiple (circular)	

MAP EXTENT:

4.3.1 Special-Status Habitats

No USFWS-Designated Critical Habitat overlapped the BSA. The nearest occurrence was vernal pool fairy shrimp (*Branchinecta lynchi*) USFWS-Designated Critical Habitat approximately two miles northwest of the BSA (USFWS, 2022a).

No sensitive natural communities as defined by CDFW were documented within five miles of the BSA. The nearest occurrence was Valley Oak Woodland, approximately eight miles west of the BSA (CDFW, 2022a).

4.3.2 Special-Status Botanical

Special-status plants are either listed as Endangered or Threatened under FESA or CESA, considered Rare under the California Native Plant Protection Act, or considered rare (but not legally listed) by resources agencies, professional organizations, and the scientific community under the following categories:

1. Plants listed or proposed for listing as Threatened or Endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species,).
2. Plants that are candidates for possible future listing as Threatened or Endangered under the Federal Endangered Species Act (Federal Register October 10, 2019).
3. Plants that meet the definitions of rare or endangered species under the CEQA (State CEQA Guidelines, Section 15380).
4. Plants considered by the CNPS to be "Rare, Threatened, or Endangered" in California (Ranks 1B and 2 in CNPS, 2020).
5. Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Ranks 3 and 4 in CNPS, 2020).
6. Plants listed or proposed for listing by the State of California as Threatened or Endangered under the California Endangered Species Act (14 CCR 670.5).
7. Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
8. Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies or jurisdictions.
9. Plants considered sensitive or unique by the scientific community or occurring at the limits of their natural range (State CEQA Guidelines).

Based on the CNDDDB query completed as part of the desktop review, there were 37 special-status plant species documented within approximately ten miles of the BSA (Appendix D). Of these species, two have a greater potential to occur within the Project Site based on proximity of documented occurrences (less than five miles) and presence of generally suitable habitat (grassland) within the BSA including San Luis Obispo owl's-clover (*Castilleja densiflora* var. *obispoensis*), and Lemmon's jewelflower (*Caulanthus lemmonii*).

No special-status plant species were observed during the March 2022 field survey. The survey was conducted within the typical blooming period for potentially occurring special-status plant species of the region and would be identifiable in March. Based on the field survey observations and habitat conditions (periodic mowing, dominance of disturbance-adapted plant species) no special-status plant species are likely to occur within the Project Site.

4.3.3 Special-Status Wildlife

Special-status wildlife species are either listed as Endangered or Threatened under FESA or CESA, or considered rare (but not formally listed) by resources agencies, professional organizations, and the scientific community under the following categories:

- Animals listed or proposed for listing as Threatened or Endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as Threatened or Endangered under the Federal Endangered Species Act (Federal Register October 10, 2019).
- Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380)
- Animal considered Species of Special Concern (SSC) by CDFW (Shuford and Gardali, 2008 for birds; Williams, 1986 for mammals; Moyle et al., 2015 for fish; and Thomson et al., 2016 for amphibians and reptiles).
- Animals listed or proposed for listing by the State of California as Threatened and Endangered under the California Endangered Species Act (14 CCR 670.5).
- Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Animal species protected under the Marine Mammal Protection Act (as amended in 1994).
- Birds of Conservation Concern. Migratory and nonmigratory bird species (beyond those already designated as federally Threatened or Endangered) that represent the USFWS highest conservation priorities in effort to draw attention to species in need of conservation action (Shuford and Gardali, 2008).
- Birds on the CDFW Watch List include “Taxa to Watch” (Shuford and Gardali, 2008) 1) not on the current Special Concern list but were on previous lists and they have not been state listed under CESA; 2) were previously state or federally listed and now are on neither list; or 3) are on the list of “Fully Protected” species.

Based on the CNDDB query completed as part of the desktop review, there were 32 special-status wildlife species documented within approximately ten miles of the BSA. Of those 32, there are three special-status wildlife species with the potential to occur within the Project Site based on suitable habitat and regional (less than five miles) documented occurrences. These species include Northern California legless lizard (*Anniella pulchra*), American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

No special-status wildlife species were observed during the March 2022 field survey. However, the Project Site may provide suitable habitat to support the special-status wildlife species listed above. The following sections provide an overview of the general habitat requirements for these species and further detail on the potential for each of these species to occur in the Project Site.

4.3.3.1 Reptiles

Northern legless lizard is a predominantly subterranean lizard that occupies moist, warm, and loose soils with vegetative cover (Stebbins, 2003). It has the potential to utilize areas of the Project Site that have dense leaf litter. Refer to Section 6.0 for recommended mitigation measures for protection of Northern legless lizard during Project activities.

4.3.3.2 Mammals

American badger is a CDFW Species of Special Concern and San Joaquin kit fox is listed as federally Endangered and State Threatened. The annual grassland habitat, and presence of small mammal (ground squirrel) burrows indicate that general conditions within the Project Site are suitable for both species. No large burrows or sign (i.e., scat, tracks, prey remains, etc.) were identified during the March 2022 survey. Further, the Project Site is situated within a highly populated area and surrounded by dense residential and commercial development that creates a dispersal barrier for these species. However, because there are documented occurrences less within five miles (approximately one mile for San Joaquin kit fox), and there is generally suitable grassland habitat, there is a low potential for American badger and San Joaquin kit fox to occur within the Project Site. Refer to Section 6.0 for recommended mitigation measures for protection of these species during Project activities.

4.3.3.3 Nesting Birds

No evidence of prior bird nesting was observed within the BSA during the March 2022 field survey. Trees and vegetation present within or adjacent to the Project Site provide suitable nesting habitat for a variety of bird species. Nesting birds and their nests/eggs are protected under the federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code. Nesting bird season generally occurs between February 1 and August 31. Refer to Section 6.0 for recommended mitigation measures for protection of potentially nesting birds during Project activities.

5.0 POTENTIAL IMPACTS

The proposed Project proposes to develop the entire Project Site. Grading and construction activities have the potential to impact special-status biological resources that have the potential to occur within the Project Site.

Potential impacts to special-status biological resources are construction-related, including mortality or injury from equipment operations, vehicle traffic, and loss of habitat. Project-related noise also has the potential to negatively affect nesting bird activity within or adjacent to the Project Site. Refer to Section 6.0 for recommended mitigation measures to avoid and/or minimize impacts to special-status biological resources.

6.0 RECOMMENDED MITIGATION MEASURES

Implementation of the following avoidance and minimization measures are recommended to protect sensitive biological resources to the greatest extent feasible during proposed Project activities:

1. Work Timing. All work activities shall be completed during daylight hours (between sunrise and sunset) and outside of rain events;
2. Work Limits. The Project impact area shall be clearly marked or delineated with stakes, flagging, tape, or signage prior to work. Areas outside of work limits shall be considered environmentally sensitive and shall not be disturbed;
3. Vehicles and Equipment. All equipment and vehicles shall be checked and maintained daily to prevent spills of fuel, oil, and other hazardous materials. A designated staging area shall be established for vehicle/equipment parking and storage of fuel, lubricants, and solvents. All fueling and maintenance activities shall take place in the staging area;
4. Pre-Activity Nesting Bird Survey. If vegetation removal (i.e., tree trimming/removal activities) is scheduled between February 1 and August 31 (general nesting bird season), nesting bird surveys shall be completed by a qualified biologist within 48 hours prior to start of work. If any active nests are discovered within or adjacent to work limits, an appropriate buffer (i.e., 500 feet for raptors and 250 feet for other birds, or at the discretion of a qualified biologist based on biological or ecological reasons) shall be established to protect the nest until a qualified biologist has determined that the nest is no longer active and/or the young have fledged;
5. Pre-Activity Special-Status Species Survey. Within 30 days of the start of construction, a qualified biologist shall conduct a pre-activity survey of the Project Site for signs of San Joaquin kit fox and American badger, including tracks, scat, or suitable burrows (burrows four inches or greater in diameter). Potential dens shall be tracked for a minimum of four nights with motion-activated cameras to determine if the burrow is actively being used by San Joaquin kit fox or badger. All potential dens shall be avoided by a minimum of 50 feet until they have been determined to be inactive. In the event San Joaquin kit fox is identified within the Project Site, the USFWS, CDFW, and all other appropriate agencies/government entities shall be contacted for further consultation.

In conjunction with the badger and San Joaquin kit fox survey, the qualified biologist will conduct a survey for Northern legless lizard. Hand search methods, including raking, will be used during the survey in areas where legless lizards are expected to be found (e.g., under shrubs/leaf litter, other vegetation, or debris). If observed, the qualified biologist will relocate the lizard to nearby suitable habitat. The qualified biologist will prepare a completion letter-report to document the pre-activity survey results.

6. Oak Tree Removal. If oak tree removal and/or damage is unavoidable due to Project implementation, the County may require mitigation for impacts to mature oak trees. Mitigation may require preparation of an oak tree protection and replacement plan that would provide guidance for onsite and/or offsite oak tree replacement planting. Mitigation planting replacement ratio (oak trees removed to oak trees planted) would be determined by the County.

7.0 REFERENCES

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APPENDIX A

Site Photographs



Photo 1. Representative view of grassland habitat and mature valley oak within the BSA (aspect northeast; 3/24/22).



Photo 2. View of site conditions within the BSA (aspect northwest; 3/24/22).



Photo 3. View of northeast portion of the BSA with level to minimally rolling topography (aspect northeast; 3/24/22).



Photo 4. Sapling coast live oak tree within the BSA (aspect northwest; 3/24/22).

APPENDIX B

Plant List

**List of Plant Species Observed
Rolling Hills Apartments Project, Paso Robles, CA**

IS/MND Attachment 6

FAMILY	Scientific Name	Common Name	Habit	Wetland Indicator Status	Native Status	Cal-IPC Rating	Listing Status
AGAVACEAE	<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Soap plant	PH	-	N		
	<i>Yucca</i> sp.	Yucca	S	-			
ALLIACEAE	<i>Allium</i> sp.	Onion	PH	-			
ANACARDIACEAE	<i>Schinus molle</i>	Pepper tree	T	FACU		Limited	
ASTERACEAE	<i>Baccharis pilularis</i>	Coyote brush	S	-	N		
	<i>Heterotheca grandiflora</i>	Telegraph weed	AH	-			
	<i>Taraxacum officinale</i>	Common dandelion	PH	FACU			
BORAGINACEAE	<i>Amsinckia intermedia</i>	Common fiddleneck	AH	-	N		
BRASSICACEAE	<i>Brassica nigra</i>	Black mustard	AH	-		Moderate	
FABACEAE	<i>Acemispom wrangelianus</i>	Chilean trefoil	AH	-	N		
	<i>Lupinus bicolor</i>	Miniature lupine	AH	-	N		
	<i>Lupinus succulentus</i>	Succulent lupine	AH	-	N		
	<i>Melilotus albus</i>	White sweet-clover	A/BH	-			
	<i>Vicia benghalensis</i>	Mediterranean vetch	AH/V	-			
FAGACEAE	<i>Quercus agrifolia</i>	Coast live oak	T	-	N		
	<i>Quercus lobata</i>	Valley oak	T	FACU	N		
GERANIACEAE	<i>Erodium cicutarium</i>	Redstem filaree	AH	-		Limited	
IRIDACEAE	<i>Iris</i> sp.	Iris	PH	-			
LAMIACEAE	<i>Marrubium vulgare</i>	Horehound	PH	FACU		Limited	
MALVACEAE	<i>Malva parviflora</i>	Cheese-weed	AH	-			
MYRTACEAE	<i>Eucalyptus globulus</i>	Blue gum	T	-			
PLANTAGINACEAE	<i>Plantago lanceolata</i>	English plantain	PH	FAC		Limited	
	<i>Veronica persica</i>	Birdeye speedwell	AH	-			
PLANTANACEAE	<i>Platanus racemosa</i>	Western sycamore	T	FAC	N		
PINACEAE	<i>Pinus</i> sp.	Pine	T	-			
POACEAE	<i>Avena barbata</i>	Slender wild oats	AG	-		Moderate	
	<i>Avena fatua</i>	Wild oats	AG	-		Moderate	
	<i>Bromus diandrus</i>	Ripgut grass	AG	-		Moderate	
	<i>Bromus hordeaceus</i>	Soft chess	AG	FACU		Limited	
	<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome	AG	-		High	
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Barley	AG	FACU			
ROSACEAE	<i>Prunus</i> sp.	Cultivated almond	T	-			
	<i>Rosa californica</i>	California wild rose	S	FAC	N		
RUBIACEAE	<i>Galium aparine</i>	Bedstraw	AH	FACU	N		
SALINACEAE	<i>Populus fremontii</i>	Fremont cottonwood	T	-	N		

Notes:

Scientific nomenclature follows Baldwin (2012).

**List of Plant Species Observed
Rolling Hills Apartments Project, Paso Robles, CA**

N - Native species

Habit definitions:

AG - Annual grass.

AH - Annual herb.

F - Fern

PG - Perennial grass.

PH - Perennial herb.

PV - Perennial vine.

S - Shrub

T - Tree

Wetland indicator status (Lichvar and Kartesz, 2016):

OBL (Obligate Wetland Plants) - Almost always occur in wetlands.

FACW (Facultative Wetland Plants) - Usually occur in wetland, but may occur in non-wetlands.

FAC (Facultative Wetland Plants) - Occur in wetlands and non-wetlands.

ACU (Facultative Upland Plants) - Usually occur in non-wetlands, but may occur in wetlands.

UPL (Upland Plants) - Almost always occur in non-wetlands.

Cal-IPC (California Invasive Plant Council) Ratings:

High - These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Most are widely distributed

Moderate - These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation

Limited - These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score.

Listing Status:

FE - Federally endangered

FT - Federally threatened

SE - State endangered

ST - State threatened

CNPS (California Native Plant Society) Ranking System; CRPR (California Rare Plant Rank):

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 - Plant of limited distribution – a watch list

CRPR Threat Ranks:

0.1 - Seriously threatened in California

0.2 - Moderately threatened in California

0.3 - Not very threatened in California

APPENDIX C

Wildlife List

Common Name	Scientific Name	Residence Status	Protected Status	Habitat
Reptiles				
Western fence lizard	<i>Sceloporus occidentalis</i>	R	--	G, D, P, S, M
Birds				
California scrub-jay	<i>Aphelocoma californica</i>	R	M	R, G, P
House finch	<i>Haemorhous mexicanus</i>	R	M	P, D, M
Mourning dove	<i>Zenaida macroura</i>	R	M	P, D, M
Northern mockingbird	<i>Mimus polyglottos</i>	R	M	S, G, D, M
Phainopepla	<i>Phainopepla nitens</i>	B	M	S, P, M
Red-tailed hawk	<i>Buteo jamaicensis</i>	R	M	G, P, M
Turkey vulture	<i>Cathartes aura</i>	R	M	P, M
Yellow-rumped warbler	<i>Setophaga coronata</i>	R	M	P
Mammals				
Botta's pocket gopher	<i>Thomomys bottae</i>	R	--	R, G, P

Notes:

Fauna observed by visualizations, indirect signs (tracks, scat, skeletal remains, burros, etc.), and/or auditory cues.

Residence Status

R - Permanent resident
W - Winter resident
B - Summer resident

Protected Status

FE - Federal
FT - Federal threatened species
FC - Federal candidate species
M - Migratory Bird Treaty Act
SE - State endangered species
ST - State threatened species
CS - Candidate species for CESA
CSC - California Species of Special Concern
CFP - California Fully Protected Species
BCC - Bird of Conservation Concern (USFWS)

Typical Habitat

A - Aquatic
D - Developed areas
G - Grassland
M - Multiple habitats
P - Woodland
R - Riparian
W - Wetland
C - Coastal lagoons, shores, oceans
O - Rock outcrops
S - Scrub

APPENDIX D

CNDDB Results



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS > < Paso Robles (3512066)> OR < Templeton (3512056)> OR < Adelaida (3512067)> OR < York Mountain (3512057)> OR < Estrella (3512065)> OR < Creston (3512055)> OR < San Miguel (3512076)> OR < Atascadero (3512046)> OR < Santa Margarita (3512045)>
< AND < Taxonomic Group> IS < Dune> OR < Scrub> OR < Herbaceous> OR < Marsh> OR < Riparian> OR < Woodland> OR < Forest> OR < Alpine> OR < Inland Waters> OR < Marine> OR < Estuarine> OR < Riverine> OR < Palustrine> OR < Fish> OR < Amphibians> OR < Reptiles> OR < Birds> OR < Mammals> OR < Mollusks> OR < Arachnids> OR < Crustaceans> OR < Insects> OR < Ferns> OR < Gymnosperms> OR < Monocots> OR < Dicots> OR < Lichens> OR < Bryophytes> OR < Fungi>

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Abies bracteata</i> bristlecone fir	G2G3 S2S3	None None	Rare Plant Rank - 1B.3 IUCN_NT-Near Threatened SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive		80 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Agelaius tricolor</i> tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	684 1,036	955 S:3	0	0	0	0	0	3	1	2	3	0	0
<i>Agrostis hooveri</i> Hoover's bent grass	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,000 1,000	31 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ammodramus savannarum</i> grasshopper sparrow	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	984 984	27 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Anniella pulchra</i> Northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	570 1,263	383 S:10	0	1	0	0	0	9	9	1	10	0	0
<i>Antirrhinum ovatum</i> oval-leaved snapdragon	G3 S3	None None	Rare Plant Rank - 4.2	720 720	16 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Antrozous pallidus</i> pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	600 1,050	420 S:2	0	2	0	0	0	0	1	1	2	0	0
<i>Aquila chrysaetos</i> golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	720 1,340	324 S:2	1	1	0	0	0	0	1	1	2	0	0
<i>Arctostaphylos luciana</i> Santa Lucia manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz USFS_S-Sensitive	2,700 2,700	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arctostaphylos pilosula</i> Santa Margarita manzanita	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	955 1,400	58 S:4	1	0	0	0	0	3	2	2	4	0	0
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	996 996	156 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Aristocapsa insignis</i> Indian Valley spineflower	G1 S1	None None	Rare Plant Rank - 1B.2	600 600	5 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Astragalus didymocarpus var. milesianus</i> Miles' milk-vetch	G5T2 S2	None None	Rare Plant Rank - 1B.2	1,250 1,250	16 S:2	0	0	0	0	0	2	2	0	2	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	720 740	2011 S:3	2	1	0	0	0	0	2	1	3	0	0
<i>Batrachoseps minor</i> lesser slender salamander	G1 S1	None None	CDFW_SSC-Species of Special Concern IUCN_DD-Data Deficient USFS_S-Sensitive	895 1,376	8 S:5	0	0	0	0	0	5	1	4	5	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	1,200 1,200	181 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Bombus crotchii</i> Crotch bumble bee	G3G4 S1S2	None None		900 1,300	437 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	600 1,125	795 S:13	0	2	9	1	0	1	8	5	13	0	0
<i>Buteo regalis</i> ferruginous hawk	G4 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	995 995	107 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Calochortus obispoensis</i> San Luis mariposa-lily	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,300 1,700	46 S:3	0	1	0	0	0	2	0	3	3	0	0
<i>Calochortus simulans</i> La Panza mariposa-lily	G2 S2	None None	Rare Plant Rank - 1B.3 SB_CRES-San Diego Zoo CRES Native Gene Seed Bank SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,000 1,600	109 S:14	0	5	2	3	0	4	4	10	14	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Calycadenia villosa</i> dwarf calycadenia	G3 S3	None None	Rare Plant Rank - 1B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	984 1,130	59 S:4	0	2	0	0	0	2	4	0	4	0	0
<i>Camissoniopsis hardhamiae</i> Hardham's evening-primrose	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	550 1,600	22 S:8	3	3	0	1	0	1	6	2	8	0	0
<i>Carex obispoensis</i> San Luis Obispo sedge	G3? S3?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,600 2,500	29 S:3	1	0	0	0	0	2	2	1	3	0	0
<i>Castilleja densiflora var. obispoensis</i> San Luis Obispo owl's-clover	G5T2 S2	None None	Rare Plant Rank - 1B.2	790 1,580	69 S:5	0	1	2	0	0	2	1	4	5	0	0
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,000 1,000	91 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Chorizanthe breweri</i> Brewer's spineflower	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	1,000 2,500	45 S:7	2	0	0	0	0	5	4	3	7	0	0
<i>Chorizanthe rectispina</i> straight-awned spineflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	600 1,900	38 S:11	2	1	1	0	0	7	7	4	11	0	0
<i>Cirsium fontinale var. obispoense</i> Chorro Creek bog thistle	G2T2 S2	Endangered Endangered	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	1,000 1,000	22 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cirsium occidentale var. lucianum</i> Cuesta Ridge thistle	G3G4T2 S2	None None	Rare Plant Rank - 1B.2		9 S:1	0	0	0	0	0	1	1	0	1	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	620 1,000	635 S:5	0	0	1	0	0	4	3	2	5	0	0
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i> Eastwood's larkspur	G4T2 S2	None None	Rare Plant Rank - 1B.2	900 900	15 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Delphinium umbraculorum</i> umbrella larkspur	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive		95 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Dudleya abramsii</i> ssp. <i>murina</i> mouse-gray dudleya	G4T2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,230 1,600	36 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	1,165 1,240	180 S:2	0	2	0	0	0	0	0	2	2	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	633 1,464	1404 S:21	2	13	3	0	0	3	6	15	21	0	0
<i>Eremophila alpestris actia</i> California horned lark	G5T4Q S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	600 1,000	94 S:2	0	2	0	0	0	0	2	0	2	0	0
<i>Eriastrum luteum</i> yellow-flowered eriastrum	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	860 1,900	34 S:12	3	1	1	0	0	7	6	6	12	0	0
<i>Fritillaria ojaiensis</i> Ojai fritillary	G3 S3	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,200 1,200	49 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	G4T1 S1	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	820 875	103 S:3	0	0	0	0	0	3	3	0	3	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	G4T1? S1?	None None	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	600 1,140	58 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Juncus luciensis</i> Santa Lucia dwarf rush	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	984 984	37 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Lavinia exilicauda harengus</i> Monterey hitch	G4T2T4 S3	None None	CDFW_SSC-Species of Special Concern	250 250	2 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Lepidium jaredii</i> ssp. <i>jaredii</i> Jared's pepper-grass	G2G3T1T2 S1S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		12 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Linderiella occidentalis</i> California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	968 1,076	508 S:5	0	4	0	0	0	1	0	5	5	0	0
<i>Malacothamnus palmeri</i> var. <i>palmeri</i> Santa Lucia bush-mallow	G3T2Q S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	1,000 1,000	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	G5T2T3 S2?	None None	CDFW_SSC-Species of Special Concern	584 646	96 S:3	0	0	0	0	0	3	1	2	3	0	0
<i>Meconella oregana</i> Oregon meconella	G2G3 S2	None None	Rare Plant Rank - 1B.1	1,200 1,200	9 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Monardella palmeri</i> Palmer's monardella	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,600 1,600	24 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Monolopia gracilens</i> woodland woollythreads	G3 S3	None None	Rare Plant Rank - 1B.2		68 S:1	0	0	0	0	0	1	1	0	1	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Navarretia fossalis spreading navarretia	G2 S2	Threatened None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	1,100 1,100	82 S:1	0	0	0	0	0	1	1	0	1	0	0
Navarretia nigelliformis ssp. radians shining navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	700 1,571	102 S:14	0	0	5	2	0	7	7	7	14	0	0
Neotoma macrotis luciana Monterey dusky-footed woodrat	G5T3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_DD-Data Deficient	988 1,700	8 S:3	2	0	0	0	0	1	3	0	3	0	0
Northern Interior Cypress Forest Northern Interior Cypress Forest	G2 S2.2	None None		2,400 2,400	22 S:1	0	0	0	0	0	1	1	0	1	0	0
Perognathus inornatus psammophilus Salinas pocket mouse	G2G3T2? S1	None None	CDFW_SSC-Species of Special Concern	740 1,225	9 S:7	3	3	0	0	0	1	7	0	7	0	0
Phrynosoma blainvillii coast horned lizard	G3G4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	600 600	784 S:2	1	1	0	0	0	0	0	2	2	0	0
Plagiobothrys uncinatus hooked popcornflower	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,780 1,780	14 S:1	0	0	0	0	0	1	1	0	1	0	0
Polyphylla nubila Atascadero June beetle	G1 S1	None None		800 900	4 S:3	0	0	0	0	0	3	3	0	3	0	0
Progne subis purple martin	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	915 915	71 S:1	0	1	0	0	0	0	0	1	1	0	0
Rana boylei foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	1,010 1,010	2476 S:1	0	0	0	0	1	0	1	0	0	0	1



