

ENVIRONMENTAL INITIAL STUDY CHECKLIST FORM
CITY OF PASO ROBLES
August 11, 2015

- 1. PROJECT TITLE:** The Oaks at Paso Robles – Assisted Living Facility
- Concurrent Entitlements:** Planned Development (PD 15-002)
Conditional Use Permit (CUP 15-004)
- 2. LEAD AGENCY:** City of Paso Robles
1000 Spring Street
Paso Robles, CA 93446
- Contact:** Susan DeCarli
Phone: (805) 237-3970
Email: sdecarli@prcity.com
- 3. PROJECT LOCATION:** Southwest corner of South River Road
and Serenade Drive
Paso Robles, CA 93446
(See Attachment 1, Vicinity Map)
- Assessor Parcel Number:
009-815-007
- 4. PROJECT PROPONENT:** BA Hoffman Holdings, LLC
Blake Hoffman
- Contact Person:** Larry Werner
North Coast Engineering
Phone: (805) 239-3127
Email: lwerner@northcoastengineering.com
- 5. GENERAL PLAN DESIGNATION:** Residential Multi-Family (RMF-20)
- 6. ZONING:** Residential Multi-Family – Planned Development
(R4-PD)
- 7. PUBLIC REVIEW PERIOD:** August 10, 2015 through September 8, 2015
- 8. PROJECT DESCRIPTION:** This is a proposal to establish an assisted living facility for senior residents and persons that need general assisted living services. The project site 2.79 acres in area, and includes 73 assisted living units, and 24 memory care units. The assisted living units include studios, 1-bedroom and 2-bedroom units, with private bathrooms and kitchenettes.

The facility will be licensed as a Residential Care Facility for the Elderly (RCFE) under the State Department of Social Services. Services will include meals, laundry, assistance with medications, and personal care. This is not proposed to be a medical facility, however qualified staff will be available to handle general health assessments, emergency response procedures, (including administering CPR), and assessment of emergency responses that may be necessary.

The project is proposed to be three stories in height (up to 39'4") for the assisted living component of the building, and one-story for the memory care facility. See Attachment 4, Elevations. The combined square footage is proposed to be approximately 68,000 square feet in area. The facility includes a central kitchen and dining room, bistro-style deli, personal services, and activities center, as well as large gathering spaces with indoor/outdoor balconies on each floor, and a secured courtyard gathering space for memory care facility. See Attachments: 2 - Site Plan, and 3 – Floor Plans.

As shown on the elevations, the proposed project is designed as one, continuous building adjacent to South River Road. The site is a narrow property with the eastern portion of the site rising steeply (up to 30% slope). Retaining walls are proposed along a portion of the front of the buildings adjacent to the sidewalk, and also along the interior rear slope to retain the hillside. In compliance with the Oak Tree Preservation Ordinance, the oak trees located toward the top of the slope will be protected per the Arborist Report recommendations (see Attachment 5).

Parking, site circulation, and the entrance drop-off area is located on the interior (east) side of the building. There are two site access points via South River Road and Serenade Drive. The site plan includes 39 parking spaces for residents, employees and guests. The number of parking spaces provided is based on a national study (Attachment 6), that evaluated the unique parking needs of this type of use. The facility will also provide shuttle services for residents and guests.

The architectural design incorporates Craftsman design elements and materials, with the intention of reflecting regional design themes, and blending in with surrounding residential and commercial development patterns in the near vicinity.

9. **ENVIRONMENTAL SETTING:** The project site is located at the southeast corner of the intersection of South River Road and Serenade Drive. It is oriented towards South River Road, which is an arterial road in the City's street network. There is residential development located across South River Road to the west, (uphill) east of the property, commercial development to the north, and vacant (single-family residential) property to the south of the site.

As noted above, the site has a steep hillside that slopes up toward the east, with several oak trees located in this area of the property. The property would be served with municipal water service for potable and irrigation water needs. It would also be provided with City sewer service.

10. OTHER AGENCIES WHOSE APPROVAL IS REQUIRED (AND PERMITS NEEDED):

None.

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 checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <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/Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Susan DeCorti

Date: 8-12-15

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 will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved. Answers should address 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 (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
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 Analysis 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. 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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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I. AESTHETICS: Would the project:

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|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. | Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project site is not designated in the City General Plan, Conservation Element as being in a scenic view corridor, nor is it within a designated scenic vista.

However, the site has scenic quality since in its current state it is an open, undeveloped property with a hillside and oak trees toward the eastern side of the property that provide a backdrop of natural features as viewed from South River Road and Highway 101. The base of the property would be obscured by the building, yet the visibility of the upper hillside and oak trees would remain. Additionally, the project would not impact scenic vistas of properties in the neighborhood to the east of Serenade Drive, since the site is below the bluffs. This indicates that the project would not result in a substantial adverse effect on a scenic vista, and that impacts would be less than significant.

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|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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"/> |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project site is not located near a State “scenic” highway. There are no scenic resources such as rock outcroppings or historic buildings located on the site, however there are native oak trees on the upper slope of the site toward the east. The project would not block views of the upper hillside and oak trees on the site. Therefore, the project would not result in significant impacts to scenic resources.

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|----|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| c. | Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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Discussion:

The proposed building would be approximately 620 feet in length, range between approximately 56 – 79 feet with width, and 39.4 feet in height. The view of the project from South River Road and Serenade Drive will present a solid, large-scale, tall building that will be more massive than existing surrounding development. The scale of the building along the roads would be somewhat abrupt as viewed from the street due to the overall length and scale of the proposed building. With a large building on a relatively narrow lot, set back 55 feet from the northbound driving lane on South River Road, the building would significantly alter the existing visual character and quality of the site and its surroundings.

However, the proposed site and architectural design helps to mitigate the visual impacts of the building to the site and surroundings through use of design features that help break up the continuous mass of the building. This is achieved by including changes in horizontal and vertical planes, variations in fenestration details, different treatments to the eaves, roof heights, projections and recesses of the wall plane, and use of varying colors and textures of materials.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Other measures that help mitigate the visual impacts of the building on the site and surroundings include frontage improvements such as the proposed landscaped bioswale, which ranges between 25 – 30 feet in width, (between the edge of street pavement and the sidewalk), in addition to approximately 10 feet of landscaping between the back of the sidewalk to the building footprint. Additionally, the landscape plan includes numerous species of trees along the front elevation in the bioswale, sidewalk planting bulb outs, and building frontage to help soften the visual impact of the building as viewed from the street. The tree palette includes several different tree heights and textures to break up the building mass and address visual quality impacts.

Therefore, with architectural design features and landscape amenities proposed as project mitigation measures, the potential visual impacts would be reduced to a less than significant level on the existing visual quality of the site and surroundings. See Mitigation Measures A-1 & A-2, in the attached Mitigation Monitoring Program.

- d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Sources: 1, 2, 10)

Discussion: The existing site is undeveloped, therefore there is currently no light or glare that is emitted from the site. The project would therefore create new sources of light that may be seen at nighttime. However, as a residential care type of development project, it does not include brightly lit building signs. It includes modest architectural-quality Craftsman style building lighting, and relatively low site lighting standards (7.5 feet in height) with LED fixtures (that will be in compliance with the City’s Zoning regulations which require all external lighting to be shielded and downcast), therefore the project is not anticipated to result in significant impacts from substantial lighting. The proposed lighting cut-sheets are provided in Attachment 4, with the proposed Elevations.

Additionally, given the colors and materials proposed, the project would not result in glare, which is typically a result of shiny, reflective or bright surfaces or lighting fixtures that are not shielded. Therefore, the proposed project will result in less than significant impacts from light or glare.

II. AGRICULTURE AND FOREST 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. 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?

Discussion: The project site is designated in the General Plan and is zoned on the City’s Zoning Map for residential development. The property is not identified in the City General Plan, Conservation Element (Figure C-1, Important Farmland Map) as having either prime, unique or farmland of statewide importance. The site is not presently farmed, and as an urban infill site there are no farming activities in the vicinity. Therefore, the project would not result in impacts on converting prime or other significant soils to urban land uses.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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"/>
Discussion: The site is not under Williamson Act contract, nor is it currently used for agricultural purposes.				
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 5114(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: There are no forest land or timberland resources within the City of Paso Robles.				
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"/>
Discussion: See II c. above.				
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"/>
Discussion: There are no properties with agricultural resources or activities located within the near vicinity. Therefore, the proposed project could not result in pressure to convert agricultural land to urban uses.				

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management 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? (Source: Attachment 5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Discussion: An Air Quality Analysis was prepared by AMBIENT Consulting for this project. (See Attachment 7.) The study evaluated project consistency with the SLO County Air Pollution Control District Clean Air Plan (APCD CAP), in particular, it was compared with land use and transportation control measures. These measures include: campus-based trip reduction; voluntary trip reduction programs; local transit system improvements; regional transit improvements; bike-related enhancements; park and ride lots; motor vehicle inspection and control program; traffic flow improvements; and telecommuting/teleconferencing/ telelearning.

The project incorporates the majority of these measures including: infill development, located near a wide range of commercial retail and service uses within walking distance (2 blocks); compact high-density residential development; voluntary shuttle services for residents and guests; local transit stop (within 3 blocks); construction of enhanced bicycle facilities along the property frontage; a park and ride lot within walking distance (2 blocks); street sidewalk improvements; and the ability to host telelearning services for residents and employees. Therefore, considering these measures, the project does not conflict with the SLO County APCD CAP.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation? (Source: 11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion: The northern area of San Luis Obispo County occasionally exceeds ozone levels (both federal and state standards). The Air Quality Impact Study indicates that the project would exceed local thresholds for construction-related emissions, however the study also includes mitigation measures that can be employed to reduce those emissions to less than significant levels. In particular, the study indicates that the project would exceed maximum daily emission of ROG and Nox. Implementation of mitigation measures MM AQ-1 and MM AQ-2 would reduce potential short-term construction emissions to a less than significant level.

The study indicates that the project would not exceed operational thresholds (e.g. project-related trip generation and energy use) established by the Air District, therefore, impacts from operational emissions would be less than significant.

c. 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (Source: 11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Discussion: See III b. above. Operational emissions were quantified using the CalEEMod computer modeling program based on the default modeling parameters contained in the model for San Luis Obispo County. Net increases in operational emissions for the project in comparison to SLOAPCDs corresponding significance thresholds, indicates that net increases in operational emissions for the project would not exceed the District's corresponding daily or annual significance thresholds. As a result, long-term, cumulative operational emissions generated by the proposed project are considered to have a less than significant impact.

Short-term increases in emissions would occur during the construction process. Construction-generated emissions are of a temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. The construction of the proposed project would result in the temporary generation of emissions associated with site grading and excavation, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces. Short-term construction emissions would result in increased emissions of ozone-precursor pollutants (i.e., ROG and NO_x) and emissions of particulate matter (PM₁₀). Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities and can result in increased concentrations of PM that can adversely affect nearby sensitive land uses. Because estimated emissions of ROG and NO_x would occur, MM AQ-1 (a) would reduce emissions to a less than significant level. Mitigations measures MM AQ-1 (b) and (c) would be applied to minimize nuisance impacts associated with construction-generated fugitive dust emissions.

There is a potential to have naturally occurring asbestos. Additionally, construction may result in generation of fugitive dust. Therefore, mitigation measures included in MM AQ-2 shall be applied. Implementation of MM AQ-2 would reduce potentially significant impacts related to asbestos and/or fugitive dust to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Expose sensitive receptors to substantial pollutant concentrations? (Source: 11)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion: No major stationary or area sources of toxic air contaminants (TACs) have been identified in the project vicinity. The proposed project does not include the installation of any major stationary sources of TACs. However, the proposed project may include the future installation of a stand-by emergency generator, which could result in intermittent, localized increases in emissions. In addition, construction of the proposed project may also result in localized pollutant concentrations. The stand-by emergency generator would be operated in the event of an emergency power failure or for routine testing and maintenance. The type, size and location of the stand-by generator has not yet been determined. However, depending on the type of unit installed, localized emissions could potentially exceed applicable ambient air quality standards, particularly at onsite receptor locations.

Localized concentrations of CO are of primary concern in areas located near congested roadway intersections. As an assisted living and memory care campus, most residents living at the facility would not drive. As a result, the proposed project would not result in a substantial increase in vehicle traffic on area roadways. For this reason, the proposed project would not be anticipated to result in unacceptable localized concentrations of CO at intersections, and are therefore, considered to be less than significant.

Construction of the proposed project would result in short-term emissions of PM, including fugitive dust and diesel-exhaust PM, primarily during the initial site preparation and grading phase. These activities could result in localized PM concentrations that may result in adverse nuisance impacts to nearby sensitive receptors (e.g. residences), which could be considered to have a potentially significant impact. MM AQ-2 addresses the potential for impacts to expose sensitive receptors to substantial pollutant concentrations to a less than significant level.

e. Create objectionable odors affecting a substantial number of people? (Source: 11)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Discussion: The proposed project would not result in the installation of any equipment or processes that would be considered a major odor-emission source. However, pavement and architectural coatings used during project construction would emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. For these reasons, potential exposure of sensitive receptors to odorous emissions would be considered less than significant.

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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Discussion: The project site is an urban infill property, surrounded by development on all sides, except for a vacant property to the south, which has similar site characteristics. The lower portion of the site has been disturbed through disking, and is covered in ruderal plant species. A biological assessment was prepared for a prior project approved on this property. It determined that there were no rare or protected plant or animal species observed on the site. There have been no changes to the site or surroundings. The upper area of the property has oak trees located on it, which will be protected during construction in accordance with the Arborist Report, provided in Attachment 5. These measures are incorporated into mitigation measure MM B-1. Therefore, with mitigations applied to protect the existing oak trees, the proposed project would not adversely impact, directly or indirectly, protected species, and will not result in impacts to these resources.

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| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations regulated by the California Department of Fish and Game or US Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
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Discussion: There is no riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations that are regulated by the California Department of Fish and Game or US Fish and Wildlife Service located on or near this property. Therefore, this project would not result in impacts to these resources.

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| c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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"/> |
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Discussion: There are no wetlands, waterways or other hydrological features located on the project site, or within the near vicinity that could be affected by the proposed project. Therefore, the project will not result in impacts to hydrological features and/or resources.

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| 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project site an urban infill lot, surrounded by existing development. There are no waterways on the property. Additionally, the site is not within a native resident or migratory corridor with fish or wildlife, therefore development of the project could not impact resident or migratory corridors for fish or wildlife.

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| e. Conflict with any local policies or ordinances protecting biological resources, | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
such as a tree preservation policy or ordinance?				

Discussion: The project would comply with the recommendations of the Arborist Report to protect the oak trees located on the site. The project would not conflict with any local policies or ordinances established to protect biological resources, as there are no other significant protected biological resources on or near the project site.

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| 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 applicable in the City of Paso Robles.

V. CULTURAL RESOURCES: Would the project:

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|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. 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"/> |
| d. Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion (a-d): There are no historic resources (as defined), located on the site. There are also no archaeological or paleontological resources known to be present on the site or in the near vicinity. Since the property is not located within proximity to a creek or river or known cultural resource, it is unlikely that there are resources located on the site.

There are no known human remains on the project site, however per conditions of approval incorporated into the project, if human remains are found during site disturbance, all grading and/or construction activities shall stop, and the County Coroner shall be contacted to investigate. Therefore, this project will result in less than significant impacts on cultural resources.

VI. GEOLOGY AND SOILS: Would the project:

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist- | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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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. (Sources: 1, 2, & 3)

Discussion: 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 Rivers 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.

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| ii. Strong seismic ground shaking?
(Sources: 1, 2, & 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: 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 will be 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.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| iii. Seismic-related ground failure, including
liquefaction? (Sources: 1, 2 & 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Per the General Plan EIR, the project site is located in an area with soil conditions that have a low potential for liquefaction or other type of ground failure due to seismic events and soil conditions. Therefore, impacts related to seismic-related ground failure are determined to be less than significant.

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|-----------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|-----------------|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Per the General Plan Safety Element, the project site is in an area that is designated as a low-risk area for landslides. Therefore, potential impacts due to landslides would be less than significant.

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b. Result in substantial soil erosion or the loss
of topsoil? (Sources: 1, 2, & 3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: Per the General Plan EIR the soil condition is not erosive or otherwise unstable. As such, no significant impacts are anticipated. Therefore, potential impacts due to erosion or loss of topsoil would be less than significant.