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	775 1,684	1671 S:11	1	7	1	1	1	0	5	6	10	1	0
<i>Sidalcea hickmanii ssp. anomala</i> Cuesta Pass checkerbloom	G3T1 S1	None Rare	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	2,500 2,500	4 S:1	1	0	0	0	0	0	0	1	1	0	0
<i>Spea hammondi</i> western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	594 1,591	1422 S:31	2	6	10	2	0	11	16	15	31	0	0
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	600 600	19 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Streptanthus albidus ssp. peramoenus</i> most beautiful jewelflower	G2T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley USFS_S-Sensitive		103 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Taricha torosa</i> Coast Range newt	G4 S4	None None	CDFW_SSC-Species of Special Concern	965 1,700	88 S:9	1	3	0	1	0	4	3	6	9	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	570 1,055	594 S:26	23	2	0	0	0	1	24	2	26	0	0
<i>Trimerotropis occulens</i> Lompoc grasshopper	G1G2 S1S2	None None	IUCN_EN-Endangered	900 900	8 S:1	0	0	0	0	1	0	1	0	0	1	0



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California Natural Diversity Database

IS/MND Attachment



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Valley Oak Woodland Valley Oak Woodland	G3 S2.1	None None		1,060 2,000	91 S:6	0	0	0	0	0	6	6	0	6	0	0
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	660 710	503 S:2	1	0	0	0	0	1	1	1	2	0	0
Vulpes macrotis mutica San Joaquin kit fox	G4T2 S2	Endangered Threatened		641 1,049	1020 S:26	2	0	1	1	0	22	23	3	26	0	0

STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

February 17, 2022

Shannon Joy
ECORP Consulting, Inc.Via Email to: sjoy@ecorpconsulting.com

Re: Rolling Hills Paso Robles Project, San Luis Obispo County

Dear Ms. Joy:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,


Cody Campagne
Cultural Resources Analyst

Attachment

CHAIRPERSON
Laura Miranda
LuiseñoVICE CHAIRPERSON
Reginald Pagaling
ChumashPARLIAMENTARIAN
Russell Attebery
KarukSECRETARY
Sara Dutschke
MiwokCOMMISSIONER
William Mungary
Paiute/White Mountain
ApacheCOMMISSIONER
Isaac Bojorquez
Ohlone-CostanoanCOMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki,
NomlakiCOMMISSIONER
Wayne Nelson
LuiseñoCOMMISSIONER
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1550 Harbor Boulevard
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Rolling Hills Multifamily

Transportation Impact Study

Prepared For: City of Paso Robles

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6

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February 2023



Executive Summary

This study evaluates the potential transportation impacts of the Rolling Hills residential project located on Creston Road in the City of Paso Robles. The project includes 135 multi-family housing units estimated to generate 941 trips per weekday, including 65 trips during the AM peak hour and 79 trips during the PM peak hour. An alternative project description includes 64 single family housing units. The single-family alternative would generate less vehicle trips than the multi-family alternative.

The multi-family project is consistent with the City's General Plan and would have a less-than-significant impact to vehicle miles traveled (VMT).

With construction of a single lane roundabout at Creston Road/Rolling Hills Road (#2) all study locations would operate acceptably under Existing Plus Project Conditions. Under Cumulative Conditions, the intersection would operate acceptably; however, westbound queues are expected to reach the Creston Road/Melody Drive (#3) intersection during peak periods. However, no additional lanes are recommended as the entire corridor experiences congestion during the school drop off and pick up and congestion is minimal during off peak times.

We recommend the Creston Road driveway be limited to left-in, right-in, right-out only. We also recommend a small median in the two-way left turn lane to allow left turns into the site and the driveway across Creston Road but restrict outbound left turns on to Creston Road.

We also recommend the project construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study:

- Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive.
- Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk.
- Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk.
- Replace existing overhead flashing beacons with overhead and pole mounted rectangular rapid flashing beacons (RRFB).

The City's Pedestrian and Bicycle Master Plan includes buffered Class II bike lanes on Creston Road and Class II bike lanes on Rolling Hills Road adjacent to the project site. We recommend the project frontage improvements incorporate the width to accommodate the future Class II facilities.

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1.0 Introduction

This study evaluates the potential transportation impacts of the Rolling Hills residential development located on Creston Road just west of Rolling Hills Road in the City of Paso Robles. The project includes two alternatives including 135 multi-family housing units or 64 single-family housing units. The multi-family alternative would generate more vehicle trips and was analyzed in this report. The project site plan is shown on **Figure 1**.

The following intersections were analyzed during the weekday AM and PM peak hour:

1. Creston Road/Orchard Drive
2. Creston Road/Rolling Hills Road
3. Creston Road/Melody Drive
4. Creston Road/Shopping Center (Williams Plaza)
5. Creston Road/Golden Hill Road
6. Golden Hill Road/Rolling Hills Road

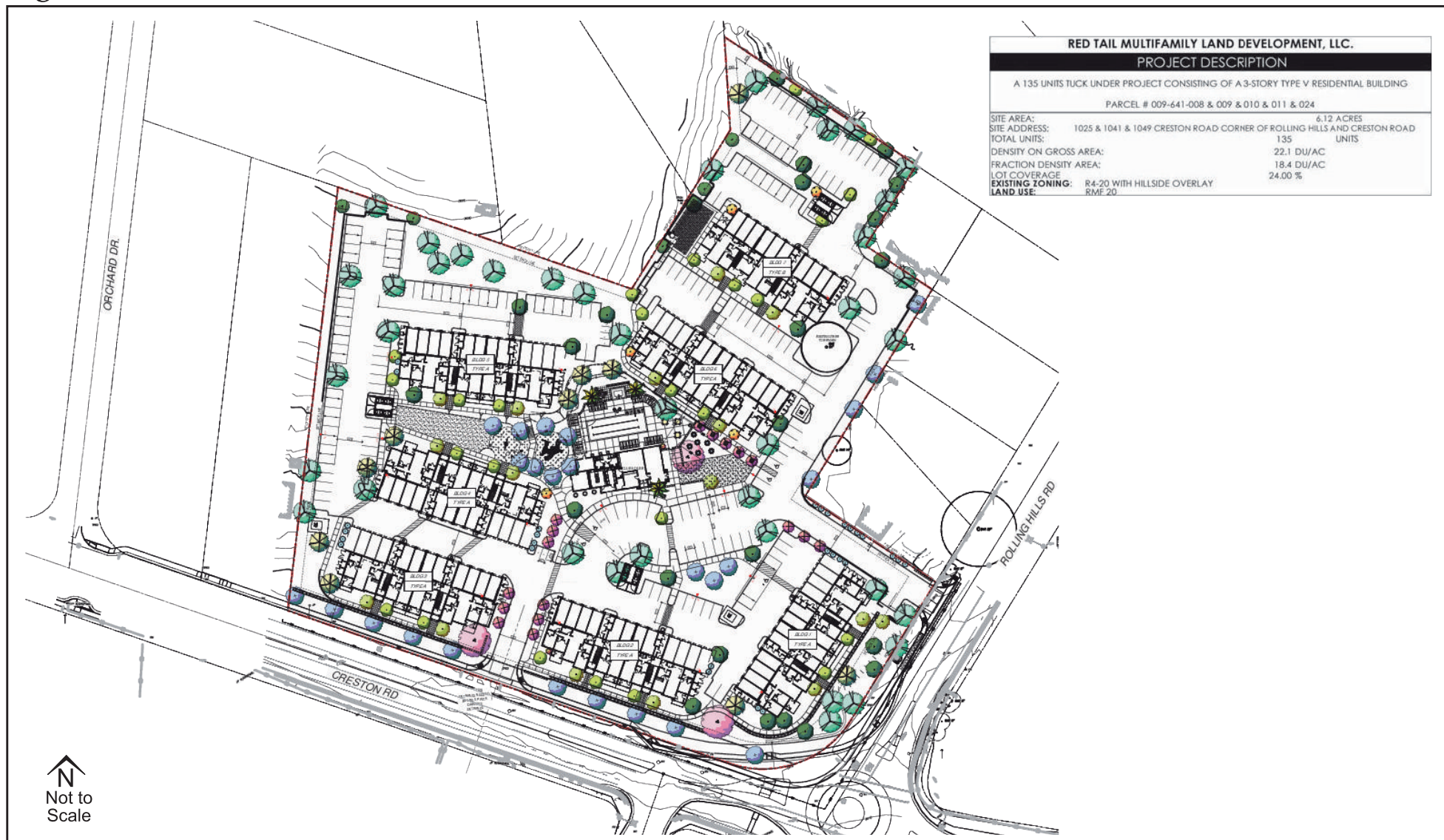
The study locations were evaluated under these scenarios:

- **Existing Conditions** reflect recent traffic counts and the existing transportation network.
- **Existing Plus Project** adds project-generated traffic to Existing Conditions volumes.

Each scenario is described in more detail in the appropriate chapter. The proposed project does not require a General Plan amendment and cumulative analysis is not required.

This study also evaluates vehicle miles traveled (VMT), safety, emergency access, and consistency with regional plans as required under the California Environmental Quality Act (CEQA).

Figure 1: Site Plan



Source: Architects Orange



2.0 CEQA Transportation Analysis

This section presents analysis relevant to the California Environmental Quality Act (CEQA), notably analysis of the existing setting, vehicle miles traveled (VMT), emergency access, and safety.

The City's 2022 Transportation Impact Analysis (TIA) Guidelines Supplement provides VMT and safety thresholds consistent with guidance from the State Office of Planning and Research (OPR). Residential projects may have a significant impact if the residential VMT per capita exceeds 85 percent of the regional average. Residential VMT captures all home-based productions (all trips to and from homes).

Projects may have a significant impact if they exacerbate an existing high-priority or similar safety location, introduce a design feature that substantially increases hazards, or propose features that do not meet City design standards.

2.1 EXISTING CIRCULATION NETWORK

The existing roadways in the project vicinity are described below.

- *Creston Road* is an arterial with two travel lanes, Class II bike lanes, and a sidewalk and parking on the south side adjacent to the project. East of Rolling Hills Road, the roadway transitions to four travel lanes with a sidewalk on both sides, Class II bike lanes, and no on-street parking. The speed limit is 35 miles per hour (MPH) with supplemental 25 MPH school signage.
- *Orchard Drive* is a two-lane local road with minimal striping, no bikeways, and no posted speed limit.
- *Rolling Hills Road* is a two-lane collector with a center left-turn lane and continuous sidewalk on the eastside, and no marked bikeways. The posted speed limit is 40 MPH.
- *Melody Drive* is a two-lane collector with sidewalks on both sides, on-street parking, and no bikeways. The posted speed limit is 25 MPH.
- *Golden Hill Road* is an arterial with three to four travel lanes, a center turn lane, and intermittent sidewalks and Class II bike lanes in the project vicinity. The speed limit is 45 MPH north of Creston Road.

Marked crosswalks and pedestrian signals are provided on all legs of the Creston Road/Melody Drive (#3) and Creston Road/Golden Hill Road (#5) signalized intersections. Additionally, there is an uncontrolled crosswalk on Creston Road at Orchard Drive.

The Paso Express provides fixed route and dial-a-ride transit service for the City of Paso Robles. The fixed route service operates Routes A and B, which run clockwise and counterclockwise, respectively. The stops at the project site are located on Creston Road at the intersection with Melody Drive for both the A and B routes. The San Luis Obispo Regional Transit Authority (RTA) provides regional fixed-route service throughout San Luis Obispo County. Route 9 serves the North County region, providing regional access between San Luis Obispo, Santa Margarita, Atascadero, Templeton, and Paso Robles. The closest stop to the project site is located over a mile away at the Paso Robles transit center at the intersection of Pine Street and 8th Street, which is served on weekdays with hourly service.

2.2 VEHICLE MILES TRAVELED (VMT)

The SLOCOG Travel Demand Model was applied to estimate VMT. The regional average residential VMT per capita is 13.40, and 85 percent of this level corresponds to a threshold of 11.39 residential VMT per capita. The project was added to the SLOCOG model in an existing Traffic Analysis Zone (TAZ) which also includes

existing single family residences. With the project the project TAZ generates 6.22 residential VMT per capita, well below the threshold. The project would have a less-than-significant impact to VMT.

2.3 EMERGENCY ACCESS

The project proposes access at two entryways with one approach from Creston Road and one from Rolling Hills Road. Emergency access is adequate as proposed.

2.4 COLLISIONS

Creston Road/Golden Hill Road (#5) was included in the City's Local Road Safety Plan as a high incident location. There is a pattern of drivers making left-turns failing to yield to oncoming traffic and rear-end collisions from unsafe speeds. Recommendations include:

- Replace or upgrade signal backplates with retroreflective border.
- Upgrade 8" signal heads to 12" signal heads.
- Install near side signal head on east corner luminaire pole
- Install Signal Warning Beacon on southbound Golden Hill Road approach.
- Implement adaptive signal controls with advanced dilemma zone detection.

In addition, we recommend the City review the signal timing including pedestrian, bicycle, yellow, and red clearance intervals.

Collision data was obtained from the Statewide Integrated Traffic Records System (SWITRS) for 2017 through 2021 for the remainder of the unsignalized study intersections as described below.

- Creston Road/Orchard Drive (#1): Four collisions occurred near the intersection, three were rear end due to unsafe speed and one was an auto right of way collision during rainy conditions.
- Creston Road/Rolling Hills Road (#2): Three collisions occurred near the intersection due to an auto right-of-way violation, driving under the influence, and unsafe speed.
- Creston Road/Shopping Center (#4): Two auto right of way collisions occurred near the driveway on Creston Road.
- Golden Hill Road/Rolling Hills Road (#6): Six collisions were reported at the intersection. Four broadside collisions occurred with an eastbound driver on Rolling Hills Road and a southbound driver on Golden Hill Road, one of these was an eastbound driver failing to yield to a southbound cyclist.

At least four or five collisions, susceptible to correction by installation of multi-way stop control, must occur during a 12-month period to meet California Manual on Uniform Traffic Control Devices (CAMUTCD) guidelines for installation.

Twelve collisions occurred near the signalized intersection of Creston Road/Melody Drive (#3). Five broadside collisions occurred due to auto right-of-way violations and four rear end collisions occurred due to unsafe speeds. The westbound left turn phase does not meet the recommendations for protective phasing. Reflective borders, signal timing updates, and video detection should be considered.

Installation of a roundabout at Creston Road/Rolling Hills Road (#2) should reduce collisions at the intersection and slow corridor speeds.

2.5 RTP CONSISTENCY

SLOCOG's 2019 Regional Transportation Plan (RTP) serves as the blueprint for regional development patterns. It includes visions, goals, and policies relevant to the proposed project. These include support for a

mix of housing options in new residential developments and support for infill development near existing transit services and activity centers. The proposed project is on an infill site near goods and services.

2.6 CRESTON ROAD COMPLETE AND SUSTAINABLE STREETS STUDY

The Creston Road Complete and Sustainable Streets Project utilized a community-driven effort to develop a plan for creating a vibrant, pedestrian and bicycle-friendly, green street environment for residents, businesses, and visitors. The plan included the following recommendations:

- Trigo Lane to Orchard Drive:
 - Addition of RRFBs at the crosswalks at Trigo Lane, Ivy Lane, and Orchard Drive
 - Installation of continuous painted bike lanes and crossing lanes
 - Additional and increased pedestrian sidewalk area, mainly around intersections
 - Incorporation of a two-way center turn lane
 - Allocation of on-street parking between Ivy Lane and Orchard Drive
- Orchard Drive to Melody Drive:
 - Addition of a roundabout at Rolling Hills Road and Creston Road intersection
 - Increased sidewalk area around roundabout
 - New pedestrian crosswalks at Rolling Hills Road

With installation of a roundabout at Creston Road/Rolling Hills Road (#2) and the recommended frontage improvements, the project is consistent with the Creston Road Complete and Sustainable Streets Study.

In addition, the proposed roundabout is consistent with the City's Circulation Element.

3.0 Local Transportation Analysis

The remaining sections of this report present additional analysis relevant to City transportation policy.

3.1 DEFICIENCY THRESHOLDS

The City's TIA Guidelines provide criteria for identifying mobility deficiencies reflecting the City's Circulation Element Goals as shown in **Table 1**.

Table 1: City of Paso Robles Mobility Deficiency Criteria

City of Paso Robles Mobility Deficiency Criteria ¹	
Study Element	Deficiency Determination
On-site Circulation and Parking	Project designs fail to meet City or industry standard guidelines, fail to provide adequate truck access, will result in unsafe conditions, or will create parking demand or supply above code requirements.
Pedestrian, Bicycle, Transit Facilities	Project fails to provide safe and accessible connections, conflicts with adopted plans, or adds trips to facility that doesn't meet current design standards.
Traffic Operations	Project causes vehicle queues that exceed turn pocket lengths, increases safety hazards, causes stop-controlled intersection to operate below LOS D and meet signal warrants, or causes vehicle demand greater than the roadway capacity.
1. Summary based on Table 5 of City's Transportation Impact Study Guidelines.	

3.2 EXISTING TRAFFIC VOLUMES

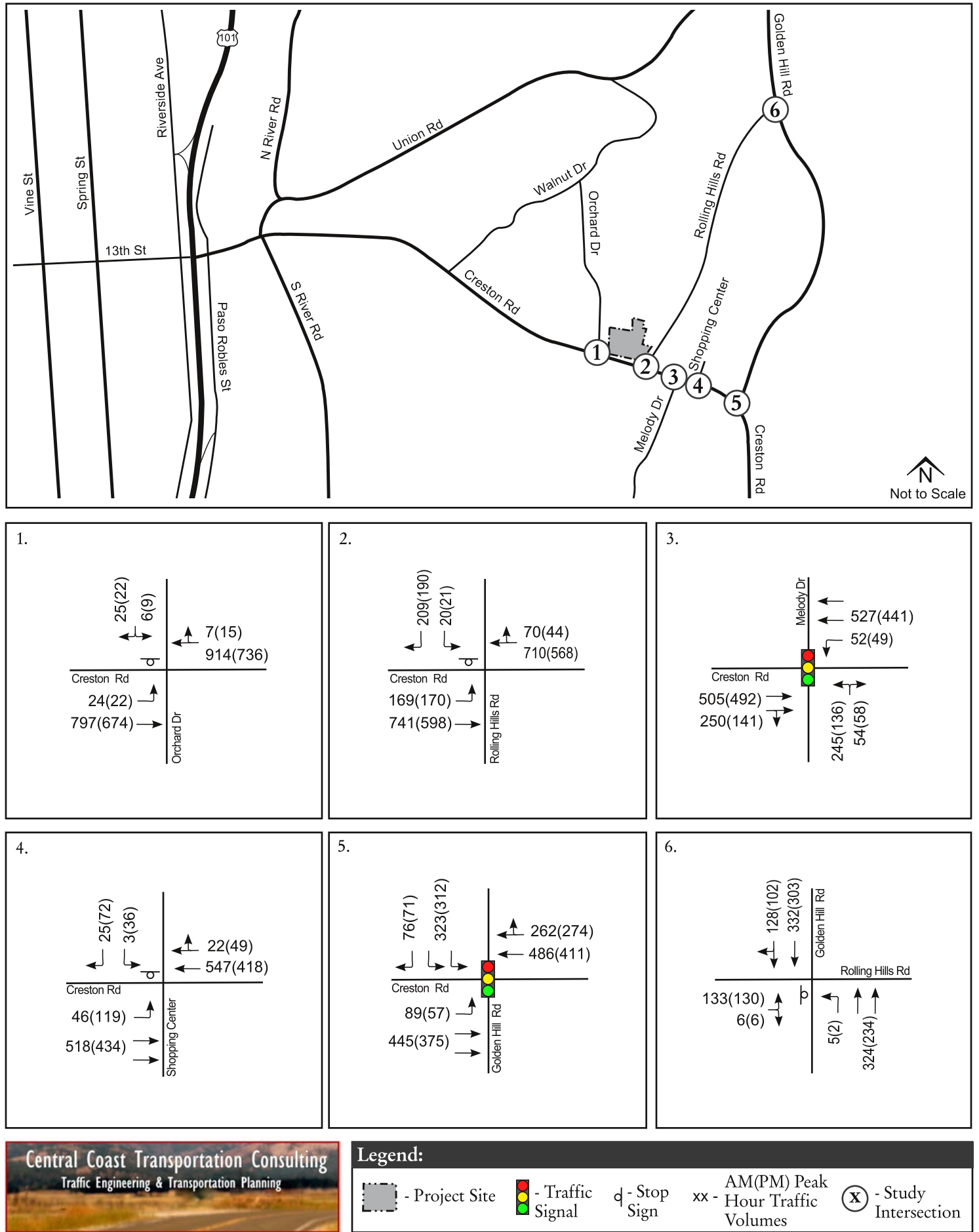
Intersection turning movement counts were collected at the study intersections in August 2022 during the weekday AM and PM peak hours when local schools were in session. The existing intersection volumes and lane configurations are shown in **Figure 2**. The traffic count data sheets are included as **Appendix A**.

The Creston Road corridor currently experiences congestion during the school pick up and drop off periods.

Intersection operations are discussed in detail under the Existing Plus Project Conditions section of this report.

Figure 2: Existing Volumes and Lane Configurations

IS/MND Attachment 8



3.3 EXISTING PLUS PROJECT CONDITIONS

This section evaluates the effects of the proposed project on the surrounding transportation network. The amount of project traffic affecting the study locations is estimated in three steps: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of trips generated by the site. Trip distribution identifies the general origins and destination of these trips, and trip assignment specifies the routes taken to reach these origins and destinations.