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c. Be located on a geologic unit or soil that is
unstable, or that would become unstable as a | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Discussion: This site is not located in an area with an unstable geologic unit that would be subject to on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d. Be located on expansive soil, as defined in Table 18-1-B of the California Building Code, creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: This site is not located in an area with an unstable geologic unit that would be subject to expansive soil that could create a substantial risk to life or property.

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The development will be connected to the City’s municipal wastewater system. Therefore, there would not be impacts related use of septic tanks.

VII. GREENHOUSE GAS EMISSIONS: Would the project:

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 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: A Greenhouse Gas Impact Assessment was prepared by AMBIENT Consultants to evaluate potential Greenhouse Gas (GHG) emissions that may result from the project. (See Attachment 7.)

Estimated GHG emissions attributable to future development would be primarily associated with increases of CO2 from mobile sources. To a lesser extent, other GHG pollutants, such as CH4 and N2O, would also be generated. The study indicates that short-term construction related (8.3 MTCO2e/Year), and long-term operational emissions (471.7 MTCO2e/Year) associated with development of the proposed project would not exceed the SLO County APCD’s locally adopted emissions thresholds of 1,150 MTCO2e/Year.

As a result, the proposed project is not anticipated to result in significant GHG impacts on the environment. This impact is considered less than significant.

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gasses? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project is consistent with the General Plan land use category and the Zoning Map. The City

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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of Paso Robles Climate Action Plan (CAP) was adopted by the City Council in 2013. The CAP is a long-range plan to reduce greenhouse gas (GHG) emissions from City government operations and community activities within Paso Robles and prepare for the anticipated effects of climate change. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life (City of Paso Robles, 2013). To help achieve these goals, the CAP includes a “Consistency Worksheet”, which identifies various mandatory and voluntary actions designed to reduce GHG emissions. The *CAP Consistency Worksheet* can be used to demonstrate project-level compliance with the CAP. The worksheet is included in Appendix B of the GHG Impact Analysis report. In addition, the project sponsor has agreed to implement all mandatory measures identified in the CAP consistency worksheet, which are included as required mitigation to ensure consistency with the CAP.

VIII. 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?

Discussion: The project would use industry-standard landscape and building maintenance products which would be stored in compliance with all applicable safety requirements. The project does not include use of, transport, storage or disposal of hazardous materials that would create a significant hazard to the public or environment.

- 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?

Discussion: See VIII a. above.

- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Discussion: The proposed assisted care project will not emit hazardous materials, and will not impact schools since there are no schools within the vicinity.

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Discussion: The project site is not identified as a hazardous site per Government Code Section 65962.5.

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|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

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|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f. | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: (VIII e & f) The project site is not located within an airport safety zone.

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|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g. | 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"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The City does not have *adopted* emergency response or evacuation plans. Per the City Emergency Services Department, the proposed location does not pose a risk that would impair City response to emergencies.

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|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| h. | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: Per the 2003 General Plan Safety Element, and the Public Review Draft of the 2014 Local Hazard Mitigation Plan Update, the project is not in the vicinity of wildland fire hazard areas.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. | Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The Regional Water Quality Control Board adopted stormwater management requirements for development projects in the Central Coast region. Upon the Board's direction, the City has adopted a Storm Water Ordinance requiring all projects to implement low-impact development, best management practices to mitigate impacts to the quality and quantity of stormwater run-off, and to limit the increase in the rate and volume of stormwater run-off to the maximum extent practical.

These new requirements include retention of post-construction stormwater. The applicant has met these requirements with landscaped bioswales along the west side of the project site within the landscape area adjacent to the sidewalk in the street right-of-way.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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The applicant has prepared a storm water control plan offering a site assessment of constraints and opportunities and corresponding storm water management strategies to meet stormwater quality treatment and retention requirements in compliance with the regulations. Therefore, water quality standards will be maintained and discharge requirements will be in compliance with State and local regulations, and impacts to water quality, discharge and stormwater management will be less than significant.

- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., Would the production rate of pre-existing nearby wells drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
Would decreased rainfall infiltration or groundwater recharge reduce stream baseflow? (Source: 7)

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Discussion: The project site is is zoned to allow for multi-family 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, and in the near future, recycled water.

In light of the current drought situation and reports of declining groundwater levels in the Paso Robles Groundwater Basin (“the basin”), the City established a groundwater stewardship policy to not expand dependency on the basin over historic use levels/pumping from the City’s peak (pumping) year of 2007. Additionally, to address drought concerns, and in compliance with State law and water reduction requirements, the City has implemented a comprehensive water conservation program to reduce water consumption citywide since 2009. The State recently adopted additional landscape water conservation requirements in July 2015. The City’s regulations comply with all State water conservation requirements.

Additionally, the City augmented water supply and treatment capacity by procuring surface water from Lake Nacimiento and construction of delivery facilities to the City. This project will not affect the amount of groundwater that the City withdraws from the Paso Robles Groundwater Basin. Per the City’s 2010 Urban Water Management Plan (UWMP), page 21:

“The City is progressing with its plans for a water treatment plant (WTP) to treat surface water received from Lake Nacimiento. The WTP is being designed to treat 4 million gallons per day (mgd), with construction to begin in 2015. The WTP can be expanded to treat 6 mgd to meet future demands (Paso Robles website, October 13, 2010). Specific facilities include a water treatment plant, treated water reservoir and pump station, transmission pipeline, appurtenances and other site improvements (Padre, 2008). Half of the initial 4,000 AFY Nacimiento allocation and half of the 4 mgd Phase 1 treatment plant capacity are to replace lost well production capacity and improve water quality. The remaining capacity is to provide for new development. In order to limit reliance on the highly-stressed groundwater basin new development—per City policy—is required to be served with surface and recycled water. Therefore, the second 1,400 AFY Nacimiento allocation, the 2 mgd treatment plant expansion, and recycled water infrastructure will be funded by development.”

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Additionally, the City assigns “duty” factors that anticipate the amount of water supply necessary to serve various types of land uses. These factors are derived from determining the average water demands for each zoning district in the City. In this circumstance, the water supply necessary for development of this assisted residential care facilities is incorporated into the water demand assumptions of the UWMP. The project proponent would be required to pay development impact fees for its share of water service expansion.

As noted above, the City has augmented future reliance on groundwater resources to surface water resources, and development has been accounted for in the overall water projections and demand for the City. As noted in the Project Description, the proposed project would be served with the City’s municipal water supply system. Since the City’s water supply, as documented in the UWMP, is not reliant on increased groundwater pumping for new development, it demonstrates adequate water supply procured from Lake Nacimiento to accommodate the projected growth in the City and it demonstrates that this project will have adequate water supply available, and will not further deplete or in any way affect, change or increase water demands planned for use in the basin. To support this determination, the applicant has provided a project-specific Water Demand Analysis, see Attachment 8. The analysis compares other assisted living projects’ typical and averaged water use. With incorporation of the latest water efficient fixtures and typical use projections, the Oaks is projected to use significantly less water than similar projects, and/or the prior approved single-family residential project approved for this site. Additionally, proposed stormwater management features will help recharge the groundwater basin. Therefore, this project will result in less than significant impacts to the groundwater supplies used by the City.

- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (Source: 10)
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The drainage pattern on the site would not be substantially altered with development of this project since site development will generally maintain the existing, historic drainage pattern of the property, and new post-construction drainage will be managed through implementation of bioswale drainage features adjacent to the site.

There are no streams, creeks or rivers on or near the project site that could be impacted from this project or result in erosion or siltation on- or off-site. Therefore, impacts to drainage patterns and facilities would be less than significant.

- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Source: 10)
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: See IX c. above. The existing drainage pattern will not be significantly altered with this project. Historic drainage flows will be directed to City storm drain facilities. Drainage resulting from development of this property will be managed with stormwater bioswales, and will not contribute to flooding on- or off-site. Thus, flooding impacts from the project are considered less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e. 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? (Source: 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discussion: As noted in IX a. above, per the Stormwater Management Plan prepared for this project, surface drainage will be managed with bioswales and storm drains, and will not significantly add to offsite drainage facilities. Therefore, drainage impacts that may result from this project would be less than significant.				
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discussion: See answers IX a. – e. This project will result in less than significant impacts to water quality.				
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: The project site is not within a 100-year flood hazard area. Therefore, this project could not result in flood-related impacts to housing.				
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: See IX g. above. The property is not within or near a 100-year flood hazard area, and therefore it could not impede or redirect flood flows.				
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: See IX h. above. Additionally, there are no levees or dams in the City.				
j. Inundation by mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: In accordance with the Paso Robles General Plan, there are no mudflow hazards located on or near the project site. Therefore, the project could not result in mudflow inundation impacts.				
k. Conflict with any Best Management Practices found within the City's Storm Water Management Plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discussion: The project will implement the City's Storm Water Management Plan - Best Management Practices. Therefore, it would not conflict with these measures.				
l. Substantially decrease or degrade watershed storage of runoff, wetlands, riparian areas, aquatic habitat, or associated buffer zones?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discussion: The project will incorporate all feasible means to manage water runoff through implementation				

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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of stormwater control measures. Additionally, there are no wetland or riparian areas in the near vicinity, therefore, the project could not result in impacts to aquatic habitat.

X. LAND USE AND PLANNING: Would the project:

- a. Physically divide an established community?

Discussion: The project site has commercial development located to the north (Kennedy Club Fitness), and single-family residential development located to the west and east, with undeveloped residentially zoned property to the south. The proposed project is a commercial operation, yet provides multi-family style housing as an assisted living development. The project would provide a suitable transitional land use between the differing types of surrounding land uses. Therefore, the project would not divide an established community, but would help in providing compatibility between land uses within this area of the community.

- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Discussion: The proposed assisted living project is consistent with the General Plan Land Use Designation of multi-family zoning for this property, and in accordance with the City Zoning Ordinance may be permitted with approval of a Conditional Use Permit (CUP). There are no other plans that apply to the property. Therefore, the project does not conflict with applicable plans or policies adopted to avoid or mitigate environmental effects.

- c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Discussion: There are no habitat conservation plans or natural community conservation plans established in this area of the City. Therefore, there could be no conflicts with conservation plans.

XI. MINERAL RESOURCES: Would the project:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (Source: 1)

Discussion: There are no known mineral resources at this project site.

- 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? (Source: 1)

Discussion: There are no known mineral resources at this project site.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XII. NOISE: Would the project result in:

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| a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Source: 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: A Noise Impact Assessment and Technical Review Memo was prepared for this project, see Attachment 9. The project would not expose people (e.g. residents of the proposed project) to roadway noise levels in excess of standards established in the Noise Element of the City General. The “normally” acceptable noise levels for multi-family residential development is between 50 and 65 dBA, and “conditionally” acceptable noise for this use is between 60 and 70 dBA, provided that a noise study is prepared that evaluates noise reduction features to provide for acceptable noise levels. The project noise study indicates that the exterior noise experienced by the project would be 65 dBA at 57 feet from the road centerline, which complies with the City’s established standards. Interior noise impacts are projected to be within acceptable levels with conventional construction and air conditioning systems.

The methodology to make this determination included re-evaluating traffic levels, existing noise and projected traffic noise on South River Road based on the updated 2011 Circulation Element, as outlined in the attached Memo dated May 15, 2015, from Ambient Consultants.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project may result in short-term construction groundborne vibration from machinery, however, the construction noise is not anticipated to be excessive nor operate in evening hours. The only sensitive noise receptors in the vicinity would be residences to the east and west of the property. The closest existing with residential development would be properties that are approximately 160 feet to the east, and 102 feet to the west. Given the short duration of construction, and that the properties are set back from the construction site, it is not anticipated that properties within the near vicinity may be affected by excessive groundborne vibration or groundborne noise levels. Therefore, impacts from groundborne vibration noise can be considered less than significant.

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: This assisted living project will not create significant land use-related noise or traffic generated noise. Therefore, the project would not result in contributing permanent increases in ambient noise levels.

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| d. A substantial temporary or periodic increase | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
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Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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in ambient noise levels in the project vicinity above levels existing without the project?

Discussion: See XII c. above. The project will not result in temporary or periodic increase in ambient noise levels.

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 expose people residing or working in the project area to excessive noise levels?
(Sources: 1, 4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion: The project is not located within an airport area subject to an airport land use plan, and will thus not be impacted by airport related noise.

XIII. POPULATION AND HOUSING: Would the project:

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. Induce substantial 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)? (Source: 1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion (a-c): The proposed project will provide housing needed in the local area, primarily for the existing population, since there are very few of these types of developments in the North County area. It will likely create jobs that can be absorbed by the local and regional employment market, and therefore will not create the demand for new housing or population growth or displace housing or people.

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

XIII b. & c. The property is currently vacant, therefore it could not displace substantial numbers of existing housing

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

See above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES: Would the project 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:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Fire protection? (Sources: 1,10) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Police protection? (Sources: 1,10) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. Other public facilities? (Sources: 1,10) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Discussion (a-e): The proposed project will not result in a significant demand for additional new services since it is not proposing to include new neighborhoods or a significantly large scale development that cannot be provided services through existing resources, and the incremental impacts to services can be mitigated through payment of standard development impact fees. Therefore, impacts that may result from this project on public services are considered less than significant.

XV. RECREATION

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|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Discussion (a&b):

The proposed assisted living development project will not result in an increase in demand for recreational facilities or accelerate deterioration of recreational facilities since the residents of this project would use onsite recreational facilities.

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|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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 type="checkbox"/> | <input checked="" type="checkbox"/> |
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Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVI. TRANSPORTATION/TRAFFIC: Would the project:

- a. Conflict with an applicable plan, ordinance or policy establishing measures or effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Discussion: The project would be consistent with the General Plan Circulation Element, Bike Master Plan and City Street Standards by providing frontage improvements including curb, gutter, sidewalk, street trees and bike lanes. There are existing transit stops near the corner of South River Road and Niblick Road (within 4 blocks of the site), therefore, there would be transit accessible to this project. The project site would include two access driveways.

The applicant provided a general Trip Generation and Parking Analysis for Senior Housing, prepared Stephen B. Corcoran, P.E., and a description of typical assisted living facility operations, which includes an analysis of parking needs for residents, employees and visitors. See Attachment 10. The analysis details the unique trip generation characteristics of senior and assisted living facilities. The literature indicates that seniors in assisted living facilities do not generally drive their own vehicles since they typically use shuttle services offered by the facility for transportation needs, and residents in memory care facilities do not drive at all. The information indicates that most employees and guests arrive and depart by private cars.

The peak-hours of employees, visitors and deliveries are spread between 8:00 am to 5:00 pm (with the majority between 11:00 am to 4:00 pm). This type of land use does not follow typical peak-hour behavior (7:00 – 9:00 am arrivals and 5:00 – 6:00 pm departures), since the first (largest) shift of employees arrive at 6:00 am and leave at 2:00 pm. Deliveries are intermittent during the hours of 8:00 to 5:00, and visitors typically arrive and depart between 5:00 and 9:00 pm. The typical daily traffic generation rate is approximately 5.64 trips per unit, which is mostly composed of employee-related trips. Since the project includes 97 units (combined), and the average trips per unit per day is 4.52, the project would result in approximately 438 trips generated per day. The total amount of trips per day staggered over a 15 hour time period (between 6:00 am and 9:00 pm) is about 30 trips per hour. This equates to one trip approximately every two minutes, which is very low. Even at peak hours, if the trips generated were significantly more and spread over a two hour time frame for AM and PM periods, the overall trip generation would not add a significant amount of traffic at the nearby intersections and/or on the local street network.

Table CE-1 of the General Plan Circulation Element indicates in that the existing capacity utilization of South River Road between Serenade Drive and Niblick Road is at 34%, and future conditions in 2025 it would go up to 47%. The Circulation Element assumes development of this property with multi-family development. The southbound traffic on South River Road, from the southern end of the project site carries precipitously less traffic to Charolais Road. This indicates there is adequate capacity of the nearby street network to accommodate this project and not result in significant impacts to capacity of street traffic volumes in the vicinity, and that the project is consistent with applicable policies.