3.3.1 Project Trips

Project trip generation was estimated using data from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* 11th Edition as shown in **Table 2**.

Table 2: Project Trip Generation

Project Trip Generation								
Land Use	Size	Daily Total	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing ¹	135 DU	941	15	50	65	50	29	79
Net New Vehicle Trips		941	15	50	65	50	29	79
Use. 1. ITE LU Code #220, Multi-Family (Low-Rise). Fitted curve equations used. Source: ITE Trip Generation Manual, 11th Edition.								

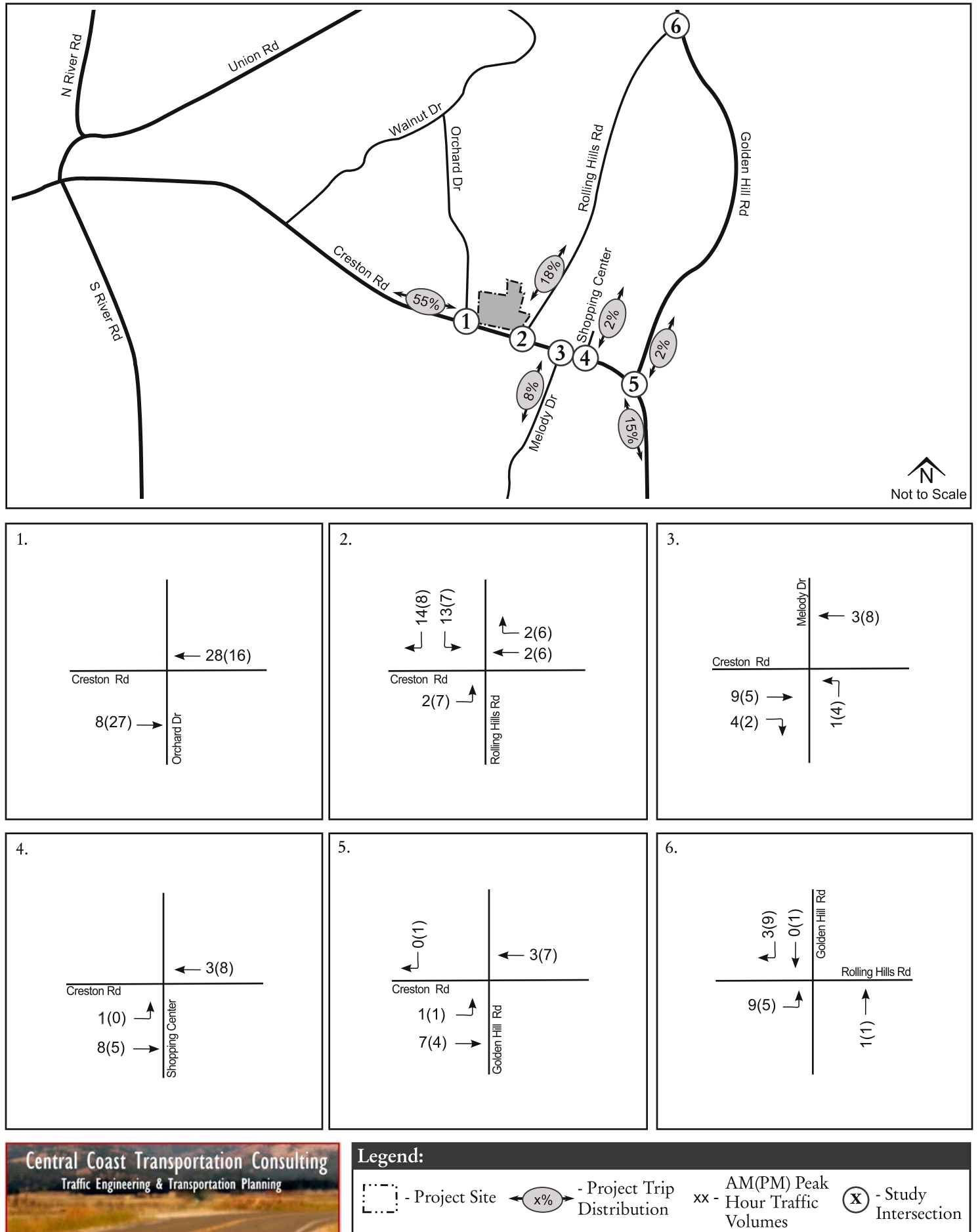
The project is estimated to generate 941 trips per weekday, including 65 trips during the AM peak hour and 79 trips during the PM peak hour. Project trip distribution and assignment was derived using the SLOCOG model and is shown on **Figure 3**.

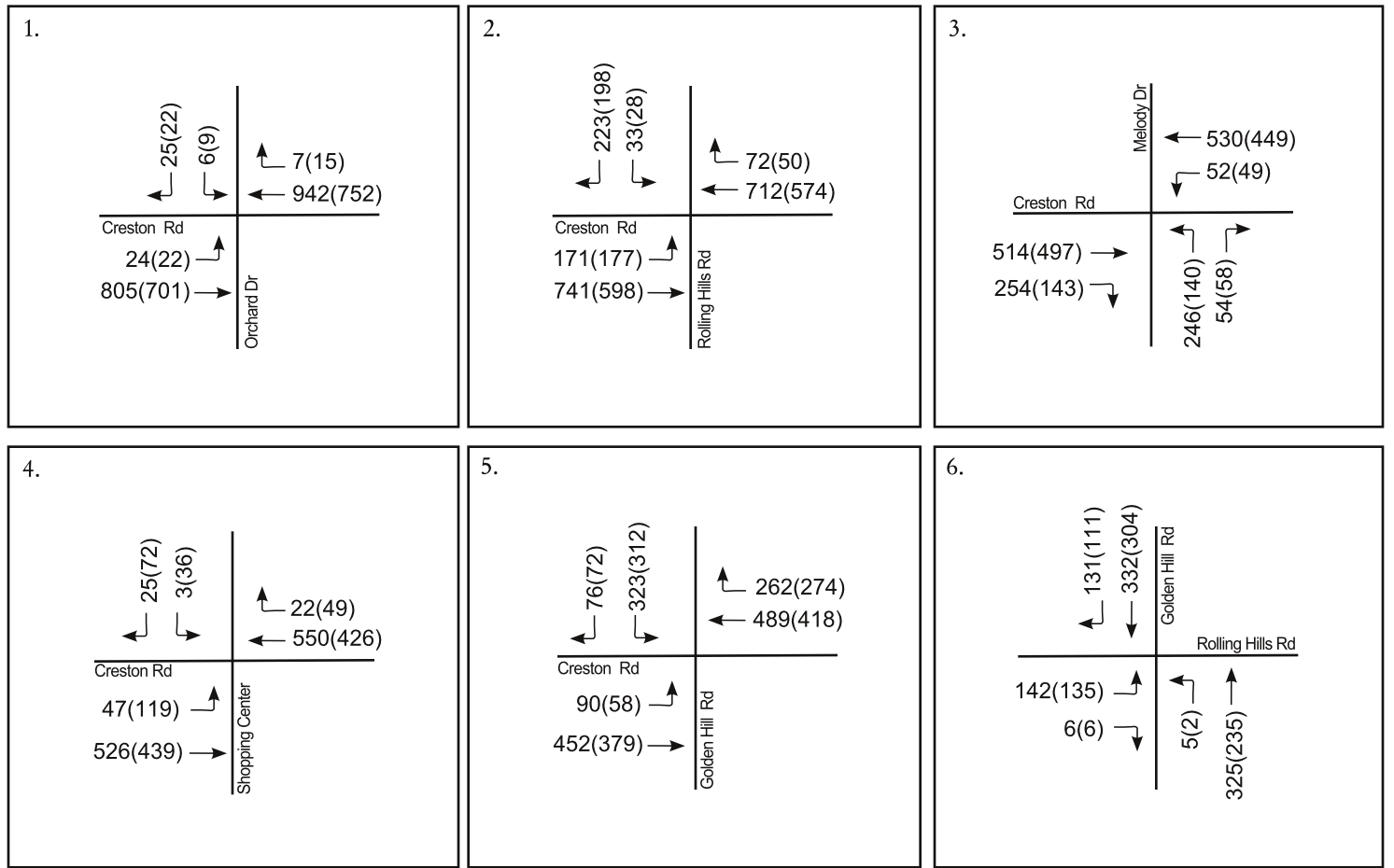
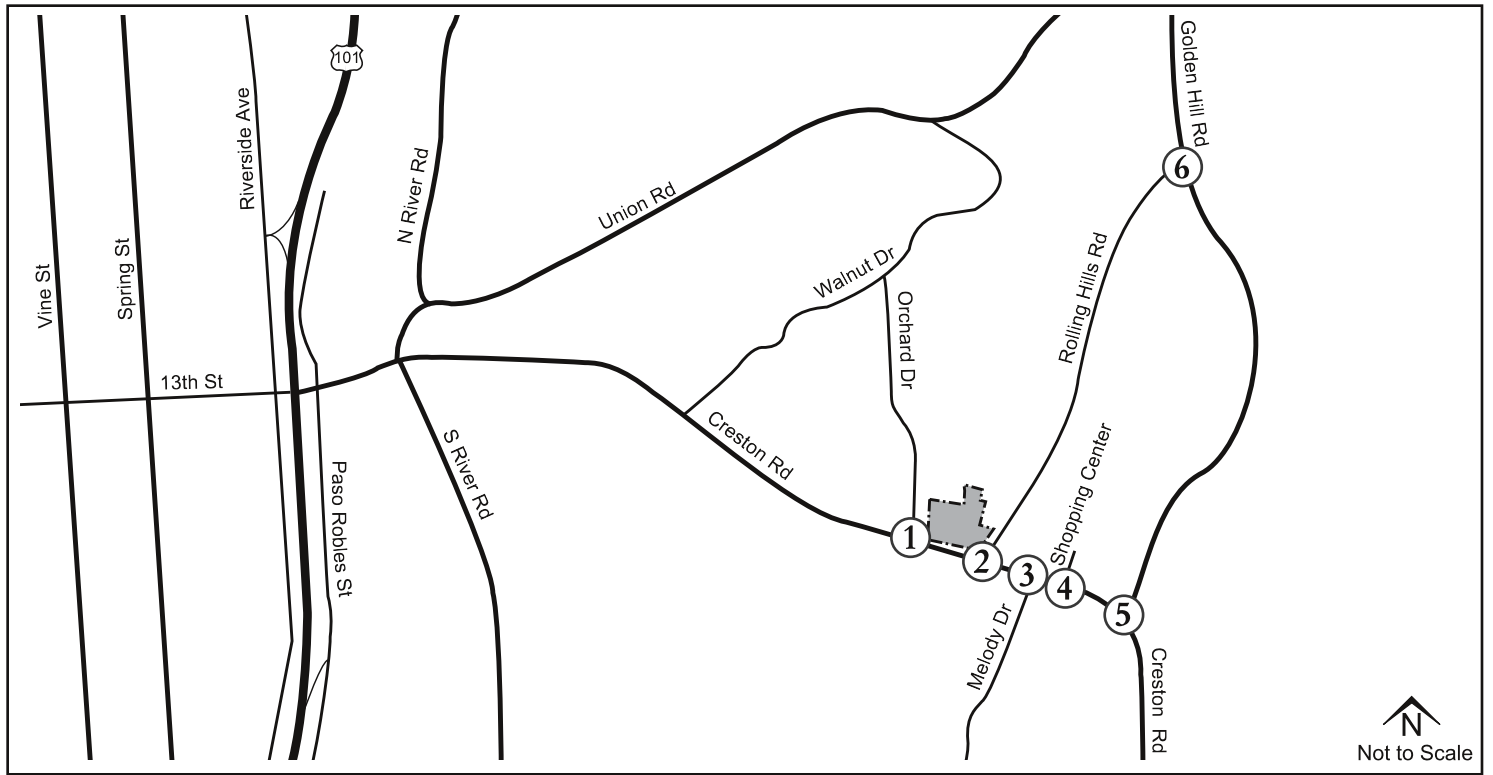
3.3.2 Existing Plus Project Intersection Operations

The study intersections were analyzed using Synchro 11 and the Highway Capacity Manual (HCM) 6 edition methodology. **Table 3** presents the LOS for the study intersections under Existing and Existing Plus Project Conditions and **Table 4** summarizes the key queues. Existing Plus Project volume are shown on **Figure 4**. Detailed calculation sheets are included in **Appendix B**. Note that the project proposes a single-lane roundabout at the Creston Road/Rolling Hills Road (#2) intersection, but it was evaluated under its current stop-control in the following tables.

Figure 3: Project Trip Distribution and Assignment

IS/MND Attachment 8





Central Coast Transportation Consulting

Traffic Engineering & Transportation Planning

Legend:

- Project Site

xx

 - AM(PM) Peak Hour Traffic Volumes

- Study Intersection

Table 3: Existing Weekday Plus Project Intersection Levels of Service

Existing and Existing Plus Project Levels of Service					
Intersection	Peak Hour	Existing		Existing + Project	
		Delay ¹	LOS	Delay ¹	LOS
1. Creston Rd/ Orchard Dr	AM	0.5(21.9)	-(C)	0.5(22.6)	-(C)
	PM	0.5(16.7)	-(C)	0.5(17.1)	-(C)
2. Creston Rd/ Rolling Hills Rd	AM	6(41.7)	-(E)	8.9(60.3)	-(F)
	PM	4.5(26.2)	-(D)	5.4(30.6)	-(D)
3. Creston Rd/ Melody Dr	AM	8.4	A	8.4	A
	PM	5.8	A	5.9	A
4. Creston Rd/ Shopping Center	AM	0.7(12.1)	-(B)	0.7(12.2)	-(B)
	PM	2.4(15.5)	-(C)	2.4(15.7)	-(C)
5. Creston Rd/ Golden Hill Rd	AM	19.3	B	19.3	B
	PM	15.3	B	15.2	B
6. Golden Hill Rd/ Rolling Hills Rd	AM	2.4(15.7)	-(C)	2.6(16.1)	-(C)
	PM	2.6(14.5)	-(B)	2.6(14.7)	-(B)
<p>1. HCM 6th average control delay in seconds per vehicle. For two-way stop controlled (TWSC) intersections the worst approach's delay is reported in parentheses next to the overall delay. HCM 2000 used for yield controlled intersections.</p> <p>2. Intersection was assumed to be two-way stop controlled under project conditions.</p> <p>Unacceptable operations shown in bold text.</p>					

Table 4: Existing Weekday Plus Project Intersection Queues

Existing and Existing Plus Project Intersection Queues					
Intersection	Movement	Storage Length (ft)	Peak Hour	95th percentile Queue	
				Existing	Existing+Project
1. Creston Rd/Orchard Dr	SBL/R	-	AM	13	13
			PM	8	8
2. Creston Rd/Rolling Hills Rd	SBL	-	AM	45	83
			PM	33	48
	SBR	100	AM	108	125
			PM	65	73
3. Creston Rd/Melody Dr	WBL	115	AM	33	33
			PM	30	30
4. Creston Rd/Shopping Center	SBL	200	AM	3	3
			PM	18	18
	SBR	60	AM	3	3
			PM	10	10
5. Creston Rd/Golden Hill Rd	EBL	125	AM	133	134
			PM	84	85
6. Golden Hill Rd/Rolling Hills Rd	EB	-	AM	35	38
			PM	30	33
1. Queue length in feet that would not be exceeded 95 percent of the time. # 95th percentile volume exceeds capacity, queue may be longer. m Volume for 95th percentile queue is metered by upstream signal. Bold indicates queue length longer than storage length.					

The following City intersections operate below LOS D or show queue deficiencies:

- Creston Road/Rolling Hills Road (#2): During the AM peak hour, the intersection operates at LOS E without the project and LOS F with the project and the current side-street-stop control. In addition, the southbound right turn queue exceeds the turn pocket length under Existing Conditions with and without the project during the AM peak hour. Modifying the intersection to a single lane roundabout as proposed by the project would improve operations to LOS C or better during both peak hours and eliminate queue deficiencies. A traffic signal is warranted under Existing Conditions and would also operate acceptably with acceptable queues with an additional westbound approach lane. The roundabout is preferred in the Creston Corridor Plan. The signal warrant is included in **Appendix C**.
- Creston Road/Golden Hill Road (#5): The eastbound left turn queue exceeds the turn pocket length under Existing Conditions with and without the project during the AM peak hour. The project would exacerbate the queue by less than one vehicle and the impact would be less than significant. Additional storage is also available in the bay taper to accommodate the queues.

Although analysis of Cumulative Conditions was not required in this report, operations at Creston Road/Rolling Hills Road (#2) were estimated to determine future right-of-way needs. Under Cumulative Conditions, westbound queues would be expected to reach or exceed the Creston Road/Melody Drive (#3)

intersection during peak periods. However, no additional lanes are recommended as the entire corridor experiences congestion during the school drop off and pick up and congestion is minimal during off peak times.

3.4 SITE ACCESS AND ON-SITE CIRCULATION

The American Association of State Highway and Transportation Officials (AASHTO) states that, “ideally, driveways should not be located within the functional area of an intersection or the influence area of an adjacent driveway.” In addition, the City’s Circulation Element calls for limited access on arterial roadways consistent with access management best practices.

The project proposes a driveway on Creston Road and a driveway on Rolling Hills Road. We recommend full access at the Rolling Hills Road driveway. We recommend the Creston Road driveway be limited to left-in, right-in, right-out. Additional uncontrolled left turns to Creston Road are not recommended consistent with access management best practices. To accommodate left turns into the site on Creston Road and reduce conflicts points on the corridor, a short median in the two-way left turn lane is recommended. The median would allow left turns into the site and the driveway across Creston Road but would restrict outbound left turns.

We also recommend the project construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study to provide an accessible connection to area schools:

- Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive.
- Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk.
- Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk.
- Replace existing overhead flashing beacons at Orchard Drive with overhead and pole mounted rectangular rapid flashing beacons (RRFB).

The study also contained a median in the two-way left turn lane at the Orchard Drive crosswalk. We do not recommend installing the median to continue to allow for two-stage gap acceptance for southbound left turn drivers at Orchard Drive.

The City’s Pedestrian and Bicycle Master Plan includes buffered Class II bike lanes on Creston Road and Class II bike lanes on Rolling Hills Road adjacent to the project site. We recommend the project frontage improvements incorporate the width to accommodate the future Class II facilities.

4.0 References

- American Association of State Highway and Transportation Officials (AASHTO). 2018. A Policy on Geometric Design.
- California Department of Transportation. May 2020. Vehicle Miles Traveled-Focused Transportation Impact Study Guide.
- _____. 2020. Highway Design Manual.
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- _____. 2013. Transportation Impact Analysis Guidelines.
- _____. 2022. Transportation Impact Analysis Guidelines Supplement.
- Institute of Transportation Engineers (ITE). 2021. Trip Generation Manual, 11th Edition.
- San Luis Obispo Council of Governments. 2019. Regional Transportation Plan.
- The Natelson Company, Inc. 2001. Employment Density Study Summary Report.
- Transportation Research Board. 2016. Highway Capacity Manual, 6th Edition.

Appendix A: Traffic Counts



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800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Orchard Dr @ Creston Rd

LATITUDE 35.6242

COUNTY San Luis Obispo

LONGITUDE -120.6667

COLLECTION DATE Thursday, August 25, 2022

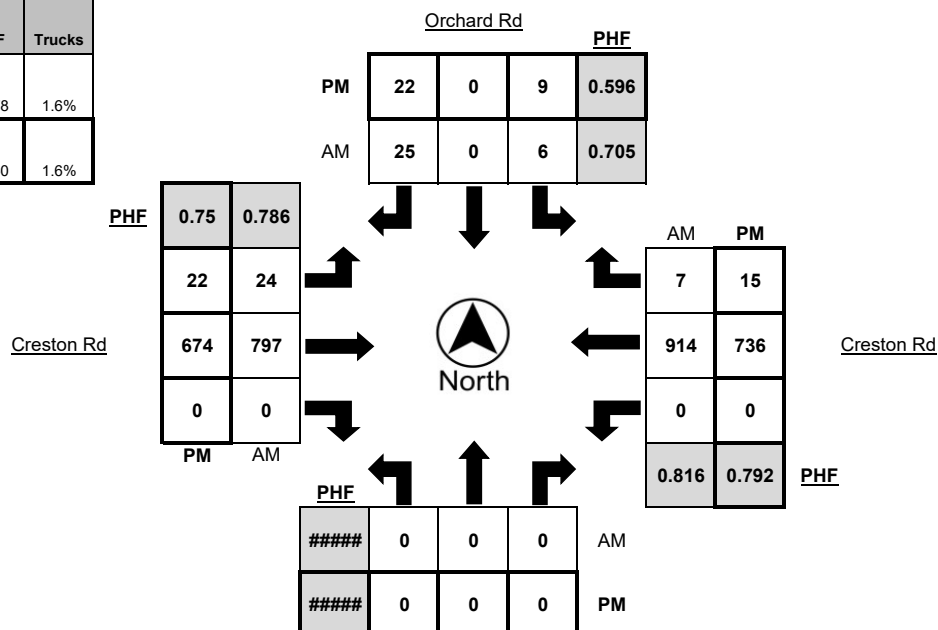
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	0	0	1	0	0	0	0	65	0	7	0	98	2	3
7:15 AM - 7:30 AM	0	0	0	0	2	0	3	0	0	102	0	0	0	168	2	2
7:30 AM - 7:45 AM	0	0	0	0	2	0	5	0	1	192	0	3	0	281	1	1
7:45 AM - 8:00 AM	0	0	0	0	1	0	10	0	8	219	0	5	0	236	1	4
8:00 AM - 8:15 AM	0	0	0	0	1	0	6	0	13	248	0	2	0	233	4	9
8:15 AM - 8:30 AM	0	0	0	0	2	0	4	0	2	138	0	2	0	164	1	2
8:30 AM - 8:45 AM	0	0	0	0	1	0	2	0	3	86	0	5	0	128	0	3
8:45 AM - 9:00 AM	0	0	0	0	2	0	1	0	1	87	0	3	0	116	2	5
TOTAL	0	0	0	0	12	0	31	0	28	1137	0	27	0	1424	13	29