The project shall be required to pay traffic impact development fees for the proportionate share of impacts associated with the project to mitigate its impacts to traffic and roadways.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</p> <p>Discussion: See XVI a. above. Additionally, the applicant will implement employee transportation demand measures to reduce traffic congestion, such as providing information on regional rideshare programs, bike racks, well as provide shuttle service to the multi-modal transportation center and downtown for residents and guests. There is an existing Park and Ride lot within a block (at Walmart) available to this development as well. Mitigation measures have been incorporated to provide these services. Therefore, the project does not conflict with impacts related to congestion management will be mitigated to a less than significant level.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</p> <p>Discussion: The project site is not located within an airport land use planning area.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p> <p>Discussion: There are no hazardous design features associated with this project that could result in safety hazard impacts from this project.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>e. Result in inadequate emergency access?</p> <p>Discussion: The project will not impede emergency access, and it is designed in compliance with all emergency access safety features, and to City emergency access standards.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</p> <p>Discussion: The project incorporates multi-modal transportation facilities and access such as bike lanes, sidewalks, and walkways. There are also public transit routes within the near vicinity of the project site. Therefore, it does not conflict with policies and plans regarding these facilities.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The project would be served with municipal wastewater services. The project will therefore comply with all applicable wastewater treatment requirements as required by the City, the Regional Water Quality Control Board, and the State Water Board. Therefore, there will be less than significant impacts resulting from wastewater treatment from this project.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: Per the City's General Plan EIR, Urban Water Management Plan, Sewer System Management Plan (SSMP), Wastewater Master Plan (WWMP), the City's water and wastewater treatment facilities in the vicinity and at the wastewater and water treatment plants are adequately sized, including planned facility upgrades, to provide water needed for this project and to treat resulting effluent. The applicant will be required to pay for utility connections and associated improvements, as well as development impact fees to offset the projects proportional share of impact to these facilities. Therefore, this project will not result in the need to construct new facilities.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: All new stormwater resulting from this project will be managed on the project site, and will not enter existing storm water drainage facilities or require expansion of new drainage facilities. Per the Storm Water Control Plan prepared for this project, stormwater will be controlled through several bioswale facilities. Therefore, the project will not impact the City's storm water drainage facilities.

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: As noted in section IX on Hydrology, the project can be served with existing water resource allocations available and will not require expansion of new water resource entitlements.

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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to serve the projects projected demand in addition to the providers existing commitments?

Discussion: Per the WWMP, the capacity of the City’s wastewater treatment plant is 4.9 million gallons per day (MGD). Existing flows to the wastewater treatment plant are approximately 2.9 MGD, so the plant has a remaining capacity of 2 MGD. The sizing of the existing and planned upgrades to the wastewater treatment facility includes development of this property within the improvement plan assumptions. Therefore, it can be determined that the City has adequate capacity to accommodate the wastewater estimated to be produced by the proposed project.

- f. Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?

Discussion: Per the City’s 2010 Landfill Master Plan, the City’s landfill has adequate capacity to accommodate construction-related and operational solid waste disposal for this project. Landfill design capacity permitted (as of 2013) is 6,495,000 cubic yards, with a maximum of up to 75,000 tons/year. The City’s overall waste stream averages about 45,000 tons/year, inclusive of residential and non-residential hauling rates. Based on General Plan build-out projections, landfill capacity is documented to be sufficient until at least 2051. The 5-year Joint Technical Update (currently in process of being updated) projects capacity until 2071. However, the landfill plan includes numerous zero-waste and renewable energy production programs that are designed to reduce the waste stream and extend the life of the capacity much further. Based on capacity information of the City’s Landfill capacity it can be determined that the City’s landfill has adequate capacity to accommodate the proposed projects solid waste disposal needs.

- g. Comply with federal, state, and local statutes and regulations related to solid waste?

Discussion: The project proponent will be required to comply with the City’s adopted Municipal Code which encompasses the California Green Building Code for C&D waste, as well as landfill permit tonnage limitations (see XVII (f) above). Based on averages of typical hotel waste streams (which are included in the landfill capacity analysis of the 2010 Landfill Master Plan), as well as an estimate of C&D waste, the proposed project will comply with local and state solid waste regulations. Local and State solid waste regulations are in compliance with the federal solid waste regulations of the Environmental Protection Agency. Therefore, the proposed project will comply with all applicable solid waste regulations.³

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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periods of California history or prehistory?

Discussion: As noted in the Biological Resources section of this Initial Study, this is an infill site and there are no protected biological resources located on or near the project site, and there are no waterways on or near it that provide habitat for fish or other aquatic species. The existing oak trees will be protected with this development. There are also no historic resources located on the site. The existing development envelop does not provide habitat for any protected species, and is covered with ruderal vegetation. Therefore, this project could not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

- 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: The analyses prepared for this project demonstrate that potentially significant impacts that may result from implementation of this project will not:

- individually; and/or
- in connection with effects of past projects, and/or
- in connection with current projects; and/or
- in connection with probable future projects, result in cumulatively considerable significant impacts.

Based on substantial evidence, potential impacts identified related to air quality and traffic are not cumulatively considerable. With mitigation measures applied to this project it will not result in impacts that are individually limited or 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Discussion: With mitigation measures applied as noted in VXIII b. above the project will not cause substantial adverse effects 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. Section 15063 (c)(3)(D).

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 2010	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
14	Gateway Design Standards	Community Development Department
15	Paso Robles Bicycle Master Plan	Same as above

Attachments:

1. Vicinity Map
2. Site Plan & Landscaping Plans
3. Floor Plans
4. Elevations
5. Arborist Report
6. Parking Study
7. Air Quality and GHG Assessments
8. Water Demand Analysis
9. Noise Study
10. Trip Generation and Parking Analysis
11. Stormwater Control Plan
12. Mitigation Monitoring and Reporting Program

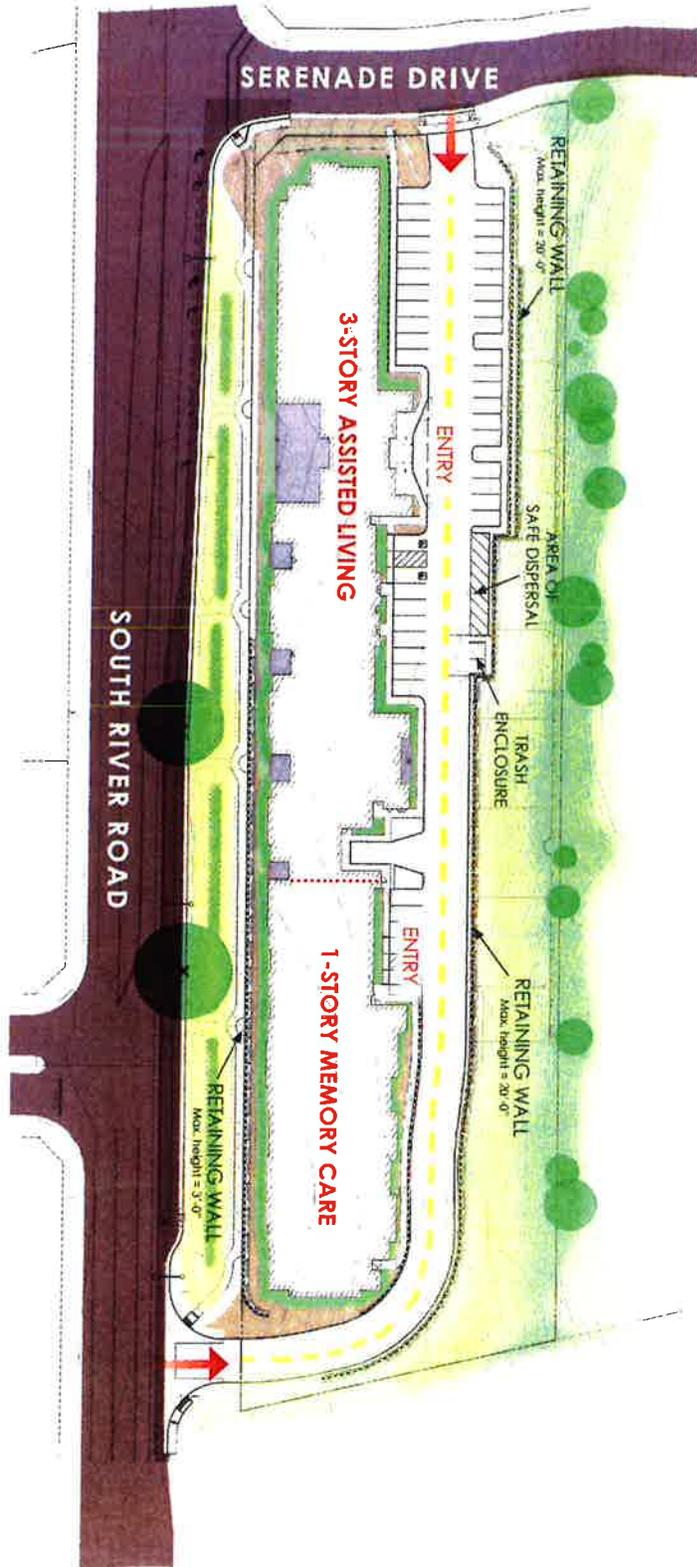
**Attachment 1
Vicinity Map
The Oaks at Paso Robles**