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
2:00 PM - 2:15 PM	0	0	0	0	3	0	2	1	1	120	0	3	0	118	2	0
2:15 PM - 2:30 PM	0	0	0	0	2	0	3	0	1	121	0	1	0	152	2	2
2:30 PM - 2:45 PM	0	0	0	0	1	0	4	0	3	135	0	0	0	233	4	5
2:45 PM - 3:00 PM	0	0	0	0	4	0	7	1	8	153	0	0	0	204	4	2
3:00 PM - 3:15 PM	0	0	0	0	2	0	11	0	9	223	0	4	0	141	3	3
3:15 PM - 3:30 PM	0	0	0	0	2	0	0	0	2	163	0	2	0	158	4	7
3:30 PM - 3:45 PM	0	0	0	0	0	0	2	0	4	178	0	2	0	174	5	2
3:45 PM - 4:00 PM	0	0	0	0	1	0	4	0	2	182	0	1	0	205	0	2
4:00 PM - 4:15 PM	0	0	0	0	1	0	3	0	4	175	0	2	0	154	3	1
4:15 PM - 4:30 PM	0	0	0	0	5	0	1	0	3	177	0	4	0	165	1	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	162	0	0	0	178	1	2
4:45 PM - 5:00 PM	0	0	0	0	3	0	2	0	3	186	0	1	0	141	2	2
5:00 PM - 5:15 PM	0	0	0	0	1	0	1	0	1	160	0	2	0	173	4	0
5:15 PM - 5:30 PM	0	0	0	0	5	0	1	0	2	183	0	1	0	152	4	0
5:30 PM - 5:45 PM	0	0	0	0	2	0	2	0	2	140	0	1	0	134	3	1
5:45 PM - 6:00 PM	0	0	0	0	1	0	0	0	1	151	0	0	0	116	4	0
TOTAL	0	0	0	0	33	0	43	2	46	2609	0	24	0	2598	46	29

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	6	0	25	0	24	797	0	12	0	914	7	16
2:30 PM - 3:30 PM	0	0	0	0	9	0	22	1	22	674	0	6	0	736	15	17

	PHF	Trucks
AM	0.878	1.6%
PM	0.950	1.6%





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LONGITUDE -120.6667

COLLECTION DATE Thursday, August 25, 2022

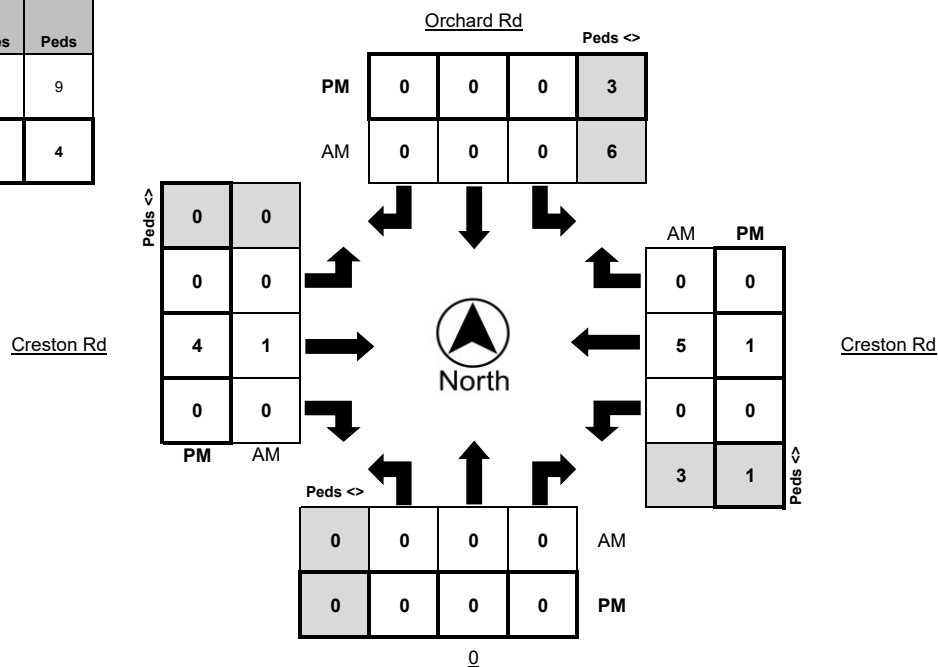
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
7:45 AM - 8:00 AM	0	0	0	2	0	0	0	0	0	0	0	2	0	3	0	0
8:00 AM - 8:15 AM	0	0	0	4	0	0	0	0	0	1	0	1	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	0	0	0	8	0	0	0	0	0	2	0	3	0	7	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
2:00 PM - 2:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:00 PM - 3:15 PM	0	0	0	3	0	0	0	0	0	4	0	1	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	12	0	0	0	0	0	5	0	3	0	1	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	6	0	0	0	0	0	1	0	3	0	5	0	0
2:30 PM - 3:30 PM	0	0	0	3	0	0	0	0	0	4	0	1	0	1	0	0

	Bikes	Peds
AM Peak Total	6	9
PM Peak Total	5	4





Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
 Hanford, CA 93230
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 www.metrotraffdata.com

Turning Movement Report

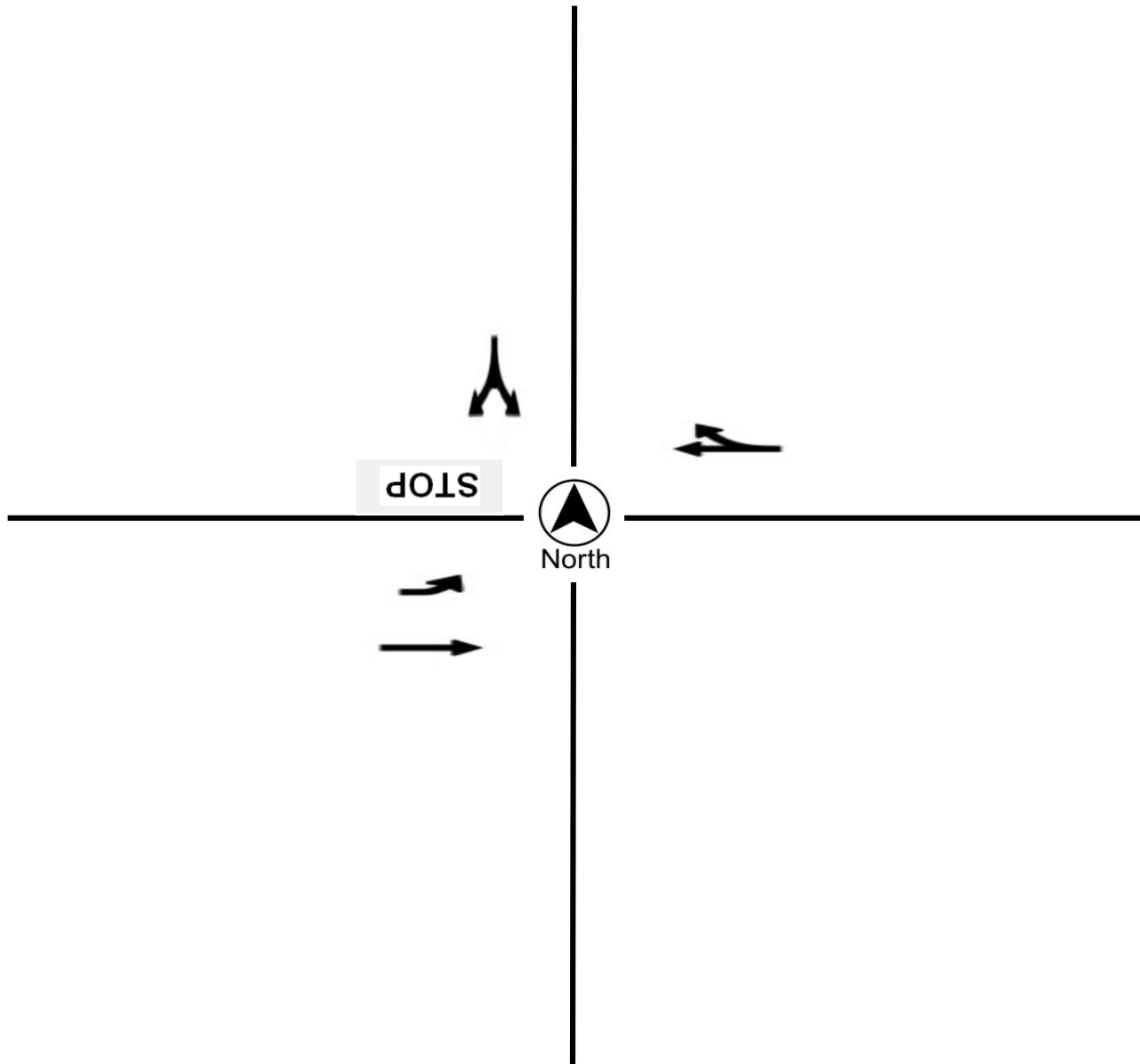
Prepared For:

Central Coast Transportation Consulting
 895 Napa Avenue, Suite A-6
 Morro Bay, CA 93442

LOCATION Orchard Dr @ Creston Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME N/A

N/S STREET Orchard Rd
E/W STREET Creston Rd
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS





Metro Traffic Data Inc.
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Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Rolling Hills Rd @ Creston Rd

LATITUDE 35.6235

COUNTY San Luis Obispo

LONGITUDE -120.6641

COLLECTION DATE Thursday, August 25, 2022

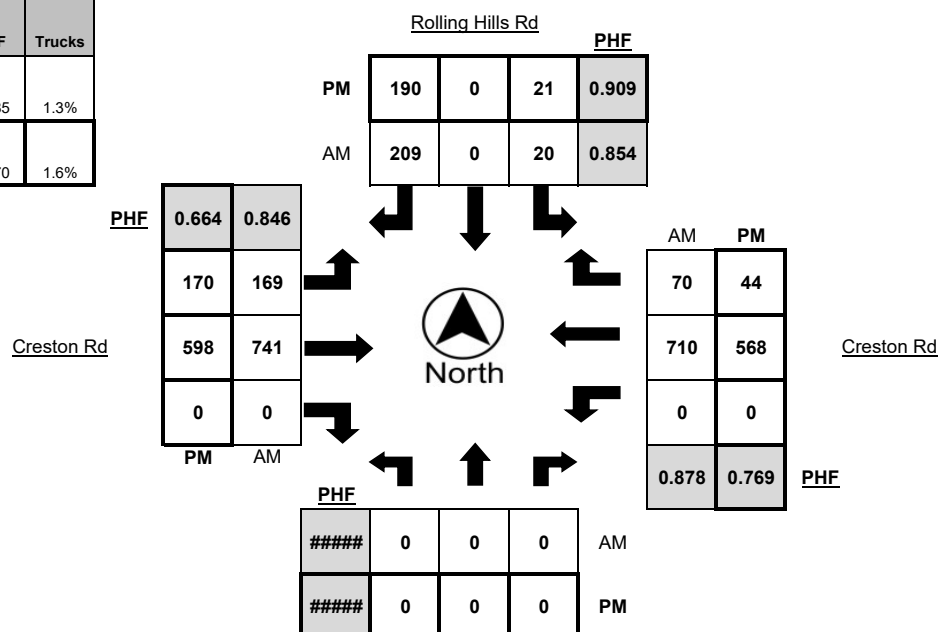
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	0	0	6	0	34	0	14	58	0	5	0	73	10	3
7:15 AM - 7:30 AM	0	0	0	0	5	0	44	0	17	86	0	2	0	123	2	2
7:30 AM - 7:45 AM	0	0	0	0	4	0	63	0	37	183	0	3	0	216	6	2
7:45 AM - 8:00 AM	0	0	0	0	4	0	58	0	35	234	0	5	0	186	18	4
8:00 AM - 8:15 AM	0	0	0	0	8	0	49	1	53	214	0	2	0	186	32	4
8:15 AM - 8:30 AM	0	0	0	0	4	0	39	0	44	110	0	2	0	122	14	1
8:30 AM - 8:45 AM	0	0	0	0	3	0	25	1	12	72	0	5	0	102	4	2
8:45 AM - 9:00 AM	0	0	0	0	6	0	29	0	62	62	0	3	0	90	8	4
TOTAL	0	0	0	0	40	0	341	2	239	1019	0	27	0	1098	94	22

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
2:00 PM - 2:15 PM	0	0	0	0	4	0	30	0	23	100	0	5	0	91	8	0
2:15 PM - 2:30 PM	0	0	0	0	4	0	29	0	28	98	0	1	0	134	3	2
2:30 PM - 2:45 PM	0	0	0	0	3	0	46	0	23	110	0	0	0	191	8	5
2:45 PM - 3:00 PM	0	0	0	0	5	0	53	1	37	137	0	1	0	169	5	1
3:00 PM - 3:15 PM	0	0	0	0	9	0	46	0	72	217	0	4	0	95	18	6
3:15 PM - 3:30 PM	0	0	0	0	4	0	45	0	38	134	0	2	0	113	13	6
3:30 PM - 3:45 PM	0	0	0	0	7	0	32	0	50	123	0	2	0	148	16	1
3:45 PM - 4:00 PM	0	0	0	0	2	0	41	0	58	136	0	1	0	167	1	2
4:00 PM - 4:15 PM	0	0	0	0	6	0	28	0	51	130	0	1	0	125	8	0
4:15 PM - 4:30 PM	0	0	0	0	5	0	41	0	40	142	0	5	0	126	6	0
4:30 PM - 4:45 PM	0	0	0	0	5	0	49	0	44	118	0	2	0	131	9	2
4:45 PM - 5:00 PM	0	0	0	0	7	0	48	0	43	145	0	2	0	99	7	2
5:00 PM - 5:15 PM	0	0	0	0	7	0	55	0	43	126	0	2	0	117	12	0
5:15 PM - 5:30 PM	0	0	0	0	6	0	44	0	41	144	0	1	0	115	5	0
5:30 PM - 5:45 PM	0	0	0	0	7	0	37	0	32	111	0	1	0	102	10	2
5:45 PM - 6:00 PM	0	0	0	0	4	0	28	0	34	120	0	0	0	87	13	0
TOTAL	0	0	0	0	85	0	652	1	657	2091	0	30	0	2010	142	29

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	20	0	209	1	169	741	0	12	0	710	70	11
2:30 PM - 3:30 PM	0	0	0	0	21	0	190	1	170	598	0	7	0	568	44	18

	PHF	Trucks
AM	0.885	1.3%
PM	0.870	1.6%





Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Rolling Hills Rd @ Creston Rd

LATITUDE 35.6235

COUNTY San Luis Obispo

LONGITUDE -120.6641

COLLECTION DATE Thursday, August 25, 2022

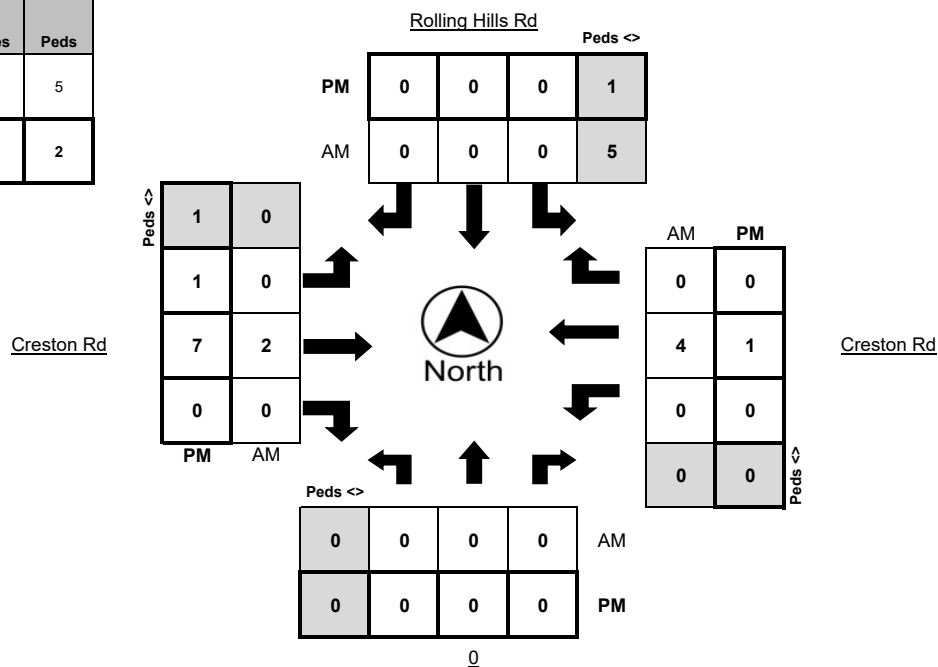
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
7:45 AM - 8:00 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0
8:00 AM - 8:15 AM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	0	0	0	5	0	0	1	0	0	3	0	0	0	5	0	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
2:00 PM - 2:15 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	2	0	0	0	0	0	1	0	2	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	8	1	0	0	0	1	9	0	3	0	2	0	1

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	5	0	0	0	0	0	2	0	0	0	4	0	0
2:30 PM - 3:30 PM	0	0	0	1	0	0	0	0	1	7	0	0	0	1	0	1

	Bikes	Peds
AM Peak Total	6	5
PM Peak Total	9	2



Turning Movement Report



Metro Traffic Data Inc.
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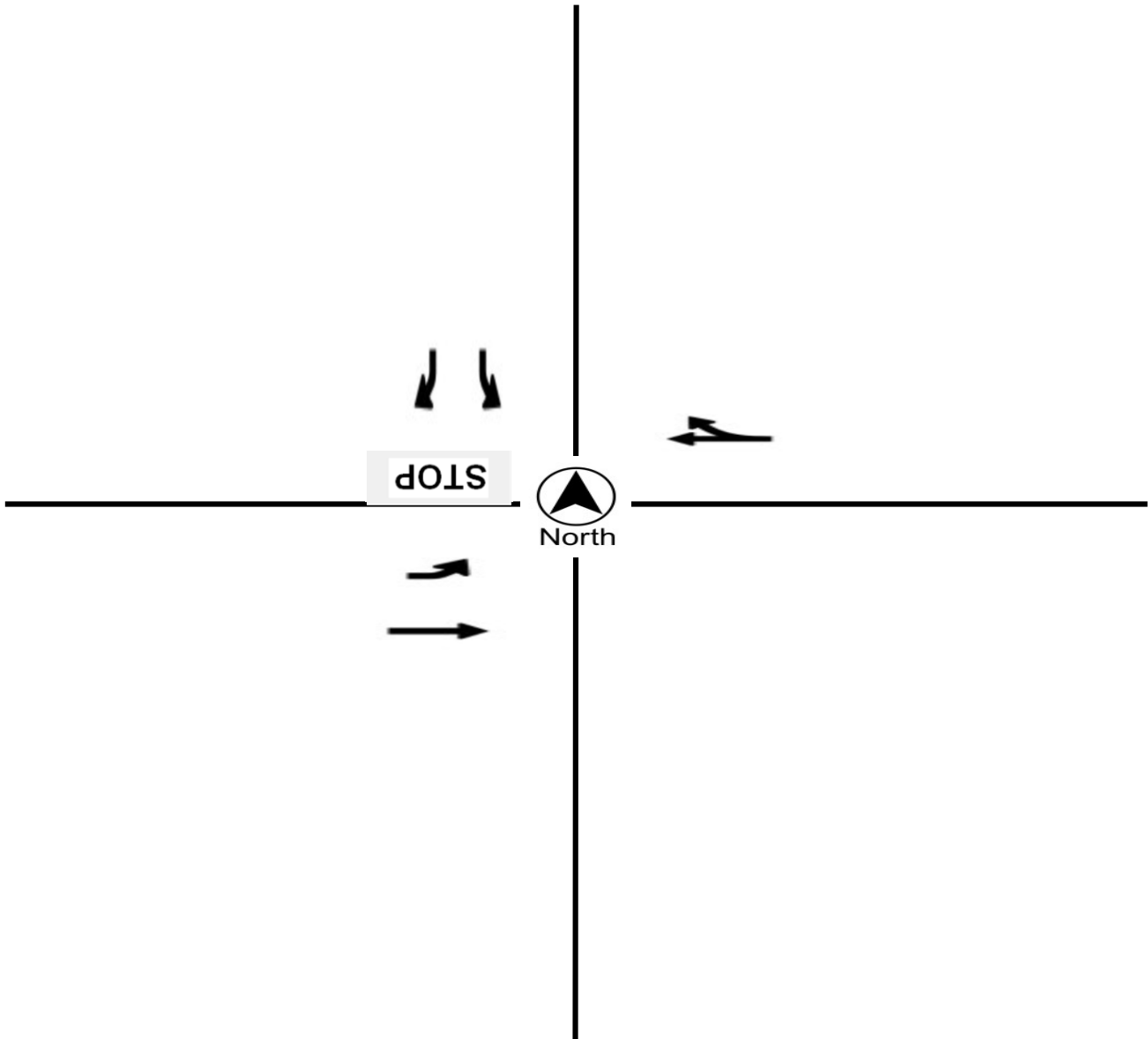
Prepared For:

Central Coast Transportation Consulting
 895 Napa Avenue, Suite A-6
 Morro Bay, CA 93442

LOCATION Rolling Hills Rd @ Creston Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME N/A

N/S STREET Rolling Hills Rd
E/W STREET Creston Rd
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS



Turning Movement Report

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

WEATHER Clear

The diagram illustrates the traffic flow at the intersection of Creston Rd and Melody Dr. A central circle with a north arrow indicates the orientation. Arrows show the flow of traffic for each approach. Traffic counts and PHF values are provided for each approach during AM and PM peak hours.