**The Oaks
Project Location**

Section 2 - Exhibits
2.1 Exhibit A | Site Plan

THE OAKS AT PASO
Multi-level Retirement Community
City of Paso Robles, California



Attachment 3 Floor Plan

Unit B | Building Floor Plans



First Floor | Assisted Living - 22,498 SF



Second Floor | Assisted Living - 22,577 SF



First Floor | Assisted Living - 22,498 SF, Memory Care - 15,451 SF

BUILDING SUMMARY:

- Assisted Living = 73 units
- Memory Care = 24 units
- TOTAL = 97 units
- Parking = 43 spaces

PROGRAM KEY:

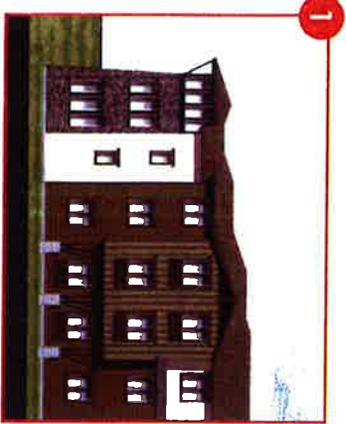
- Memory Care Residential Units
- Memory Care Common Area
- Assisted Living Residential Units
- Assisted Living Common Area
- Administration
- Common/Public
- Service
- Circulation



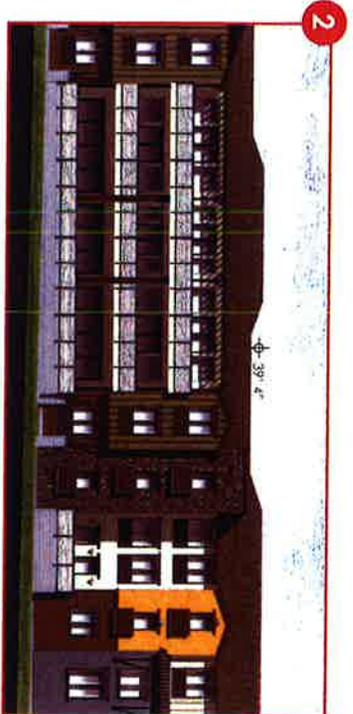
Section 2 - Exhibits

2.3 Exhibit C | Building Elevations

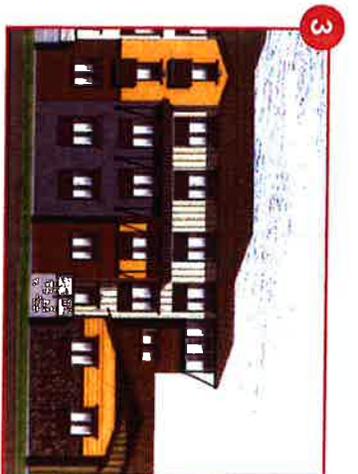
Attachment 4 Elevations



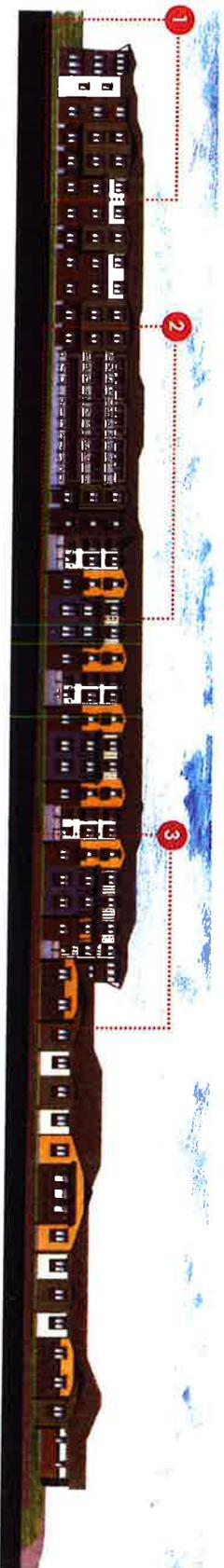
Assisted Living & Sun Room Tower



Grand Terrace

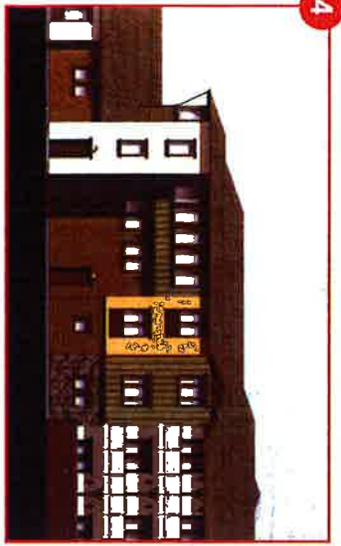


Transition from 3-story Assisted Living to
1-story Memory Care

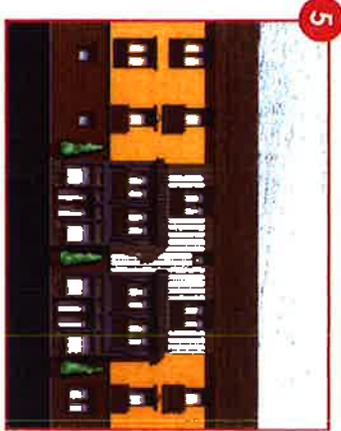


Main Elevation (from South River Road)

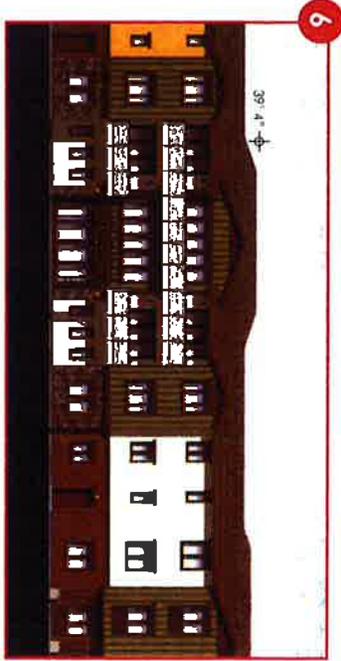
These elevations are graphic representations - they may not exemplarily reflect the detail of the site and grading shown in the civil engineering plans.



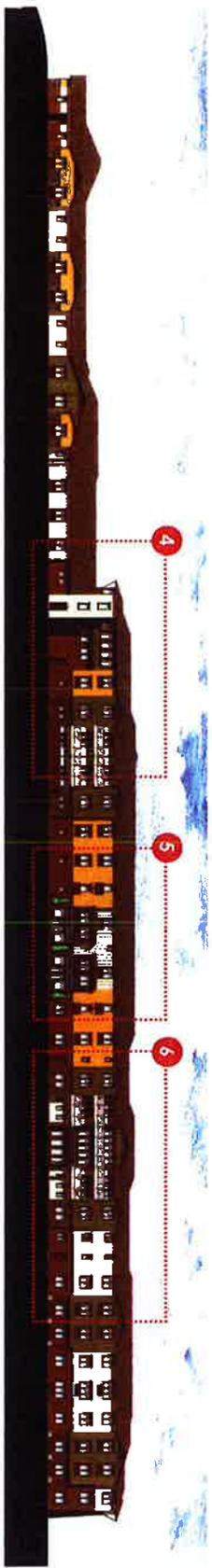
4
Loading & Delivery Area
(Transition from Assisted Living to Memory Care)



5
Formal Dining



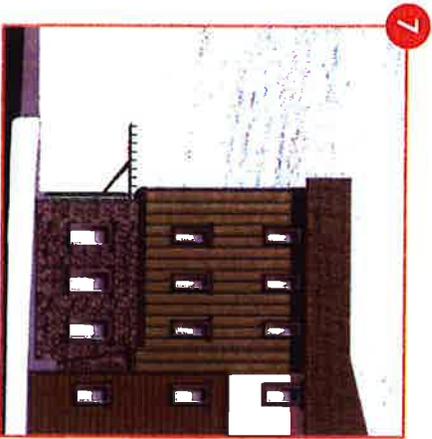
6
Grand Entry



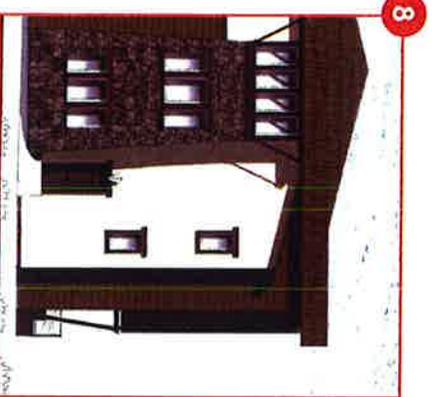
Front Elevation (from private drive)

Section 2 - Exhibits

2.3 Exhibit C | Building Elevations



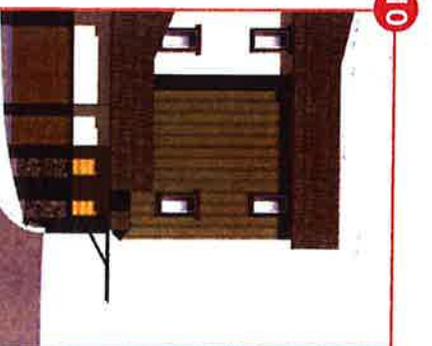
Porte Cochere Entry from Serenade Drive



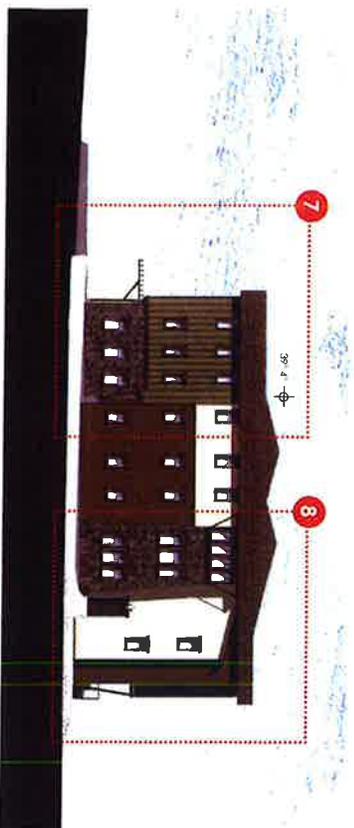
Sun Tower from Serenade Drive



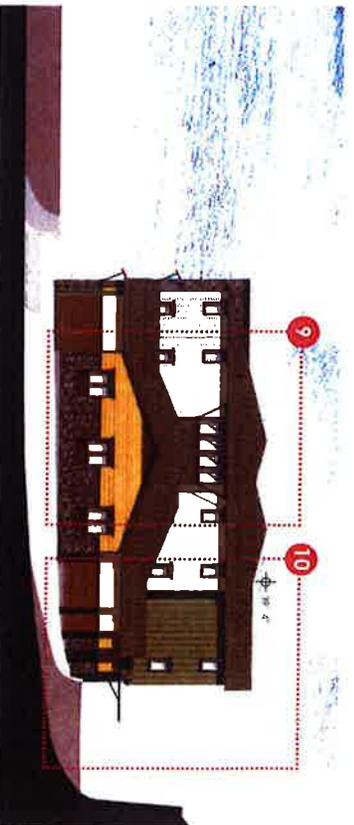
Sun Tower from Private Drive



Porte Cochere Entry from Private Drive



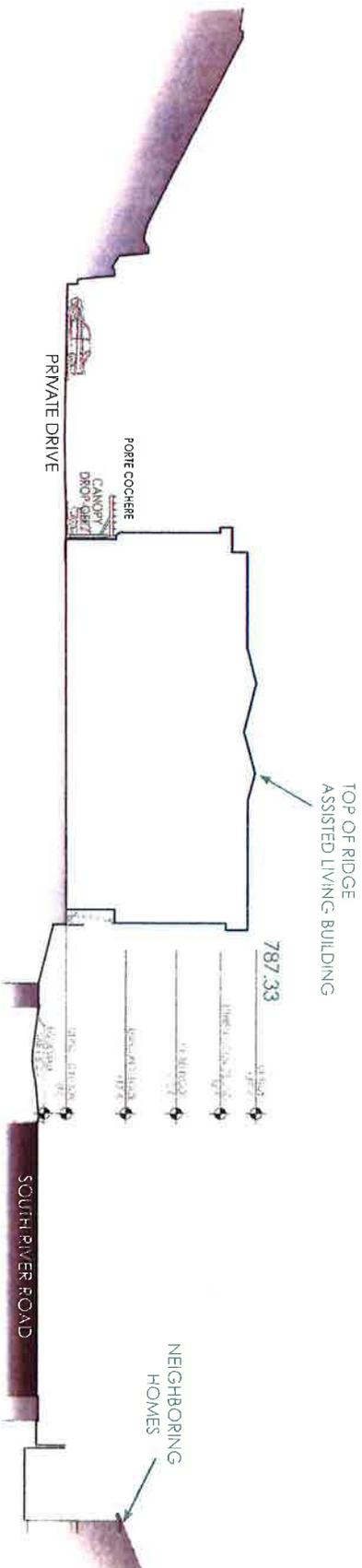
North Elevation (from Serenade Drive)



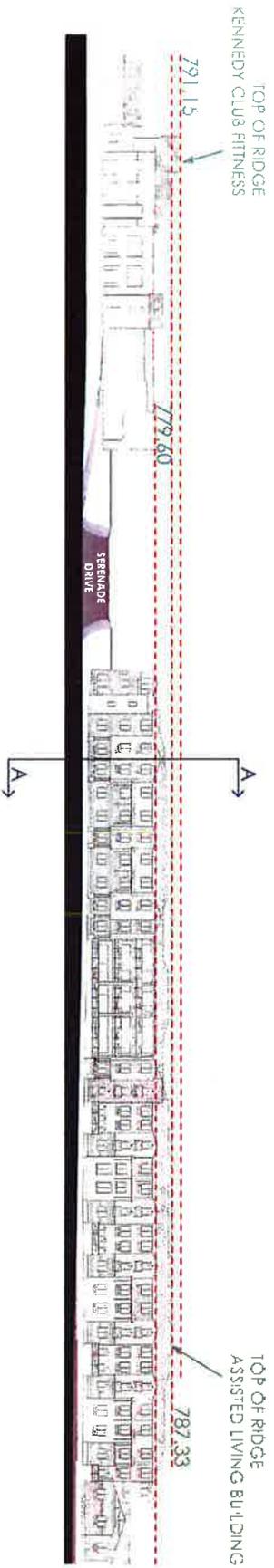
South Elevation (from private drive)

These elevations are graphic representations. They may not completely reflect the details of the site and grading shown in the civil engineering plans.

2.4 Exhibit D | Site Section & Elevation



Site Section A through South River Road showing neighbors to the west



South River Road elevation showing Serenade Drive & Kennedy Club Fitness to the north