Top Approach (Creston Rd):

Direction	PHF	0.706	0.78
AM	0	0	0
PM	492	505	141

Left Approach (Melody Dr):

Direction	PHF	0.84	245	0	54
AM	0.622	136	0	58	

Right Approach (Creston Rd):

Direction	PHF	0.842	0.833
AM	0	0	0
PM	527	441	52

Bottom Approach (Melody Dr):

Direction	PHF	0.84	245	0	54
AM	0.622	136	0	58	



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Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Melody Dr @ Creston Rd

LATITUDE 35.6232

COUNTY San Luis Obispo

LONGITUDE -120.6627

COLLECTION DATE Thursday, August 25, 2022

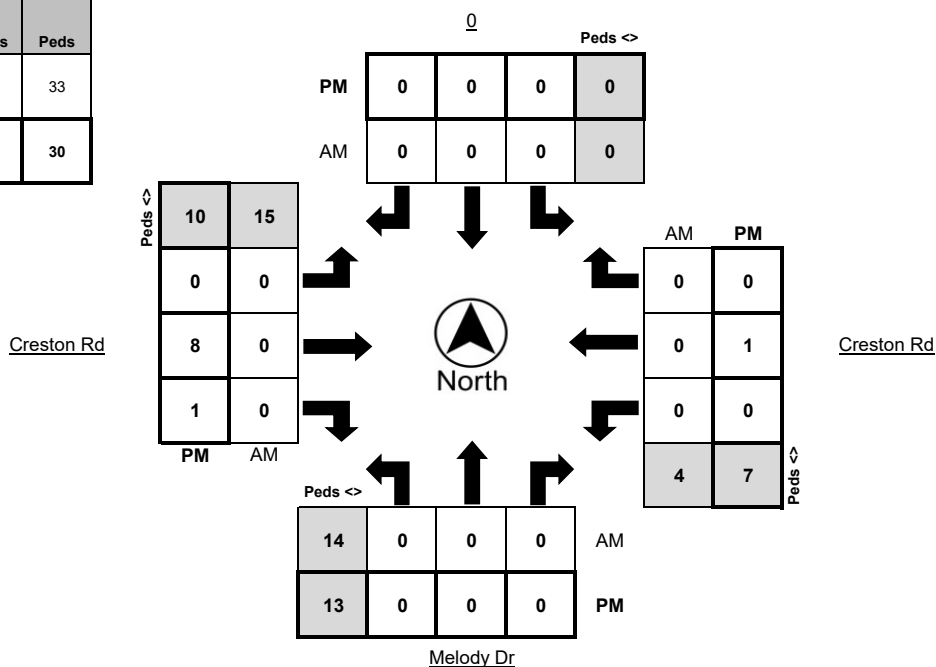
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	3
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	5
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	10	0	0	0	2	0	0	0	3
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	7
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
TOTAL	0	0	0	0	0	0	0	17	0	0	1	7	0	0	0	20

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	12	0	8	0	0	0	0	0	10
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	4
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	1	0	0	0	0	18	0	9	2	11	1	2	0	21

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	14	0	0	0	4	0	0	0	15
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	13	0	8	1	7	0	1	0	10

	Bikes	Peds
AM Peak Total	0	33
PM Peak Total	10	30





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Turning Movement Report

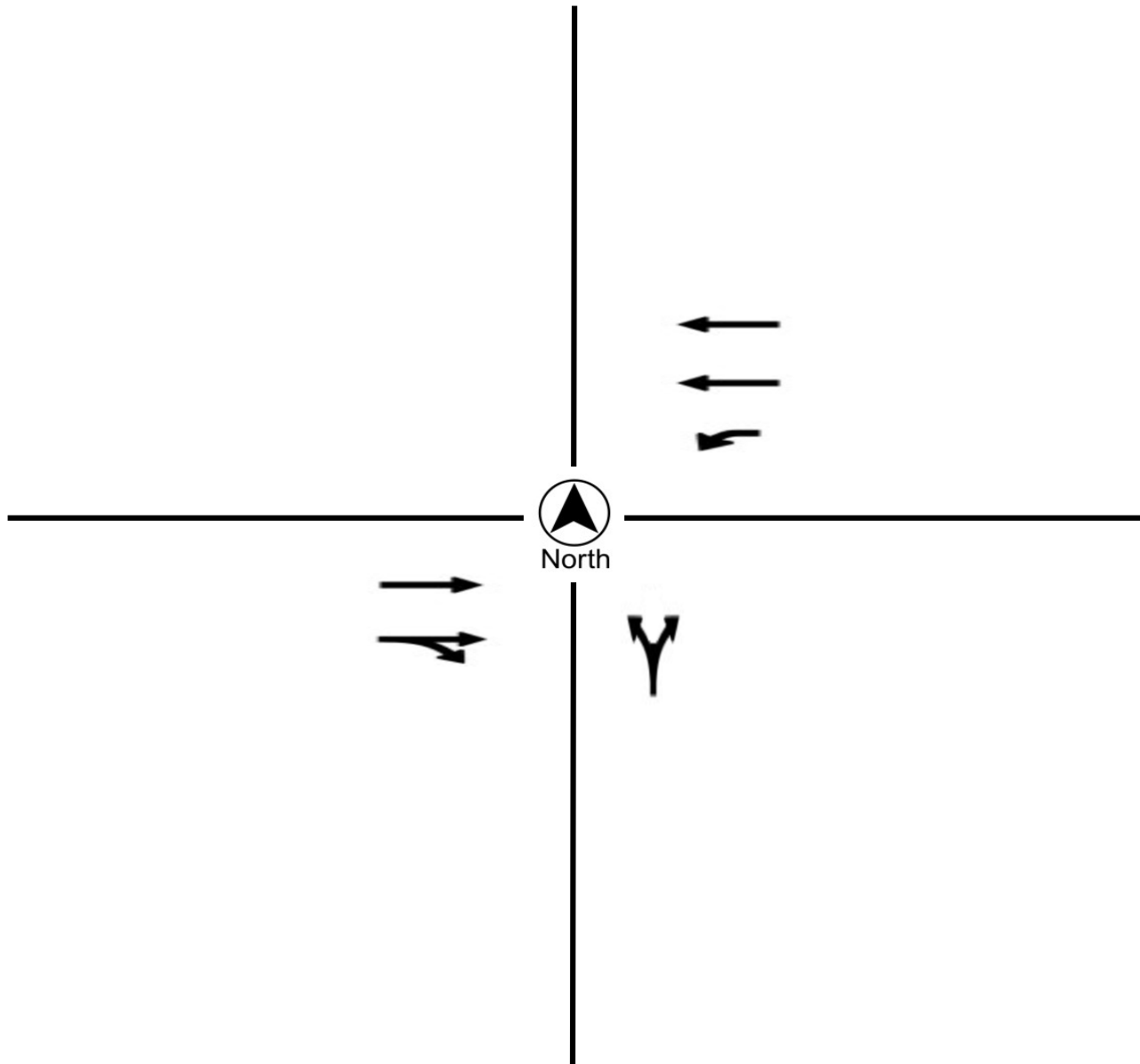
Prepared For:

Central Coast Transportation Consulting
 895 Napa Avenue, Suite A-6
 Morro Bay, CA 93442

LOCATION Melody Dr @ Creston Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME 37 Seconds

N/S STREET Melody Dr
E/W STREET Creston Rd
WEATHER Clear
CONTROL TYPE Signal

COMMENTS Westbound left turns are permitted.





Metro Traffic Data Inc.
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Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Shopping Center @ Creston Rd

LATITUDE 35.6230

COUNTY San Luis Obispo

LONGITUDE -120.6615

COLLECTION DATE Thursday, August 25, 2022

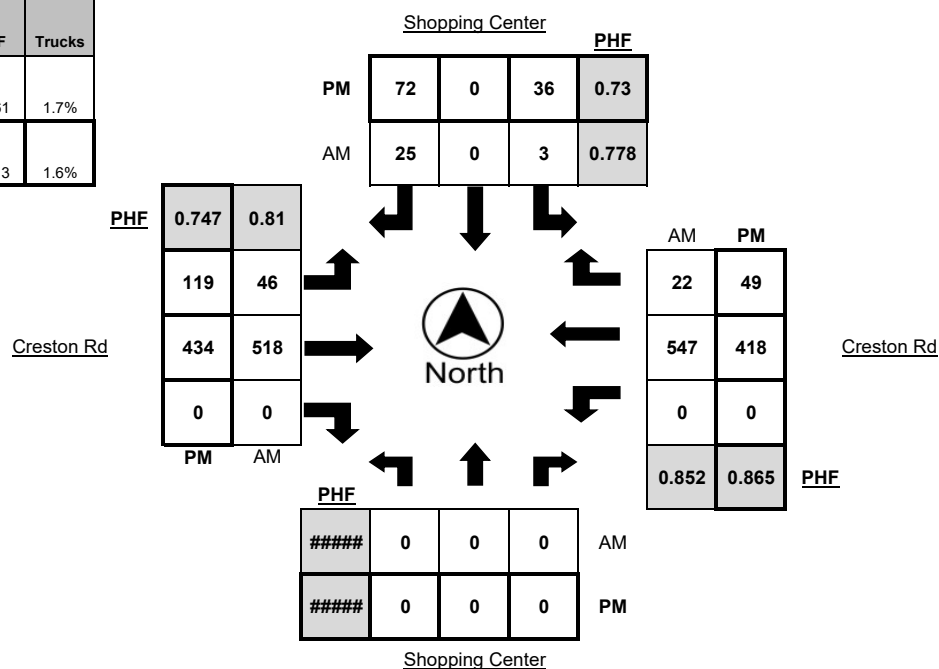
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	0	0	1	0	3	0	6	58	0	5	0	65	5	2
7:15 AM - 7:30 AM	0	0	0	0	1	0	10	0	4	66	0	1	0	112	2	1
7:30 AM - 7:45 AM	0	0	0	0	2	0	4	0	6	117	0	2	0	166	1	2
7:45 AM - 8:00 AM	0	0	0	0	1	0	8	0	15	159	0	4	0	147	7	2
8:00 AM - 8:15 AM	0	0	0	0	0	0	4	0	15	151	0	2	0	143	9	5
8:15 AM - 8:30 AM	0	0	0	0	0	0	9	0	10	91	0	2	0	91	5	1
8:30 AM - 8:45 AM	0	0	0	0	1	0	8	0	10	61	0	4	0	86	11	2
8:45 AM - 9:00 AM	0	0	0	0	4	0	4	0	14	52	0	1	0	80	10	5
TOTAL	0	0	0	0	10	0	50	0	80	755	0	21	0	890	50	20

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
2:00 PM - 2:15 PM	0	0	0	0	4	0	14	0	15	70	0	5	0	71	7	1
2:15 PM - 2:30 PM	0	0	0	0	3	0	17	1	14	71	0	1	0	96	12	1
2:30 PM - 2:45 PM	0	0	0	0	1	0	13	0	20	76	0	0	0	142	12	4
2:45 PM - 3:00 PM	0	0	0	0	6	0	20	0	19	89	0	1	0	144	12	1
3:00 PM - 3:15 PM	0	0	0	0	3	0	15	0	29	156	0	2	0	92	14	7
3:15 PM - 3:30 PM	0	0	0	0	5	0	16	0	23	85	0	1	0	96	11	4
3:30 PM - 3:45 PM	0	0	0	0	14	0	18	0	37	86	0	2	0	105	14	1
3:45 PM - 4:00 PM	0	0	0	0	14	0	23	0	30	107	0	0	0	125	10	1
4:00 PM - 4:15 PM	0	0	0	0	9	0	25	0	32	88	0	1	0	103	10	0
4:15 PM - 4:30 PM	0	0	0	0	4	0	19	0	38	106	0	4	0	92	10	0
4:30 PM - 4:45 PM	0	0	0	0	9	0	17	0	24	100	0	2	0	117	9	2
4:45 PM - 5:00 PM	0	0	0	0	7	0	15	1	25	102	0	2	0	84	16	1
5:00 PM - 5:15 PM	0	0	0	0	7	0	21	0	26	85	0	2	0	100	9	0
5:15 PM - 5:30 PM	0	0	0	0	6	0	18	0	27	100	0	1	0	99	7	0
5:30 PM - 5:45 PM	0	0	0	0	9	0	15	0	20	84	0	1	0	80	10	1
5:45 PM - 6:00 PM	0	0	0	0	8	0	9	0	23	92	0	0	0	84	10	1
TOTAL	0	0	0	0	109	0	275	2	402	1497	0	25	0	1630	173	25

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	3	0	25	0	46	518	0	10	0	547	22	10
3:00 PM - 4:00 PM	0	0	0	0	36	0	72	0	119	434	0	5	0	418	49	13

	PHF	Trucks
AM	0.861	1.7%
PM	0.913	1.6%





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Shopping Center @ Creston Rd

LATITUDE 35.6230

COUNTY San Luis Obispo

LONGITUDE -120.6615

COLLECTION DATE Thursday, August 25, 2022

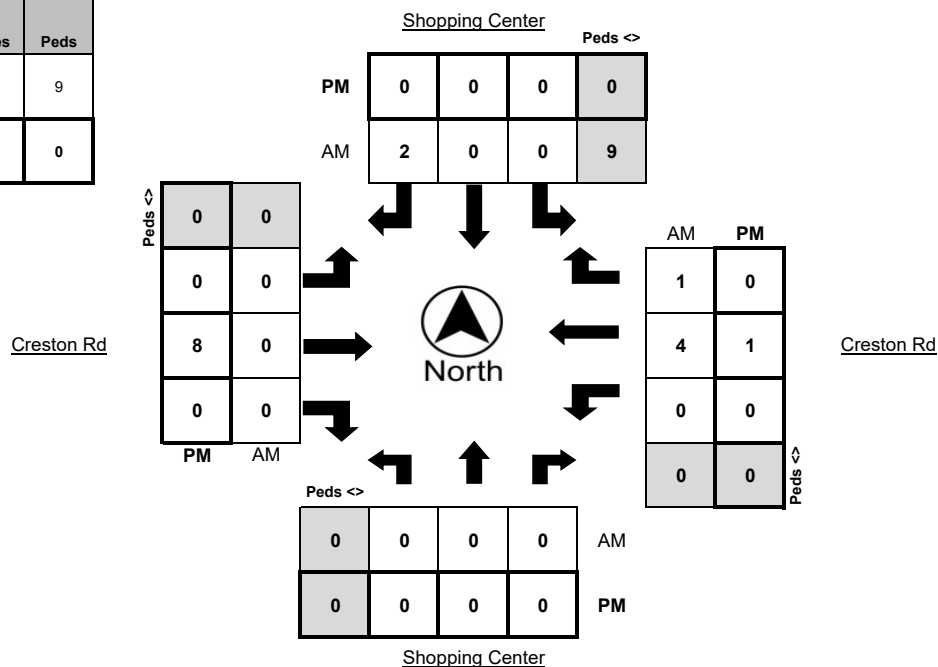
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0
7:45 AM - 8:00 AM	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	3	0	0	1	0	0	0	0	0	0	0	1	0
8:30 AM - 8:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	11	0	0	2	0	0	0	0	0	0	4	1	0

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	2	0	0	3	0	2	9	0	0	0	2	0	0

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	9	0	0	2	0	0	0	0	0	0	4	1	0
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	0

	Bikes	Peds
AM Peak Total	7	9
PM Peak Total	9	0





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Turning Movement Report

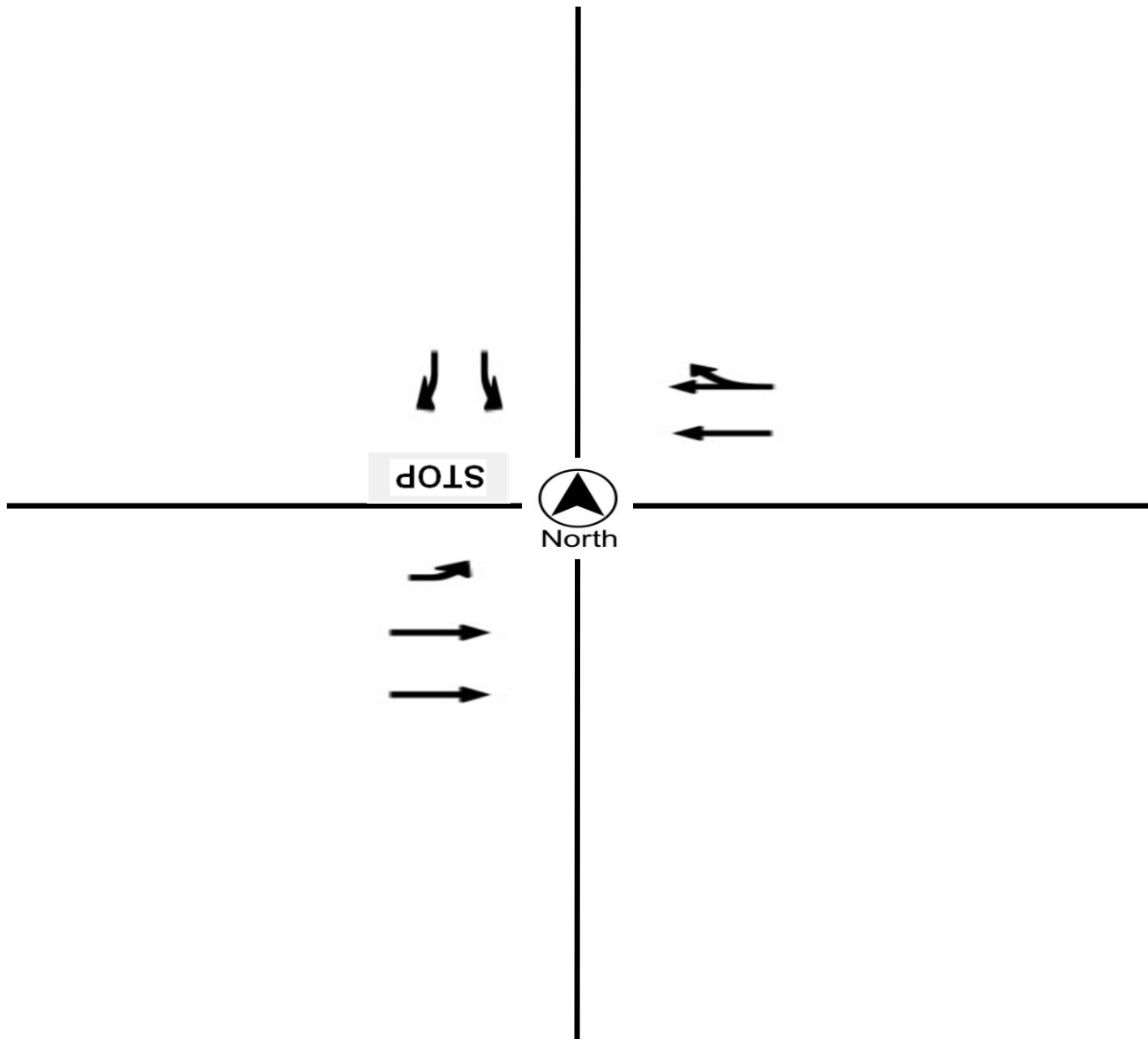
Prepared For:

Central Coast Transportation Consulting
 895 Napa Avenue, Suite A-6
 Morro Bay, CA 93442

LOCATION Shopping Center @ Creston Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME N/A

N/S STREET Shopping Center
E/W STREET Creston Rd
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS





Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Golden Hill Rd @ Creston Rd

LATITUDE 35.6223

COUNTY San Luis Obispo

LONGITUDE -120.6597

COLLECTION DATE Thursday, August 25, 2022

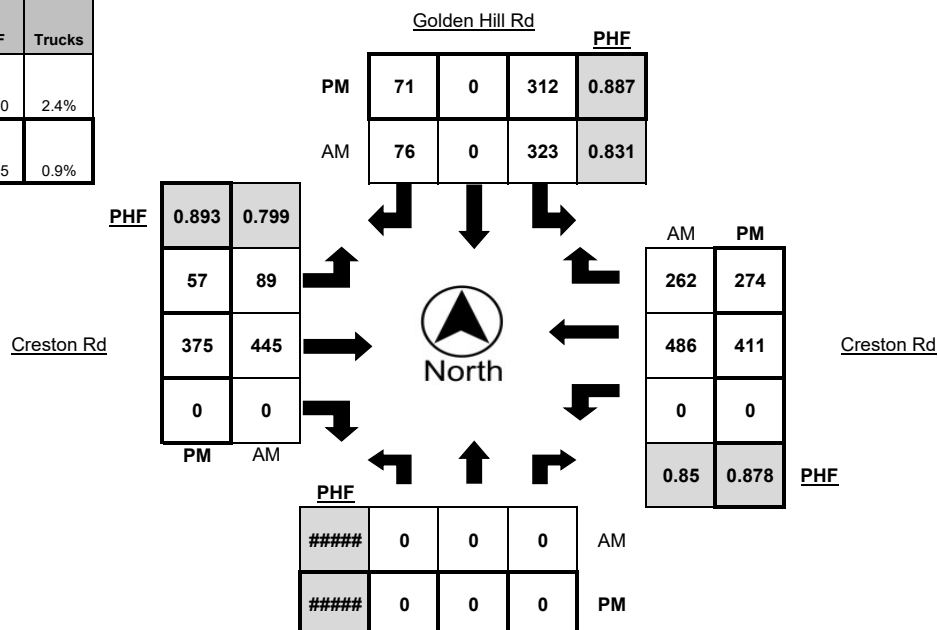
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	0	0	0	26	0	7	2	6	52	0	3	0	64	24	1
7:15 AM - 7:30 AM	0	0	0	0	48	0	11	2	10	55	0	3	0	101	48	2
7:30 AM - 7:45 AM	0	0	0	0	72	0	17	2	11	110	0	2	0	163	57	4
7:45 AM - 8:00 AM	0	0	0	0	96	0	20	1	30	137	0	4	0	130	70	3
8:00 AM - 8:15 AM	0	0	0	0	98	0	22	4	33	124	0	3	0	113	69	7
8:15 AM - 8:30 AM	0	0	0	0	57	0	17	2	15	74	0	2	0	80	66	6
8:30 AM - 8:45 AM	0	0	0	0	39	0	11	2	8	58	0	4	0	80	42	3
8:45 AM - 9:00 AM	0	0	0	0	39	0	5	2	10	47	0	2	0	89	56	8
TOTAL	0	0	0	0	475	0	110	17	123	657	0	23	0	820	432	34

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
2:00 PM - 2:15 PM	0	0	0	0	55	0	7	2	3	72	0	5	0	74	51	3
2:15 PM - 2:30 PM	0	0	0	0	55	0	10	4	8	69	0	1	0	99	44	3
2:30 PM - 2:45 PM	0	0	0	0	81	0	14	2	4	74	0	0	0	137	52	4
2:45 PM - 3:00 PM	0	0	0	0	63	0	15	3	7	91	0	1	0	148	53	2
3:00 PM - 3:15 PM	0	0	0	0	75	0	20	7	15	138	0	2	0	76	45	4
3:15 PM - 3:30 PM	0	0	0	0	74	0	13	4	17	76	0	2	0	97	41	3
3:30 PM - 3:45 PM	0	0	0	0	67	0	26	0	15	82	0	2	0	102	64	4
3:45 PM - 4:00 PM	0	0	0	0	79	0	24	1	23	98	0	0	0	116	79	2
4:00 PM - 4:15 PM	0	0	0	0	71	0	14	1	13	88	0	1	0	104	58	1
4:15 PM - 4:30 PM	0	0	0	0	74	0	13	0	13	89	0	4	0	83	59	1
4:30 PM - 4:45 PM	0	0	0	0	88	0	20	0	8	100	0	0	0	108	78	2
4:45 PM - 5:00 PM	0	0	0	0	70	0	11	1	11	99	0	1	0	85	52	0
5:00 PM - 5:15 PM	0	0	0	0	89	0	9	1	5	88	0	2	0	98	53	0
5:15 PM - 5:30 PM	0	0	0	0	56	0	16	0	11	93	0	1	0	94	64	0
5:30 PM - 5:45 PM	0	0	0	0	65	0	15	1	11	88	0	1	0	76	51	1
5:45 PM - 6:00 PM	0	0	0	0	47	0	8	1	6	92	0	0	0	84	60	1
TOTAL	0	0	0	0	1109	0	235	28	170	1437	0	23	0	1581	904	31

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	0	0	0	0	323	0	76	9	89	445	0	11	0	486	262	20
3:45 PM - 4:45 PM	0	0	0	0	312	0	71	2	57	375	0	5	0	411	274	6

	PHF	Trucks
AM	0.870	2.4%
PM	0.895	0.9%





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Golden Hill Rd @ Creston Rd

LATITUDE 35.6223

COUNTY San Luis Obispo

LONGITUDE -120.6597

COLLECTION DATE Thursday, August 25, 2022

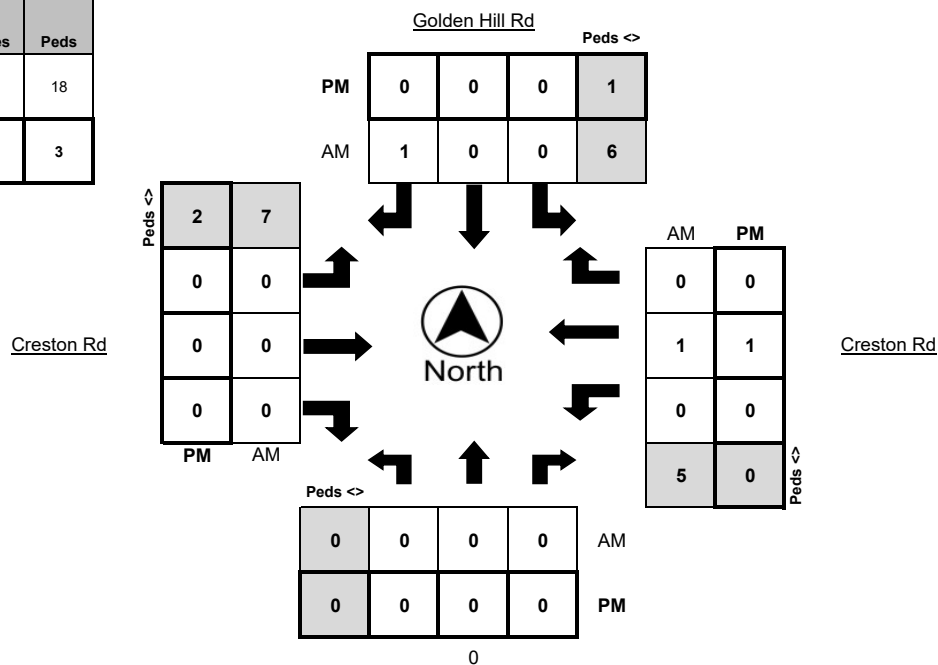
WEATHER Clear

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	2	0	0	1	0	0	0	0	4	0	0	0	1
7:45 AM - 8:00 AM	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	2
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	0	0	0	8	0	0	1	0	0	0	0	6	0	1	0	9

Time	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	7	0	0	0	0	0	6	0	7	0	1	0	3

PEAK HOUR	Northbound Bikes			N.Leg Peds	Southbound Bikes			S.Leg Peds	Eastbound Bikes			E.Leg Peds	Westbound Bikes			W.Leg Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
7:30 AM - 8:30 AM	0	0	0	6	0	0	1	0	0	0	0	5	0	1	0	7
3:45 PM - 4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2

	Bikes	Peds
AM Peak Total	2	18
PM Peak Total	1	3



Turning Movement Report



Metro Traffic Data Inc.
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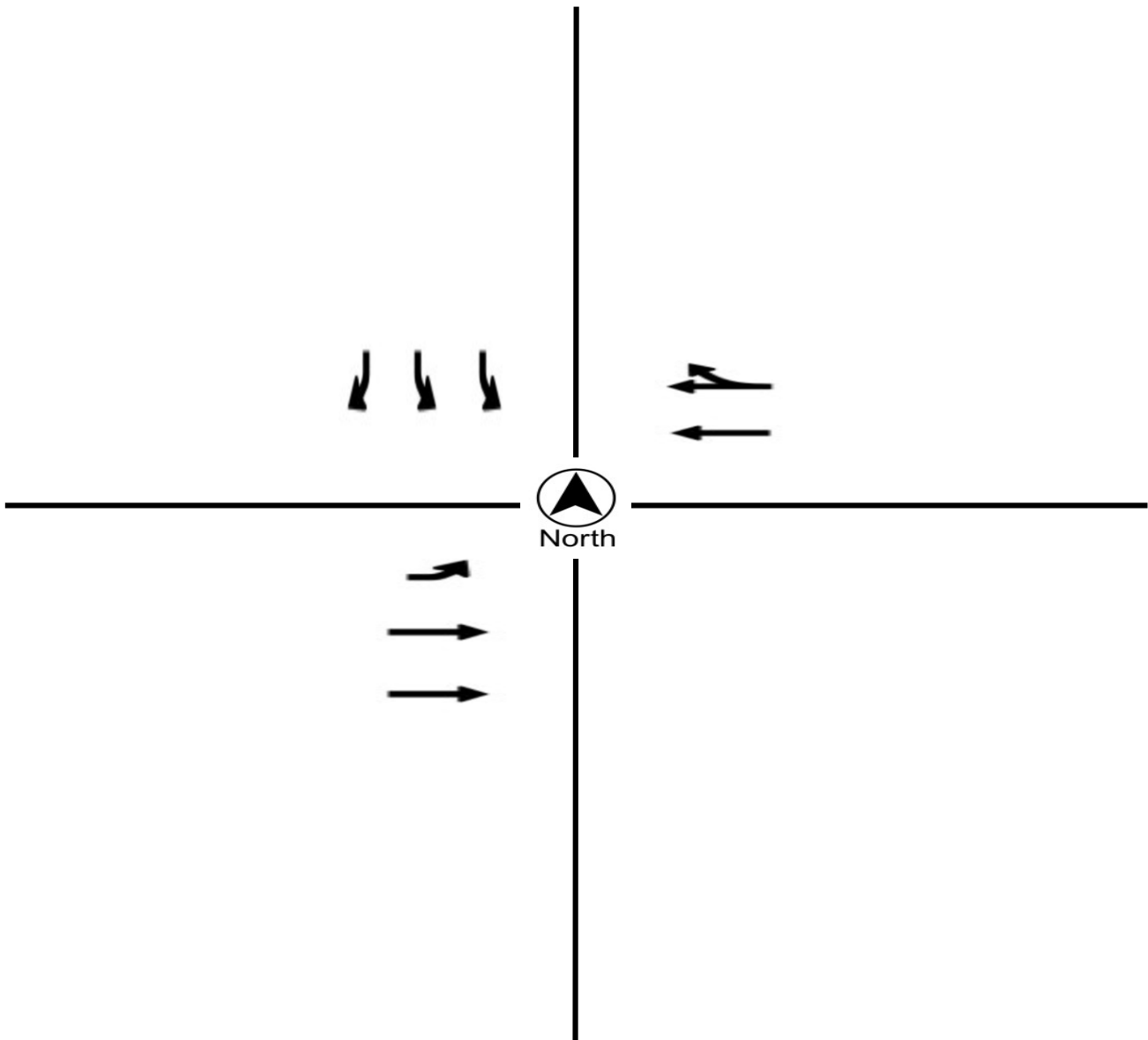
Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Golden Hill Rd @ Creston Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME 41 Seconds

N/S STREET Golden Hill Rd
E/W STREET Creston Rd
WEATHER Clear
CONTROL TYPE Signal

COMMENTS Eastbound left turns are protected.





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Turning Movement Report

Prepared For:

Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

LOCATION Golden Hill Rd @ Rolling Hills Rd

LATITUDE 35.6341

COUNTY San Luis Obispo

LONGITUDE -120.6580

COLLECTION DATE Thursday, August 25, 2022

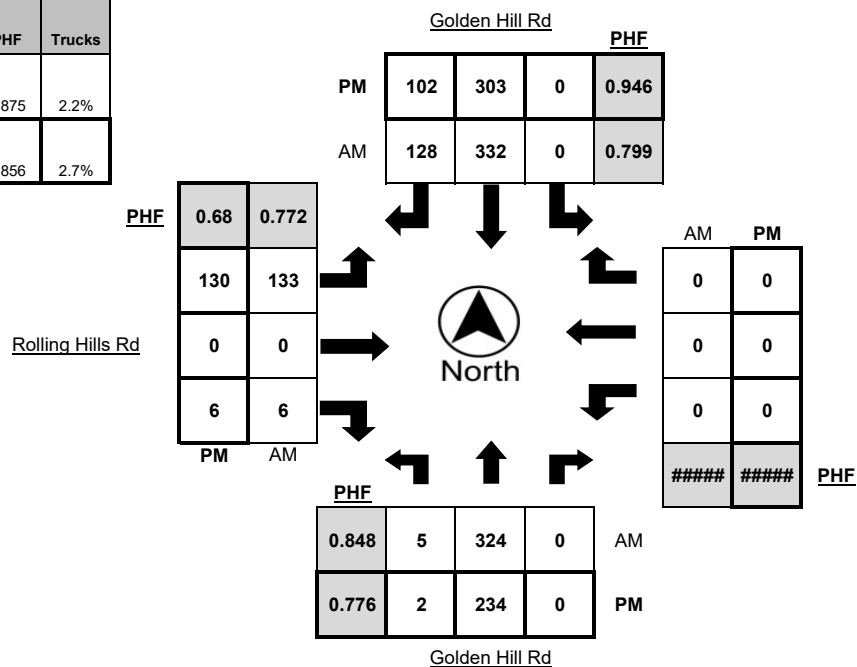
WEATHER Clear

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:00 AM - 7:15 AM	0	31	0	0	0	30	10	1	11	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	2	49	0	1	0	50	26	3	14	0	1	0	0	0	0	0
7:30 AM - 7:45 AM	1	64	0	1	0	84	45	1	26	0	1	0	0	0	0	0
7:45 AM - 8:00 AM	2	89	0	2	0	102	42	3	29	0	1	0	0	0	0	0
8:00 AM - 8:15 AM	0	97	0	2	0	84	19	3	43	0	2	0	0	0	0	0
8:15 AM - 8:30 AM	2	74	0	5	0	62	22	3	35	0	2	0	0	0	0	0
8:30 AM - 8:45 AM	2	47	0	1	0	32	12	3	10	0	1	0	0	0	0	0
8:45 AM - 9:00 AM	3	60	0	4	0	31	11	3	15	0	0	1	0	0	0	0
TOTAL	12	511	0	16	0	475	187	20	183	0	8	1	0	0	0	0

Time	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
2:00 PM - 2:15 PM	0	51	0	1	0	51	13	4	14	0	1	0	0	0	0	0
2:15 PM - 2:30 PM	0	42	0	3	0	57	14	1	14	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	48	0	1	0	74	32	2	13	0	1	0	0	0	0	0
2:45 PM - 3:00 PM	0	59	0	1	0	70	27	4	24	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	1	54	0	0	0	71	24	6	48	0	2	0	0	0	0	0
3:15 PM - 3:30 PM	0	38	0	0	0	73	27	4	18	0	2	2	0	0	0	0
3:30 PM - 3:45 PM	0	67	0	4	0	77	26	0	21	0	1	1	0	0	0	0
3:45 PM - 4:00 PM	1	75	0	2	0	82	25	1	43	0	1	1	0	0	0	0
4:00 PM - 4:15 PM	0	65	0	2	0	66	13	1	16	0	2	0	0	0	0	0
4:15 PM - 4:30 PM	3	62	0	1	0	62	29	0	19	0	2	0	0	0	0	0
4:30 PM - 4:45 PM	3	76	0	0	0	82	25	0	23	0	1	0	0	0	0	0
4:45 PM - 5:00 PM	1	62	0	0	0	73	23	0	28	0	1	0	0	0	0	0
5:00 PM - 5:15 PM	0	50	0	0	0	82	31	1	22	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	3	65	0	0	0	49	14	0	15	0	4	0	0	0	0	0
5:30 PM - 5:45 PM	0	58	0	0	0	68	21	1	14	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	2	69	0	0	0	37	15	1	24	0	1	0	0	0	0	0
TOTAL	14	941	0	15	0	1074	359	26	356	0	19	4	0	0	0	0

PEAK HOUR	Northbound				Southbound				Eastbound				Westbound			
	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks
7:30 AM - 8:30 AM	5	324	0	10	0	332	128	10	133	0	6	0	0	0	0	0
3:00 PM - 4:00 PM	2	234	0	6	0	303	102	11	130	0	6	4	0	0	0	0

	PHF	Trucks
AM	0.875	2.2%
PM	0.856	2.7%

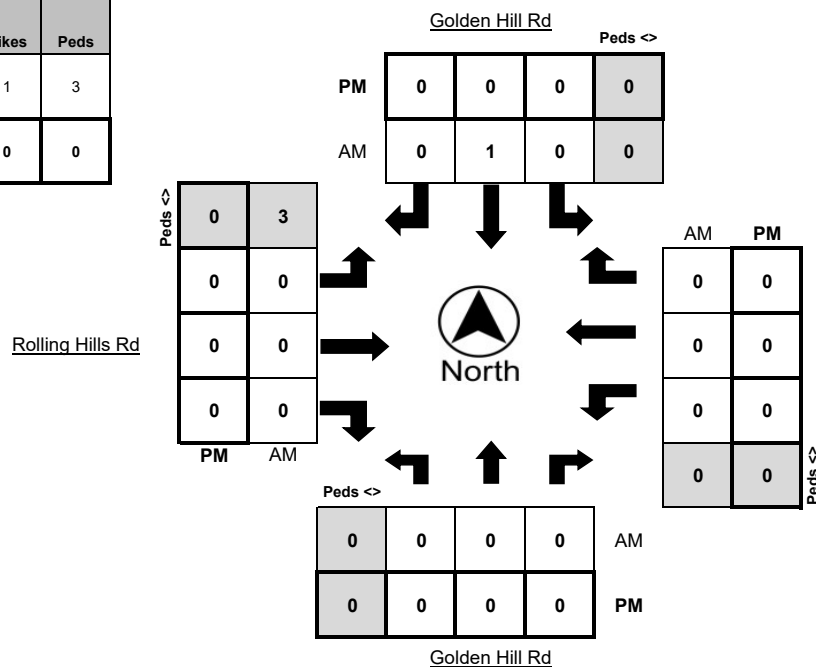


Turning Movement Report

WEATHER Clear

[illegible]

	Bikes	Peds
AM Peak Total	1	3
PM Peak Total	0	0



Turning Movement Report



Metro Traffic Data Inc.
 310 N. Irwin Street - Suite 20
 Hanford, CA 93230
 800-975-6938 Phone/Fax
 www.metrotrafficdata.com

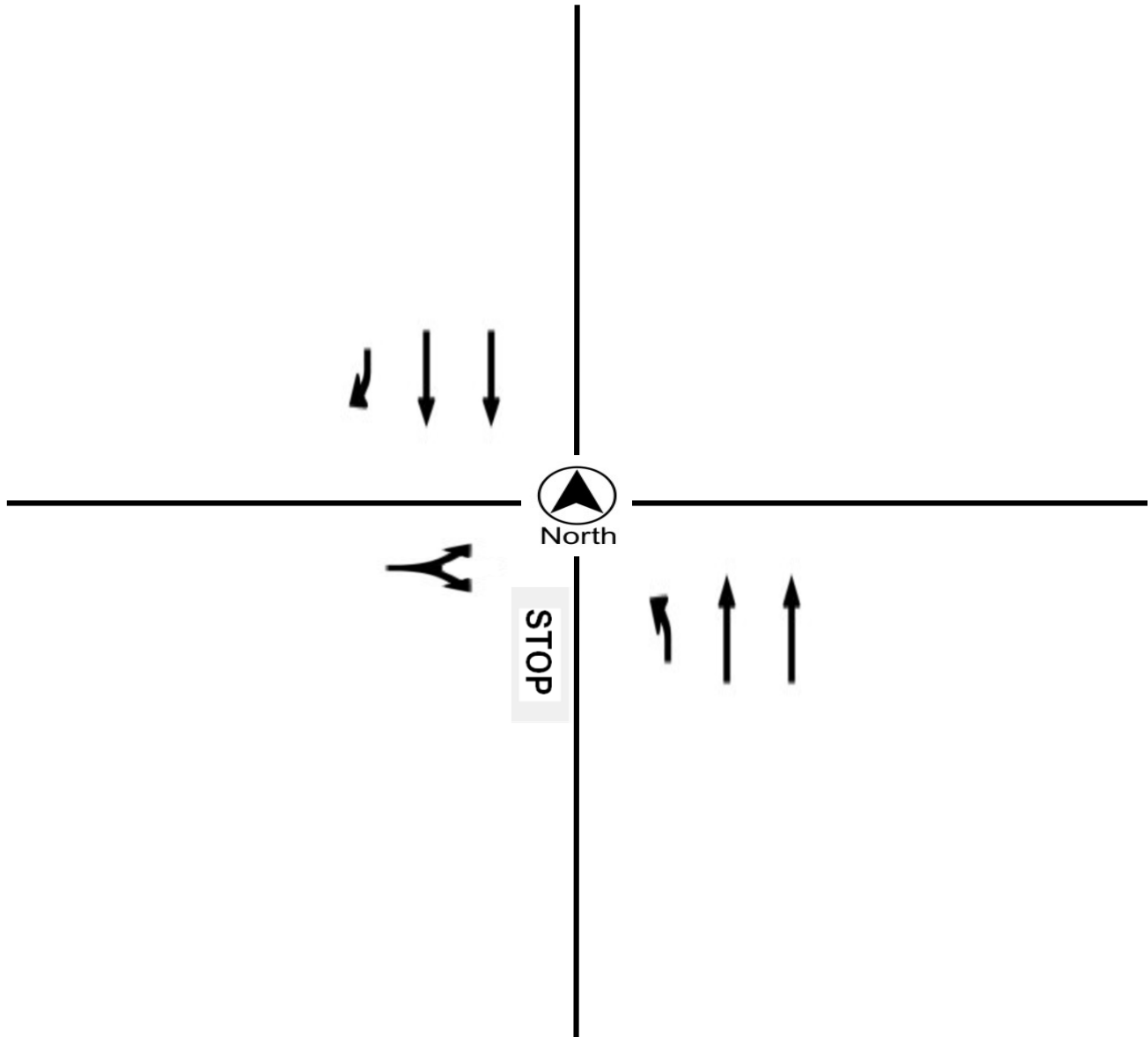
Prepared For:

Central Coast Transportation Consulting
 895 Napa Avenue, Suite A-6
 Morro Bay, CA 93442

LOCATION Golden Hill Rd @ Rolling Hills Rd
COUNTY San Luis Obispo
COLLECTION DATE Thursday, August 25, 2022
CYCLE TIME N/A

N/S STREET Golden Hill Rd
E/W STREET Rolling Hills Rd
WEATHER Clear
CONTROL TYPE One-Way Stop

COMMENTS








Appendix B: Intersection Calculation Sheets

Creston Road Multi-Family

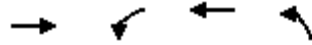
1: Creston Rd & Orchard Dr

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	24	797	914	7	6	25
Future Vol, veh/h	24	797	914	7	6	25
Conflicting Peds, #/hr	6	0	0	6	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	906	1039	8	7	28
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1053	0	-	0	2012	1049
Stage 1	-	-	-	-	1049	-
Stage 2	-	-	-	-	963	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	661	-	-	-	65	276
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	370	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	657	-	-	-	59	274
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	368	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		21.9		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	657	-	-	-	248	
HCM Lane V/C Ratio	0.042	-	-	-	0.142	
HCM Control Delay (s)	10.7	-	-	-	21.9	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	

Creston Road Multi-Family 2: Creston Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	169	741	710	70	20	209
Future Vol, veh/h	169	741	710	70	20	209
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	833	798	79	22	235
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	882	0	-	0	2056	843
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	1213	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	767	-	-	-	61	364
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	281	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	763	-	-	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	280	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		41.7		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	763	-	-	-	45	362
HCM Lane V/C Ratio	0.249	-	-	-	0.499	0.649
HCM Control Delay (s)	11.3	-	-	-	147.5	31.6
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	1	-	-	-	1.8	4.3

Creston Road Multi-Family
3: Melody Dr & Creston Rd



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	899	62	627	356
v/c Ratio	0.53	0.26	0.36	0.64
Control Delay	8.5	11.5	8.5	19.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.5	11.5	8.5	19.2
Queue Length 50th (ft)	58	8	45	67
Queue Length 95th (ft)	123	33	94	155
Internal Link Dist (ft)	379		270	218
Turn Bay Length (ft)		115		
Base Capacity (vph)	3267	486	3515	1360
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.13	0.18	0.26
Intersection Summary				







Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (vph)	505	250	52	527	245	54
Future Volume (vph)	505	250	52	527	245	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.95		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3317		1760	3539	1741	
Flt Permitted	1.00		0.27	1.00	0.96	
Satd. Flow (perm)	3317		491	3539	1741	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	601	298	62	627	292	64
RTOR Reduction (vph)	72	0	0	0	8	0
Lane Group Flow (vph)	827	0	62	627	348	0
Confl. Peds. (#/hr)		14	14		15	4
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	22.9		22.9	22.9	14.6	
Effective Green, g (s)	22.9		22.9	22.9	14.6	
Actuated g/C Ratio	0.50		0.50	0.50	0.32	
Clearance Time (s)	4.5		4.5	4.5	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1651		244	1761	552	
v/s Ratio Prot	c0.25			0.18	c0.20	
v/s Ratio Perm			0.13			
v/c Ratio	0.50		0.25	0.36	0.63	
Uniform Delay, d1	7.7		6.6	7.0	13.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		0.6	0.1	2.3	
Delay (s)	8.0		7.2	7.2	15.7	
Level of Service	A		A	A	B	
Approach Delay (s)	8.0			7.2	15.7	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			46.0		Sum of lost time (s)	8.5
Intersection Capacity Utilization			67.1%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						






Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM 6th Signalized Intersection Summary

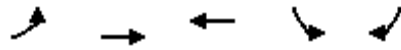
						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱↱	
Traffic Volume (veh/h)	505	250	52	527	245	54
Future Volume (veh/h)	505	250	52	527	245	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	601	298	62	627	292	64
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1149	569	381	1783	405	89
Arrive On Green	0.50	0.50	0.50	0.50	0.28	0.28
Sat Flow, veh/h	2383	1135	618	3647	1421	311
Grp Volume(v), veh/h	466	433	62	627	357	0
Grp Sat Flow(s),veh/h/ln	1777	1647	618	1777	1737	0
Q Serve(g_s), s	7.1	7.1	3.0	4.3	7.4	0.0
Cycle Q Clear(g_c), s	7.1	7.1	10.1	4.3	7.4	0.0
Prop In Lane		0.69	1.00		0.82	0.18
Lane Grp Cap(c), veh/h	892	827	381	1783	495	0
V/C Ratio(X)	0.52	0.52	0.16	0.35	0.72	0.00
Avail Cap(c_a), veh/h	2675	2480	1001	5350	1482	0
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	0.00
Uniform Delay (d), s/veh	6.7	6.7	10.1	6.0	12.8	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.2	0.1	2.0	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	1.6	1.5	0.3	0.9	2.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	7.2	10.3	6.1	14.8	0.0
LnGrp LOS	A	A	B	A	B	A
Approach Vol, veh/h	899			689	357	
Approach Delay, s/veh	7.2			6.5	14.8	
Approach LOS	A			A	B	
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	24.5				24.5	15.4
Change Period (Y+Rc), s	4.5				4.5	4.0
Max Green Setting (Gmax), s	60.0				60.0	34.0
Max Q Clear Time (g_c+I1), s	9.1				12.1	9.4
Green Ext Time (p_c), s	7.0				5.6	1.2
Intersection Summary						
HCM 6th Ctrl Delay			8.4			
HCM 6th LOS			A			

Creston Road Multi-Family

4: Creston Rd/Creston Road & Shopping Center

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	518	547	22	3	25
Future Vol, veh/h	46	518	547	22	3	25
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	602	636	26	3	29
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	671	0	-	0	1065	340
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	915	-	-	-	218	656
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	907	-	-	-	202	650
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	635	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		12.1		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	907	-	-	-	202	650
HCM Lane V/C Ratio	0.059	-	-	-	0.017	0.045
HCM Control Delay (s)	9.2	-	-	-	23.1	10.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.1

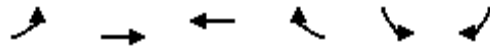
Creston Road Multi-Family
5: Creston Road & Golden Hill Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	102	511	860	371	87
v/c Ratio	0.32	0.27	0.67	0.49	0.21
Control Delay	42.1	11.9	24.5	34.6	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	11.9	24.5	34.6	10.9
Queue Length 50th (ft)	29	31	103	53	0
Queue Length 95th (ft)	133	153	355	190	42
Internal Link Dist (ft)		581	1125	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	746	3223	2731	2131	1005
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.16	0.31	0.17	0.09
Intersection Summary					





Creston Road Multi-Family
5: Creston Road & Golden Hill Road

HCM Signalized Intersection Capacity Analysis






Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	89	445	486	262	323	76
Future Volume (vph)	89	445	486	262	323	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.1	4.1		3.5	3.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	3505	3300		3361	1535
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	3505	3300		3361	1535
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	102	511	559	301	371	87
RTOR Reduction (vph)	0	0	43	0	0	68
Lane Group Flow (vph)	102	511	817	0	371	19
Confl. Peds. (#/hr)	6			6	5	7
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases					4	4
Actuated Green, G (s)	9.0	40.6	28.1		16.6	16.6
Effective Green, g (s)	9.0	40.6	28.1		16.6	16.6
Actuated g/C Ratio	0.12	0.54	0.37		0.22	0.22
Clearance Time (s)	3.5	4.1	4.1		3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	209	1894	1234		742	339
v/s Ratio Prot	c0.06	0.15	c0.25			
v/s Ratio Perm					c0.11	0.01
v/c Ratio	0.49	0.27	0.66		0.50	0.06
Uniform Delay, d1	30.9	9.3	19.6		25.6	23.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.0	1.0		0.2	0.0
Delay (s)	31.6	9.3	20.6		25.8	23.1
Level of Service	C	A	C		C	C
Approach Delay (s)		13.0	20.6		25.3	
Approach LOS		B	C		C	
Intersection Summary						
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			75.1		Sum of lost time (s)	14.6
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Creston Road Multi-Family
6: Golden Hill Rd & Rolling Hills Rd






Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	133	6	5	324	332	128
Future Vol, veh/h	133	6	5	324	332	128
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	151	7	6	368	377	145
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	649	264	525	0	-	0
Stage 1	453	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	400	731	1031	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	395	729	1028	-	-	-
Mov Cap-2 Maneuver	486	-	-	-	-	-
Stage 1	599	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.7	0.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1028	-	493	-	-	
HCM Lane V/C Ratio	0.006	-	0.32	-	-	
HCM Control Delay (s)	8.5	-	15.7	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0	-	1.4	-	-	

Creston Road Multi-Family

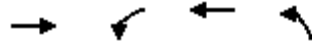
1: Creston Rd & Orchard Dr

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	674	736	15	9	22
Future Vol, veh/h	22	674	736	15	9	22
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	709	775	16	9	23
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	794	0	-	0	1542	786
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	756	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	827	-	-	-	127	392
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	464	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	825	-	-	-	120	391
Mov Cap-2 Maneuver	-	-	-	-	257	-
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	463	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		16.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	825	-	-	-	340	
HCM Lane V/C Ratio	0.028	-	-	-	0.096	
HCM Control Delay (s)	9.5	-	-	-	16.7	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	

Creston Road Multi-Family 2: Creston Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	170	598	568	44	21	190
Future Vol, veh/h	170	598	568	44	21	190
Conflicting Peds, #/hr	1	0	0	1	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	195	687	653	51	24	218
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	705	0	-	0	1757	681
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	1077	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	893	-	-	-	93	450
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	327	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	892	-	-	-	72	449
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	327	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.2	0		26.2		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	892	-	-	-	72	449
HCM Lane V/C Ratio	0.219	-	-	-	0.335	0.486
HCM Control Delay (s)	10.2	-	-	-	78.4	20.4
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	1.3	2.6

Creston Road Multi-Family
3: Melody Dr & Creston Rd



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	681	53	474	208
v/c Ratio	0.39	0.15	0.26	0.43
Control Delay	7.4	8.8	7.3	12.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.4	8.8	7.3	12.8
Queue Length 50th (ft)	32	5	23	33
Queue Length 95th (ft)	110	30	80	67
Internal Link Dist (ft)	379		270	218
Turn Bay Length (ft)		115		
Base Capacity (vph)	3370	709	3539	1479
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.13	0.14
Intersection Summary				







Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (vph)	492	141	49	441	136	58
Future Volume (vph)	492	141	49	441	136	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.97		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3388		1758	3539	1719	
Flt Permitted	1.00		0.39	1.00	0.97	
Satd. Flow (perm)	3388		713	3539	1719	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	529	152	53	474	146	62
RTOR Reduction (vph)	31	0	0	0	16	0
Lane Group Flow (vph)	650	0	53	474	192	0
Confl. Peds. (#/hr)		13	13		10	7
Confl. Bikes (#/hr)		8				
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	20.5		20.5	20.5	11.1	
Effective Green, g (s)	20.5		20.5	20.5	11.1	
Actuated g/C Ratio	0.51		0.51	0.51	0.28	
Clearance Time (s)	4.5		4.5	4.5	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1732		364	1809	475	
v/s Ratio Prot	c0.19			0.13	c0.11	
v/s Ratio Perm			0.07			
v/c Ratio	0.38		0.15	0.26	0.40	
Uniform Delay, d1	5.9		5.2	5.5	11.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		0.2	0.1	0.6	
Delay (s)	6.1		5.4	5.6	12.4	
Level of Service	A		A	A	B	
Approach Delay (s)	6.1			5.6	12.4	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay		6.8		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.39				
Actuated Cycle Length (s)		40.1		Sum of lost time (s)		8.5
Intersection Capacity Utilization		58.8%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						






Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM 6th Signalized Intersection Summary

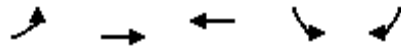
						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱↱	
Traffic Volume (veh/h)	492	141	49	441	136	58
Future Volume (veh/h)	492	141	49	441	136	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	529	152	53	474	146	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1540	440	557	2026	224	95
Arrive On Green	0.57	0.57	0.57	0.57	0.19	0.19
Sat Flow, veh/h	2795	772	757	3647	1194	507
Grp Volume(v), veh/h	347	334	53	474	209	0
Grp Sat Flow(s),veh/h/ln	1777	1697	757	1777	1710	0
Q Serve(g_s), s	3.7	3.7	1.4	2.3	4.0	0.0
Cycle Q Clear(g_c), s	3.7	3.7	5.1	2.3	4.0	0.0
Prop In Lane		0.45	1.00		0.70	0.30
Lane Grp Cap(c), veh/h	1013	967	557	2026	321	0
V/C Ratio(X)	0.34	0.35	0.10	0.23	0.65	0.00
Avail Cap(c_a), veh/h	3038	2902	1419	6077	1657	0
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	0.00
Uniform Delay (d), s/veh	4.0	4.0	5.4	3.7	13.2	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.1	2.2	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	0.5	0.5	0.1	0.3	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.2	4.3	5.5	3.8	15.4	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h	681			527	209	
Approach Delay, s/veh	4.2			4.0	15.4	
Approach LOS	A			A	B	
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	24.5				24.5	10.6
Change Period (Y+Rc), s	4.5				4.5	4.0
Max Green Setting (Gmax), s	60.0				60.0	34.0
Max Q Clear Time (g_c+I1), s	5.7				7.1	6.0
Green Ext Time (p_c), s	4.8				3.9	0.6
Intersection Summary						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

Creston Road Multi-Family

4: Creston Rd/Creston Road & Shopping Center

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	434	418	49	36	72
Future Vol, veh/h	119	434	418	49	36	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	477	459	54	40	79
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	513	0	-	0	987	257
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	501	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1049	-	-	-	244	742
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1049	-	-	-	214	742
Mov Cap-2 Maneuver	-	-	-	-	214	-
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	574	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.9		0		15.5	
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1049	-	-	-	214	742
HCM Lane V/C Ratio	0.125	-	-	-	0.185	0.107
HCM Control Delay (s)	8.9	-	-	-	25.6	10.4
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.4

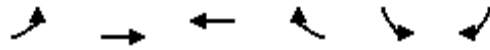
Creston Road Multi-Family
5: Creston Road & Golden Hill Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	63	417	761	347	79
v/c Ratio	0.17	0.22	0.64	0.41	0.18
Control Delay	29.4	8.7	18.0	24.2	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	8.7	18.0	24.2	9.0
Queue Length 50th (ft)	15	21	74	42	0
Queue Length 95th (ft)	84	124	274	159	41
Internal Link Dist (ft)		581	1125	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	953	3454	3067	2642	1219
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.12	0.25	0.13	0.06
Intersection Summary					






Creston Road Multi-Family
5: Creston Road & Golden Hill Road

HCM Signalized Intersection Capacity Analysis






Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	57	375	411	274	312	71
Future Volume (vph)	57	375	411	274	312	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.1	4.1		3.5	3.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3309		3433	1560
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3309		3433	1560
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	417	457	304	347	79
RTOR Reduction (vph)	0	0	73	0	0	60
Lane Group Flow (vph)	63	417	688	0	347	19
Confl. Peds. (#/hr)	1			1		2
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases					4	4
Actuated Green, G (s)	7.5	29.7	18.7		13.5	13.5
Effective Green, g (s)	7.5	29.7	18.7		13.5	13.5
Actuated g/C Ratio	0.13	0.52	0.33		0.24	0.24
Clearance Time (s)	3.5	4.1	4.1		3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	232	1840	1083		811	368
v/s Ratio Prot	c0.04	0.12	c0.21			
v/s Ratio Perm					c0.10	0.01
v/c Ratio	0.27	0.23	0.64		0.43	0.05
Uniform Delay, d1	22.3	7.5	16.3		18.5	16.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.9		0.1	0.0
Delay (s)	22.6	7.5	17.2		18.7	16.9
Level of Service	C	A	B		B	B
Approach Delay (s)		9.5	17.2		18.3	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			15.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			57.1		Sum of lost time (s)	14.6
Intersection Capacity Utilization			46.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Creston Road Multi-Family
6: Golden Hill Rd & Rolling Hills Rd






Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	130	6	2	234	303	102
Future Vol, veh/h	130	6	2	234	303	102
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	151	7	2	272	352	119
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	552	236	471	0	-	0
Stage 1	412	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	461	763	1080	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	460	763	1080	-	-	-
Mov Cap-2 Maneuver	531	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.5	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1080	-	538	-	-	
HCM Lane V/C Ratio	0.002	-	0.294	-	-	
HCM Control Delay (s)	8.3	-	14.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	1.2	-	-	

Creston Road Multi-Family
1: Creston Rd & Orchard Dr

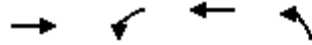
Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	805	942	7	6	25
Future Vol, veh/h	24	805	942	7	6	25
Conflicting Peds, #/hr	6	0	0	6	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	915	1070	8	7	28
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1084	0	-	0	2052	1080
Stage 1	-	-	-	-	1080	-
Stage 2	-	-	-	-	972	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	643	-	-	-	61	265
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	367	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	639	-	-	-	55	263
Mov Cap-2 Maneuver	-	-	-	-	174	-
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	365	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		22.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	639	-	-	-	239	
HCM Lane V/C Ratio	0.043	-	-	-	0.147	
HCM Control Delay (s)	10.9	-	-	-	22.6	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	

Creston Road Multi-Family

2: Creston Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	8.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	171	741	712	72	33	223
Future Vol, veh/h	171	741	712	72	33	223
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	192	833	800	81	37	251
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	886	0	-	0	2063	846
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	1217	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	764	-	-	-	60	362
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	280	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	760	-	-	-	44	360
Mov Cap-2 Maneuver	-	-	-	-	44	-
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	279	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		60.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	760	-	-	-	44	360
HCM Lane V/C Ratio	0.253	-	-	-	0.843	0.696
HCM Control Delay (s)	11.3	-	-	-	231.1	35
HCM Lane LOS	B	-	-	-	F	E
HCM 95th %tile Q(veh)	1	-	-	-	3.3	5

Creston Road Multi-Family
3: Melody Dr & Creston Rd



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	914	62	631	357
v/c Ratio	0.54	0.26	0.36	0.64
Control Delay	8.6	11.7	8.5	19.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.6	11.7	8.5	19.5
Queue Length 50th (ft)	61	8	46	68
Queue Length 95th (ft)	126	33	95	159
Internal Link Dist (ft)	379		270	218
Turn Bay Length (ft)		115		
Base Capacity (vph)	3261	474	3508	1354
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.13	0.18	0.26
Intersection Summary				







Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (vph)	514	254	52	530	246	54
Future Volume (vph)	514	254	52	530	246	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.95		1.00	1.00	0.98	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3318		1760	3539	1742	
Flt Permitted	1.00		0.26	1.00	0.96	
Satd. Flow (perm)	3318		479	3539	1742	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	612	302	62	631	293	64
RTOR Reduction (vph)	72	0	0	0	8	0
Lane Group Flow (vph)	842	0	62	631	349	0
Confl. Peds. (#/hr)		14	14		15	4
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	23.1		23.1	23.1	14.7	
Effective Green, g (s)	23.1		23.1	23.1	14.7	
Actuated g/C Ratio	0.50		0.50	0.50	0.32	
Clearance Time (s)	4.5		4.5	4.5	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1655		238	1765	553	
v/s Ratio Prot	c0.25			0.18	c0.20	
v/s Ratio Perm			0.13			
v/c Ratio	0.51		0.26	0.36	0.63	
Uniform Delay, d1	7.8		6.7	7.1	13.5	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		0.6	0.1	2.4	
Delay (s)	8.0		7.3	7.2	15.8	
Level of Service	A		A	A	B	
Approach Delay (s)	8.0			7.2	15.8	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			9.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			46.3		Sum of lost time (s)	8.5
Intersection Capacity Utilization			67.6%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						






Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM 6th Signalized Intersection Summary

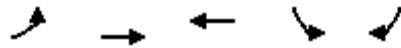
						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱↱	
Traffic Volume (veh/h)	514	254	52	530	246	54
Future Volume (veh/h)	514	254	52	530	246	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	612	302	62	631	293	64
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1150	567	375	1782	406	89
Arrive On Green	0.50	0.50	0.50	0.50	0.29	0.29
Sat Flow, veh/h	2387	1131	609	3647	1422	311
Grp Volume(v), veh/h	474	440	62	631	358	0
Grp Sat Flow(s),veh/h/ln	1777	1648	609	1777	1737	0
Q Serve(g_s), s	7.2	7.2	3.1	4.3	7.4	0.0
Cycle Q Clear(g_c), s	7.2	7.2	10.3	4.3	7.4	0.0
Prop In Lane		0.69	1.00		0.82	0.18
Lane Grp Cap(c), veh/h	891	826	375	1782	496	0
V/C Ratio(X)	0.53	0.53	0.17	0.35	0.72	0.00
Avail Cap(c_a), veh/h	2673	2479	987	5346	1481	0
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	0.00
Uniform Delay (d), s/veh	6.8	6.8	10.3	6.0	12.8	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.2	0.1	2.0	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	1.7	1.6	0.3	0.9	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.3	7.3	10.5	6.1	14.8	0.0
LnGrp LOS	A	A	B	A	B	A
Approach Vol, veh/h	914			693	358	
Approach Delay, s/veh	7.3			6.5	14.8	
Approach LOS	A			A	B	
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	24.5				24.5	15.4
Change Period (Y+Rc), s	4.5				4.5	4.0
Max Green Setting (Gmax), s	60.0				60.0	34.0
Max Q Clear Time (g_c+I1), s	9.2				12.3	9.4
Green Ext Time (p_c), s	7.2				5.6	1.2
Intersection Summary						
HCM 6th Ctrl Delay			8.4			
HCM 6th LOS			A			

Creston Road Multi-Family

4: Creston Rd/Creston Road & Shopping Center

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	47	526	550	22	3	25
Future Vol, veh/h	47	526	550	22	3	25
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	612	640	26	3	29
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	675	0	-	0	1078	342
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	912	-	-	-	213	654
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	904	-	-	-	196	648
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	628	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		12.2		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	904	-	-	-	196	648
HCM Lane V/C Ratio	0.06	-	-	-	0.018	0.045
HCM Control Delay (s)	9.2	-	-	-	23.7	10.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.1

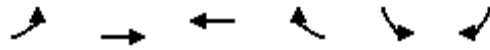
Creston Road Multi-Family
5: Creston Road & Golden Hill Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	103	520	863	371	87
v/c Ratio	0.33	0.28	0.67	0.49	0.21
Control Delay	42.2	11.9	24.6	34.7	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	11.9	24.6	34.7	10.9
Queue Length 50th (ft)	30	32	105	53	0
Queue Length 95th (ft)	134	156	358	191	42
Internal Link Dist (ft)		581	1125	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	744	3220	2731	2126	1003
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.16	0.32	0.17	0.09
Intersection Summary					






Creston Road Multi-Family
5: Creston Road & Golden Hill Road

HCM Signalized Intersection Capacity Analysis






Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	452	489	262	323	76
Future Volume (vph)	90	452	489	262	323	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.1	4.1		3.5	3.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		0.99	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	3505	3300		3361	1535
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	3505	3300		3361	1535
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	103	520	562	301	371	87
RTOR Reduction (vph)	0	0	42	0	0	68
Lane Group Flow (vph)	103	520	821	0	371	19
Confl. Peds. (#/hr)	6			6	5	7
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases					4	4
Actuated Green, G (s)	9.0	40.8	28.3		16.7	16.7
Effective Green, g (s)	9.0	40.8	28.3		16.7	16.7
Actuated g/C Ratio	0.12	0.54	0.38		0.22	0.22
Clearance Time (s)	3.5	4.1	4.1		3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	209	1896	1238		744	339
v/s Ratio Prot	c0.06	0.15	c0.25			
v/s Ratio Perm					c0.11	0.01
v/c Ratio	0.49	0.27	0.66		0.50	0.06
Uniform Delay, d1	31.1	9.3	19.6		25.7	23.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.0	1.0		0.2	0.0
Delay (s)	31.7	9.4	20.6		25.9	23.2
Level of Service	C	A	C		C	C
Approach Delay (s)		13.1	20.6		25.4	
Approach LOS		B	C		C	
Intersection Summary						
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			75.4		Sum of lost time (s)	14.6
Intersection Capacity Utilization			48.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						






Creston Road Multi-Family
6: Golden Hill Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	142	6	5	325	332	131
Future Vol, veh/h	142	6	5	325	332	131
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	161	7	6	369	377	149
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	652	266	529	0	-	0
Stage 1	455	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	398	729	1027	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	393	727	1024	-	-	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	16.1		0.1		0	
HCM LOS	C					
Minor Lane/Major Mvmt	NBL		NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1024		-	491	-	-
HCM Lane V/C Ratio	0.006		-	0.343	-	-
HCM Control Delay (s)	8.5		-	16.1	-	-
HCM Lane LOS	A		-	C	-	-
HCM 95th %tile Q(veh)	0		-	1.5	-	-

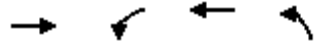
Creston Road Multi-Family
1: Creston Rd & Orchard Dr

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	701	752	15	9	22
Future Vol, veh/h	22	701	752	15	9	22
Conflicting Peds, #/hr	3	0	0	3	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	738	792	16	9	23
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	811	0	-	0	1588	803
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	785	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	815	-	-	-	119	383
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	449	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	813	-	-	-	113	382
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	448	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		17.1		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	813	-	-	-	331	
HCM Lane V/C Ratio	0.028	-	-	-	0.099	
HCM Control Delay (s)	9.6	-	-	-	17.1	
HCM Lane LOS	A	-	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	

Creston Road Multi-Family
2: Creston Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	5.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	177	598	574	50	28	198
Future Vol, veh/h	177	598	574	50	28	198
Conflicting Peds, #/hr	1	0	0	1	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	100
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	203	687	660	57	32	228
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	718	0	-	0	1783	691
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	1093	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	883	-	-	-	90	445
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	321	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	882	-	-	-	69	444
Mov Cap-2 Maneuver	-	-	-	-	69	-
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	321	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.4	0		30.6		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	882	-	-	-	69	444
HCM Lane V/C Ratio	0.231	-	-	-	0.466	0.513
HCM Control Delay (s)	10.3	-	-	-	96.4	21.3
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.9	-	-	-	1.9	2.9

Creston Road Multi-Family
3: Melody Dr & Creston Rd



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	688	53	483	213
v/c Ratio	0.40	0.15	0.27	0.43
Control Delay	7.5	8.9	7.4	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.5	8.9	7.4	12.9
Queue Length 50th (ft)	33	5	24	34
Queue Length 95th (ft)	112	30	82	69
Internal Link Dist (ft)	379		270	218
Turn Bay Length (ft)		115		
Base Capacity (vph)	3367	700	3539	1484
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.14	0.14
Intersection Summary				







Creston Road Multi-Family 3: Melody Dr & Creston Rd

HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (vph)	497	143	49	449	140	58
Future Volume (vph)	497	143	49	449	140	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		0.99	1.00	1.00	
Frt	0.97		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3388		1758	3539	1720	
Flt Permitted	1.00		0.38	1.00	0.97	
Satd. Flow (perm)	3388		705	3539	1720	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	534	154	53	483	151	62
RTOR Reduction (vph)	31	0	0	0	16	0
Lane Group Flow (vph)	657	0	53	483	197	0
Confl. Peds. (#/hr)		13	13		10	7
Confl. Bikes (#/hr)		8				
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	20.4		20.4	20.4	11.2	
Effective Green, g (s)	20.4		20.4	20.4	11.2	
Actuated g/C Ratio	0.51		0.51	0.51	0.28	
Clearance Time (s)	4.5		4.5	4.5	4.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1723		358	1800	480	
v/s Ratio Prot	c0.19			0.14	c0.11	
v/s Ratio Perm			0.08			
v/c Ratio	0.38		0.15	0.27	0.41	
Uniform Delay, d1	6.0		5.2	5.6	11.8	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.1		0.2	0.1	0.6	
Delay (s)	6.1		5.4	5.7	12.3	
Level of Service	A		A	A	B	
Approach Delay (s)	6.1			5.7	12.3	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay		6.9		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.39				
Actuated Cycle Length (s)		40.1		Sum of lost time (s)		8.5
Intersection Capacity Utilization		59.2%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Creston Road Multi-Family
3: Melody Dr & Creston Rd

HCM 6th Signalized Intersection Summary






						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱↱	
Traffic Volume (veh/h)	497	143	49	449	140	58
Future Volume (veh/h)	497	143	49	449	140	58
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	0.98
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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	534	154	53	483	151	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1532	439	550	2017	231	95
Arrive On Green	0.57	0.57	0.57	0.57	0.19	0.19
Sat Flow, veh/h	2793	774	752	3647	1208	496
Grp Volume(v), veh/h	351	337	53	483	214	0
Grp Sat Flow(s),veh/h/ln	1777	1696	752	1777	1711	0
Q Serve(g_s), s	3.7	3.8	1.4	2.4	4.1	0.0
Cycle Q Clear(g_c), s	3.7	3.8	5.2	2.4	4.1	0.0
Prop In Lane		0.46	1.00		0.71	0.29
Lane Grp Cap(c), veh/h	1009	963	550	2017	327	0
V/C Ratio(X)	0.35	0.35	0.10	0.24	0.65	0.00
Avail Cap(c_a), veh/h	3026	2889	1404	6051	1651	0
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	0.00
Uniform Delay (d), s/veh	4.1	4.1	5.5	3.8	13.2	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.1	0.1	2.2	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	0.6	0.5	0.1	0.3	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.3	4.3	5.6	3.9	15.4	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h	688			536	214	
Approach Delay, s/veh	4.3			4.0	15.4	
Approach LOS	A			A	B	
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	24.5				24.5	10.7
Change Period (Y+Rc), s	4.5				4.5	4.0
Max Green Setting (Gmax), s	60.0				60.0	34.0
Max Q Clear Time (g_c+I1), s	5.8				7.2	6.1
Green Ext Time (p_c), s	4.9				4.0	0.7
Intersection Summary						
HCM 6th Ctrl Delay			5.9			
HCM 6th LOS			A			

Creston Road Multi-Family

4: Creston Rd/Creston Road & Shopping Center

Intersection

Int Delay, s/veh 2.4

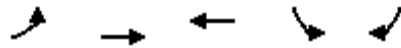
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	119	439	426	49	36	72
Future Vol, veh/h	119	439	426	49	36	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	482	468	54	40	79

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	522	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1041	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1041	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1041	-	-	-	210	738
HCM Lane V/C Ratio	0.126	-	-	-	0.188	0.107
HCM Control Delay (s)	9	-	-	-	26.1	10.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.4

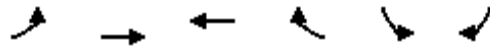
Creston Road Multi-Family
5: Creston Road & Golden Hill Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	64	421	768	347	80
v/c Ratio	0.18	0.22	0.62	0.42	0.18
Control Delay	29.7	8.7	17.8	24.5	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	8.7	17.8	24.5	9.0
Queue Length 50th (ft)	15	21	75	42	0
Queue Length 95th (ft)	85	125	278	160	41
Internal Link Dist (ft)		581	1125	505	
Turn Bay Length (ft)	125			120	
Base Capacity (vph)	921	3450	3067	2632	1215
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.12	0.25	0.13	0.07
Intersection Summary					






Creston Road Multi-Family
5: Creston Road & Golden Hill Road

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	379	418	274	312	72
Future Volume (vph)	58	379	418	274	312	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.1	4.1		3.5	3.5
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3311		3433	1560
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3311		3433	1560
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	64	421	464	304	347	80
RTOR Reduction (vph)	0	0	69	0	0	62
Lane Group Flow (vph)	64	421	699	0	347	18
Confl. Peds. (#/hr)	1			1		2
Confl. Bikes (#/hr)				1		
Turn Type	Prot	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases					4	4
Actuated Green, G (s)	7.6	30.8	19.7		13.3	13.3
Effective Green, g (s)	7.6	30.8	19.7		13.3	13.3
Actuated g/C Ratio	0.13	0.53	0.34		0.23	0.23
Clearance Time (s)	3.5	4.1	4.1		3.5	3.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	231	1879	1124		787	357
v/s Ratio Prot	c0.04	0.12	c0.21			
v/s Ratio Perm					c0.10	0.01
v/c Ratio	0.28	0.22	0.62		0.44	0.05
Uniform Delay, d1	22.7	7.2	16.0		19.2	17.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.8		0.1	0.0
Delay (s)	23.0	7.3	16.8		19.3	17.5
Level of Service	C	A	B		B	B
Approach Delay (s)		9.3	16.8		19.0	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			15.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			58.0		Sum of lost time (s)	14.6
Intersection Capacity Utilization			46.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Creston Road Multi-Family
6: Golden Hill Rd & Rolling Hills Rd

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	135	6	2	235	304	111
Future Vol, veh/h	135	6	2	235	304	111
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	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	157	7	2	273	353	129
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	559	241	482	0	-	0
Stage 1	418	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	457	757	1070	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	456	757	1070	-	-	-
Mov Cap-2 Maneuver	527	-	-	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.7	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1070	-	534	-	-	
HCM Lane V/C Ratio	0.002	-	0.307	-	-	
HCM Control Delay (s)	8.4	-	14.7	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	1.3	-	-	

Creston Road Multi-Family
2: Creston Rd & Rolling Hills Rd

Intersection			
Intersection Delay, s/veh	16.8		
Intersection LOS	C		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	1025	881	288
Demand Flow Rate, veh/h	1046	899	294
Vehicles Circulating, veh/h	38	196	816
Vehicles Exiting, veh/h	1072	888	279
Ped Vol Crossing Leg, #/h	0	0	5
Ped Cap Adj	1.000	1.000	0.999
Approach Delay, s/veh	16.1	18.5	14.3
Approach LOS	C	C	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	1046	899	294
Cap Entry Lane, veh/h	1327	1130	600
Entry HV Adj Factor	0.980	0.980	0.980
Flow Entry, veh/h	1025	881	288
Cap Entry, veh/h	1301	1107	588
V/C Ratio	0.788	0.796	0.490
Control Delay, s/veh	16.1	18.5	14.3
LOS	C	C	B
95th %tile Queue, veh	9	9	3

Creston Road Multi-Family
2: Creston Rd & Rolling Hills Rd

Intersection			
Intersection Delay, s/veh	11.9		
Intersection LOS	B		
Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	890	717	260
Demand Flow Rate, veh/h	908	731	266
Vehicles Circulating, veh/h	33	207	673
Vehicles Exiting, veh/h	906	734	265
Ped Vol Crossing Leg, #/h	1	0	1
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	11.8	12.5	10.5
Approach LOS	B	B	B
Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	908	731	266
Cap Entry Lane, veh/h	1334	1117	695
Entry HV Adj Factor	0.980	0.981	0.977
Flow Entry, veh/h	890	717	260
Cap Entry, veh/h	1308	1096	679
V/C Ratio	0.681	0.654	0.383
Control Delay, s/veh	11.8	12.5	10.5
LOS	B	B	B
95th %tile Queue, veh	6	5	2

Appendix C: Signal Warrant



Traffic Signal Warrant Analysis

Warrants 1 - 3 (Volume Warrants)

Project Name	Creston Road & Rolling Hills Road
Project/File #	2022_249
Scenario	Existing Weekday

Intersection Information			
Major Street (E/W Road)	Creston Road	Minor Street (N/S Road)	Rolling Hills Road
Analyzed with	1 approach lane	Analyzed with	2 or more approach lanes
Total Approach Volume	7370 vehicles	Total Approach Volume	1120 vehicles
Total Ped/Bike Volume	13 crossings	Total Ped/Bike Volume	4 crossings
Right turn reduction of	0 percent applied	Right turn reduction of	40 percent applied

No high speed or isolated community reduction applied to the Volume Warrant thresholds.

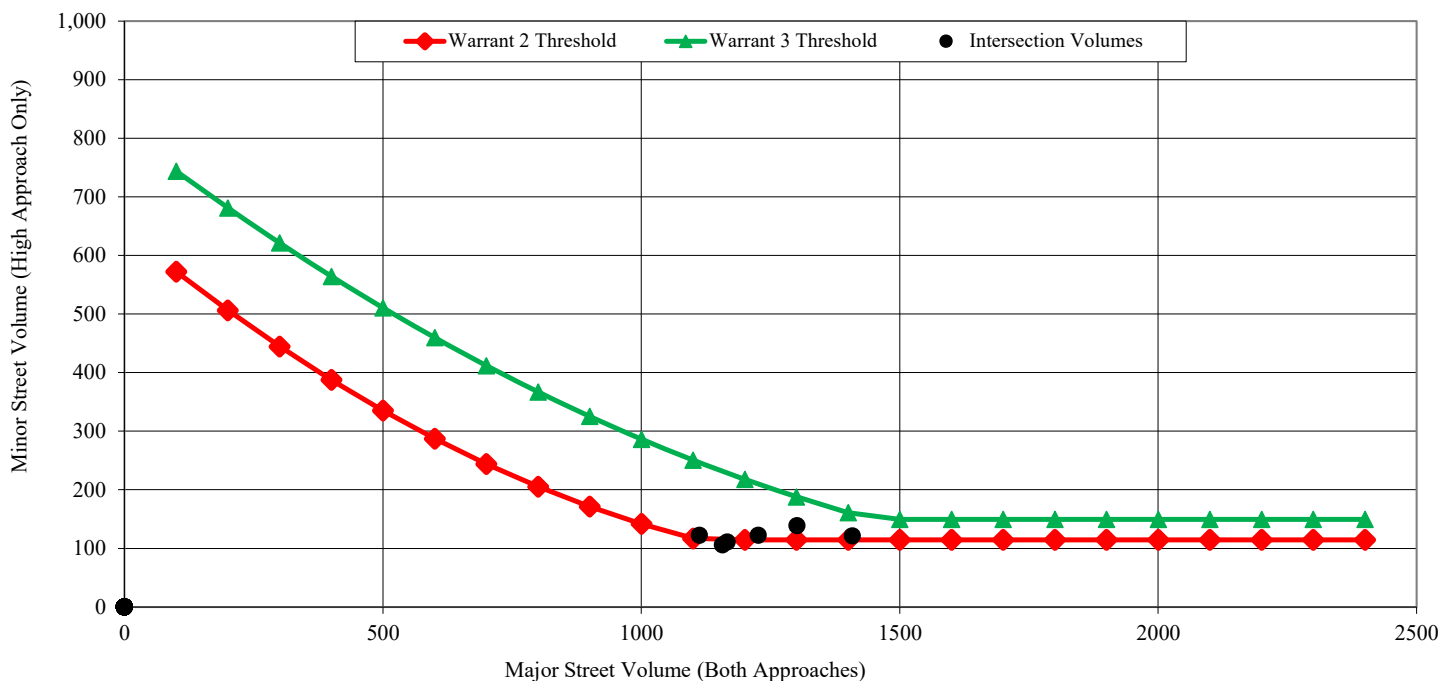
Warrant 1, Eight Hour Vehicular Volume			
	Condition A	Condition B	Condition A+B*
Condition Satisfied?	Not Satisfied	Not Satisfied	Not Satisfied
Required values reached for	0 hours	6 hours	0 (Cond. A) & 6 (Cond. B)
Criteria - Major Street (veh/hr)	500	750	400 (Cond. A) & 600 (Cond. B)
Criteria - Minor Street (veh/hr)	200	100	160 (Cond. A) & 80 (Cond. B)

* Should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Warrant 2, Four Hour Vehicular Volume	
Condition Satisfied?	Satisfied
Required values reached for	4 hours
Criteria	See Figure Below

Warrant 3, Peak Hour Vehicular Volume		
	Condition A	Condition B
Condition Satisfied?	Not Satisfied	Not Satisfied
Required values reached for	1520 total, 219 minor, 2.5 delay	0 hours
Criteria - Total Approach Volume (veh in one hour)	650	See Figure Below
Criteria - Minor Street High Side Volume (veh in one hour)	150	
Criteria - Minor Street High Side Delay (veh-hrs)	5	

Figure 4C-1 (Warrant 2) & Figure 4C-3 (Warrant 3)



Mitigation Monitoring and Reporting Plan

Project File No./Name: Rolling Hills Apartment Project

Approving Resolution No.: ____ by: ☐ Planning Commission ☐ City Council

Date: _____

The following environmental mitigation measures were either incorporated into the approved plans or will be incorporated into the conditions of approval. Each and every mitigation measure listed below has been found by the approving body indicated above to lessen the level of environmental impact of the project to a level of non-significance. A completed and signed checklist for each mitigation measure indicates that it has been completed.

Explanation of Headings:

Type: Project, ongoing, cumulative

Monitoring Department or Agency: Department or Agency responsible for monitoring a particular mitigation measure

Shown on Plans: When a mitigation measure is shown on the plans, this column will be initialed and dated.

Verified Implementation: When a mitigation measure has been implemented, this column will be initialed and dated.

Remarks: Area for describing status of ongoing mitigation measure, or for other information.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
BIO-1. Work Timing. All work activities shall be completed during daylight hours (between sunrise and sunset) and outside of rain events.	Project	CDD / Qualified Biologist	X	Notes shown on construction documents. Site inspection as needed.	Prior to issuance of grading permit.
BIO-2. Work Limits. The Project impact area shall be clearly marked or delineated with stakes, flagging, tape, or signage prior to work. Areas outside of work limits shall be considered environmentally sensitive and shall not be disturbed.	Project	CDD / Qualified Biologist	X	Notes shown on construction documents. Site inspection as needed.	Prior to issuance of grading permit.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
BIO-3. Vehicles and Equipment. All equipment and vehicles shall be checked and maintained daily to prevent spills of fuel, oil, and other hazardous materials. A designated staging area shall be established for vehicle/equipment parking and storage of fuel, lubricants, and solvents. All fueling and maintenance activities shall take place in the staging area.	Project	CDD	x	Notes shown on construction documents.	Ongoing during grading and construction
BIO-4. Pre-Activity Nesting Bird Survey. If vegetation removal (i.e., tree trimming/removal activities) is scheduled between February 1 and August 31 (general nesting bird season), nesting bird surveys shall be completed by a qualified biologist within 48 hours prior to start of work. If any active nests are discovered within or adjacent to work limits, an appropriate buffer (i.e., 500 feet for raptors and 250 feet for other birds, or at the discretion of a qualified biologist based on biological or ecological reasons) shall be established to protect the nest until a qualified biologist has determined that the nest is no longer active and/or the young have fledged.	Project	CDD / Qualified Biologist	X	Notes shown on construction documents. Verification from qualified biologist.	Prior to issuance of grading permit.
BIO-5. Pre-Activity Special-Status Species Survey. Within 30 days of the start of construction, a qualified biologist shall conduct a pre-activity survey of the Project Site for signs of San Joaquin kit fox and American badger, including tracks, scat, or suitable	Project	CDD / Qualified Biologist	X	Notes shown on construction documents. Verification from qualified biologist.	Prior to issuance of grading permit.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
<p>burrows (burrows four inches or greater in diameter). Potential dens shall be tracked for a minimum of four nights with motion-activated cameras to determine if the burrow is actively being used by San Joaquin kit fox or badger. All potential dens shall be avoided by a minimum of 50 feet until they have been determined to be inactive. In the event San Joaquin kit fox is identified within the Project Site, the USFWS, CDFW, and all other appropriate agencies/government entities shall be contacted for further consultation.</p> <p>In conjunction with the badger and San Joaquin kit fox survey, the qualified biologist will conduct a survey for Northern legless lizard. Hand search methods, including raking, will be used during the survey in areas where legless lizards are expected to be found (e.g., under shrubs/leaf litter, other vegetation, or debris). If observed, the qualified biologist will relocate the lizard to nearby suitable habitat. The qualified biologist will prepare a completion letter-report to document the pre-activity survey results.</p>					
BIO-6. Oak Tree Removal. If oak tree removal and/or damage is unavoidable due to Project implementation, the City may require mitigation for impacts to mature oak trees. Mitigation may require preparation of an oak tree protection and replacement plan that would provide guidance for onsite and/or offsite oak tree replacement planting. Mitigation planting replacement	Project	CDD	X	Notes shown on construction documents.	Prior to issuance of grading permit.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
ratio (oak trees removed to oak trees planted) would be determined by the County.					
BIO-7. To fully mitigate proposed impacts to the native valley oak, the project owner(s) shall implement the Mitigation Recommendations provided in the November 2, 2022, Tree Evaluation Letter prepared by Heritage Tree Arboricultural Consulting.	Project	CDD/Project Arborist	X	Notes shown on construction documents.	Site inspection prior to final.
BIO-7. Tree Protection Zone Restrictions for Trees No. 83 and 84 shall be as follows: <ul style="list-style-type: none"> • Tree Protection During Construction - Tree protection shall be provided during the entire time construction activities occur. A Tree Protection Zone (TPZ) shall be established and maintained to ensure protected roots remain undisturbed. • Tree Protection Fencing - Tree protection fencing is required to be in place for the duration of the construction project and shall be installed before starting any ground disturbing activities. Do not remove any tree protection fencing or enter the TPZ without approval of the project arborist. The fencing shall delineate and protect the tree protection zone. The fencing shall be 4 feet tall and made of orange, high density, polyethylene with 3.5" x 1.5" openings. 	Project	CDD / Project Arborist	X	Notes shown on construction documents.	Prior to issuance of grading permit. Site inspection as needed.

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<p>It shall be installed on steel posts 8 feet on center and tightly stretched to prevent sagging. See Appendix C - Tree Protection Diagrams - Diagram 1 – Tree Protection Fencing.</p> <ul style="list-style-type: none"> • Trunk Protection - Tree protection fencing is required See Appendix C of the Report - Tree Protection Diagrams - Diagram 2 – Trunk Protection. • Tree Protection Signage - Weatherproof, tree protection signs stating “Tree Protection Zone – Do Not Enter” shall be placed on the fencing and be spaced 10 feet apart. Signs shall also include the project arborists and the project forepersons contact information. Signs shall remain in place until completion of the project and the city has given a certificate of occupation. See Appendix C of the Report - Tree Protection Diagrams - Diagram 1 – Tree Protection Fencing. • Pre-Construction Meeting - A meeting with all contractors involved in the project shall occur with the project arborist before beginning construction activities. Any new contractors brought on site shall also meet or communicate 					

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<p>with the project arborist to ensure they are aware of tree protection measures.</p> <ul style="list-style-type: none"> • Preparing Tree Protection Zone - If construction occurs during the months of June through November, the TPZ's shall be irrigated to a depth of 12 inches before construction begins. This will ensure the trees are properly hydrated. Additional irrigations during "heat-waves" may be recommended by the project arborist. • Root Protection - No grading, trenching, paving or any other soil disturbance shall occur within or adjacent to the TPZ of the tree without permission and supervision by the project arborist. No trenching or excavation for footings, foundations, utilities or roadways shall occur within or adjacent to the TPZ without first, hand trenching the location and exposing roots. <p>If possible, conduit or other utilities shall be "fished" below roots larger than 1-inch diameter. Any roots 1-inch diameter or larger that are approved for pruning shall be hand cut with a clean pruning saw or Sawzall. Once roots are hand cut, machinery can remove the severed roots. Cutting any roots 1-inch diameter</p>					

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<p>or larger requires supervision by the project arborist.</p> <ul style="list-style-type: none"> • Root Pruning - If the project arborist determines that a root over 1-inch diameter needs to be cut, it shall be cut by hand with a pruning saw or reciprocating saw "Sawzall". After cutting a root, the area shall be backfilled as soon as possible with moist soil or covered with wet burlap until backfill can be completed. Burlap shall be kept wet the entire time it is in use for cut-root protection. • Dumping, Cleanout or Storage of Materials - No construction materials, soils, or debris shall be stored in the TPZ. No concrete, plaster, paint or chemical washout shall be allowed within the TPZ or Critical Root Zone (CRZ). • Monitoring - An initial inspection shall be completed by the project arborist prior to commencement of construction activities to ensure that all tree protection measures have been put in place. Weekly inspections of the TPZ and associated fencing shall also be completed by the project arborist until construction is complete. Any root pruning, excavation, grading 					

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
or filling within 5 feet of the TPZ shall a be monitored by the project arborist.					
CUL-1. A trained and qualified archaeological monitor and Native American tribal monitor should perform cultural resources monitoring of initial ground disturbing activities associated with the Project that has the potential to impact cultural resources (i.e. grading, trenching). Monitoring is not effective during activities where the soil matrix is not visually exposed (i.e. pile-driving for installation of solar pylons). The monitors will have the ability to redirect construction activities to ensure avoidance of significant impacts to cultural resources.	Project	CDD / Project Archaeologist	X	Notes on construction documents.	Prior to issuance of grading permit.
CUL-2. Training. Prior to any ground-disturbing activities, the field archaeologist shall conduct awareness training for the field crew and supervisors. This will include a description of the types of artifacts that may be encountered and a discussion of why these are of importance to the Native American community, as well as for an understanding of local history. Pertinent laws and regulations protecting archaeological sites will be briefly reviewed and any archaeologists monitoring methods will be explained.	Project	CDD / Archaeologist	X	Notes on construction documents.	Prior to issuance of grading permit.
CUL-3. In the event that these resources are inadvertently discovered during ground-disturbing	Project	Project Archaeologist, SLO County	X	As needed	Ongoing during grading and construction.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
<p>activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies). Any potentially significant artifacts, sites or features observed shall be collected and recorded in conjunction with best management practices and professional standards. Any cultural items recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.</p> <p>A report documenting the results of the monitoring efforts, including any data recovery activities and the significance of any cultural resources will be prepared and submitted to the appropriate City and County personnel.</p> <p>Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be</p>		Coroner, Native American Heritage Commission			

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to insure the integrity of the immediate area must be taken. The Orange County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.					
TR-1. The Creston Road driveway shall be limited to left-in, right-in, right-out only.	Project	CDD / City Engineer		Shown on building plans.	Before building permit issuance.
TR-2. The project shall include a small median in the two-way left turn lane to allow left turns into the site and the driveway across Creston Road but restrict outbound left turns on to Creston Road.	Project	CDD / City Engineer		Shown on building plans.	Before building permit issuance.

Mitigation Measure PD22-08 / OTR 22-16	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing/Remarks
TR-3. The project shall construct the following improvements consistent with the Creston Road Complete and Sustainable Streets Study: <ol style="list-style-type: none"> 1. Extend curb, gutter, and sidewalk improvements on the north side of Creston Road from project frontage to Orchard Drive. 2. Install curb ramps and bulbouts on the north and south side of Creston Road at the existing Orchard Drive crosswalk. 3. Replace existing school crossing signage at Orchard Drive with CAMUTCD compliant signage. Replace overhead sign with S1-1 sign, replace pole mounted sign with SW24-2(CA) sign, and install SW-24-3 (CA) sign in advance of the crosswalk. 4. Replace existing overhead flashing beacons with overhead and pole mounted rectangular rapid flashing beacons (RRFB). 	Project	CDD / City Engineer		Shown on building plans.	Before building permit issuance.
TR-4. The City's Pedestrian and Bicycle Master Plan includes buffered Class II bike lanes on Creston Road and Class II bike lanes on Rolling Hills Road adjacent to the project site. The project frontage improvements shall incorporate the width to accommodate the future Class II facilities.	Project	CDD / City Engineer		Shown on building plans.	Before building permit issuance.

(add additional measures as necessary)

Explanation of Headings:

Type: Project, ongoing, cumulative

Monitoring Department or Agency: Department or Agency responsible for monitoring a particular mitigation measure
Shown on Plans: When a mitigation measure is shown on the plans, this column will be initialed and dated.
Verified Implementation: When a mitigation measure has been implemented, this column will be initialed and dated.
Remarks: Area for describing status of ongoing mitigation measure, or for other information.