Section 2 - Exhibits

2.5 Exhibit E | Building Exterior Color & Materials

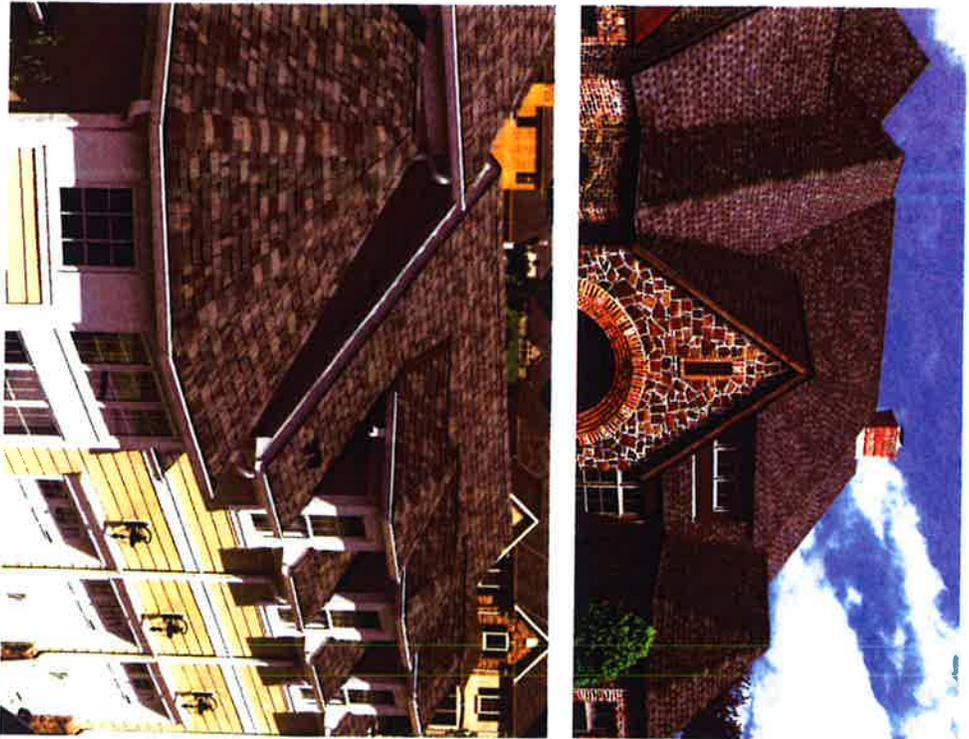
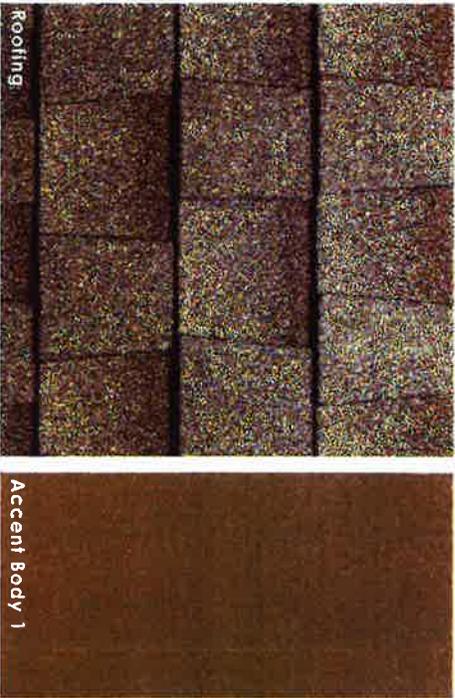


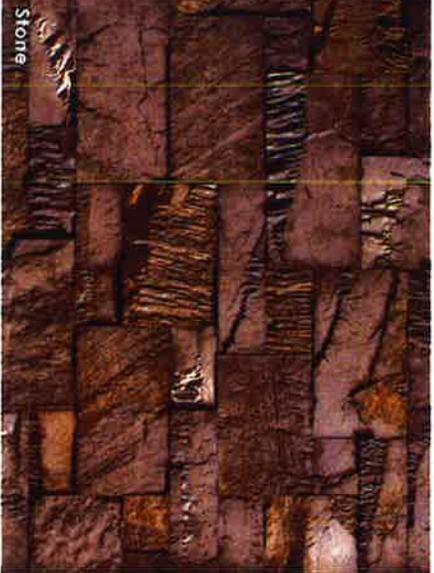
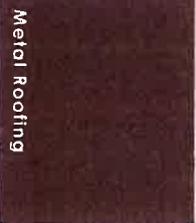
Image Examples of Selected Roof Material
CA1 | Timberline Cool Series - Weathered Wood



LEGEND			
Roofing	Weathered Wood	Timberline Cool Series	Composition Shingle
Material Roofing	Zinc Metallic	Conquered Metal	Metal Awning
Main Body	White Hydrophilic	SW 0046	Stucco Area
Accent Body 1	Olive Charve	SW 7734	Accent Stucco & Siding Areas
Accent Body 2	Riverway	SW 4232	Accent Stucco Area
Accent Body 3	Mountainview Gold	SW 6130	Accent Stucco Area
Siding 1	Rockwood Brown	SW 2805	Horizontal Lap Siding
Trim 1	Rockwood Dark Brown	SW 2808	Factory, Door & Window Trim, Edge Rafter, Wood Beams, Stucco Trim
Trim 2	Rockwood Red	SW 2812	Shingles, Gable Siding, Beams
Stone	Black Trulle	Clair Spin Modular	Masonry

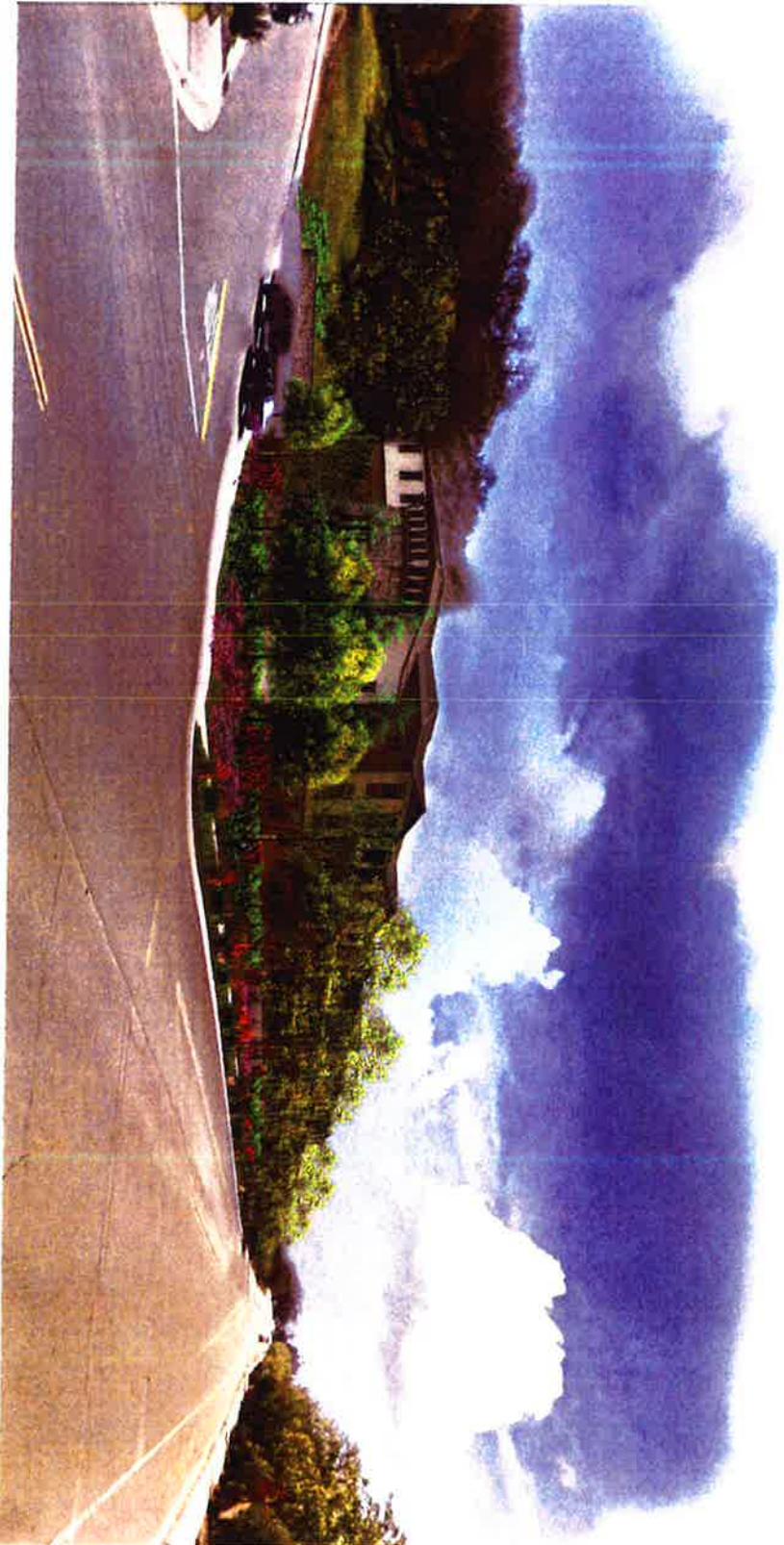
Roofing: CAI | Paint: Sherwin-Williams | Masonry: Creative M'ry
 Metal Siding: Western Stucco Metal Roofing

Main Body



Section 2 - Exhibits

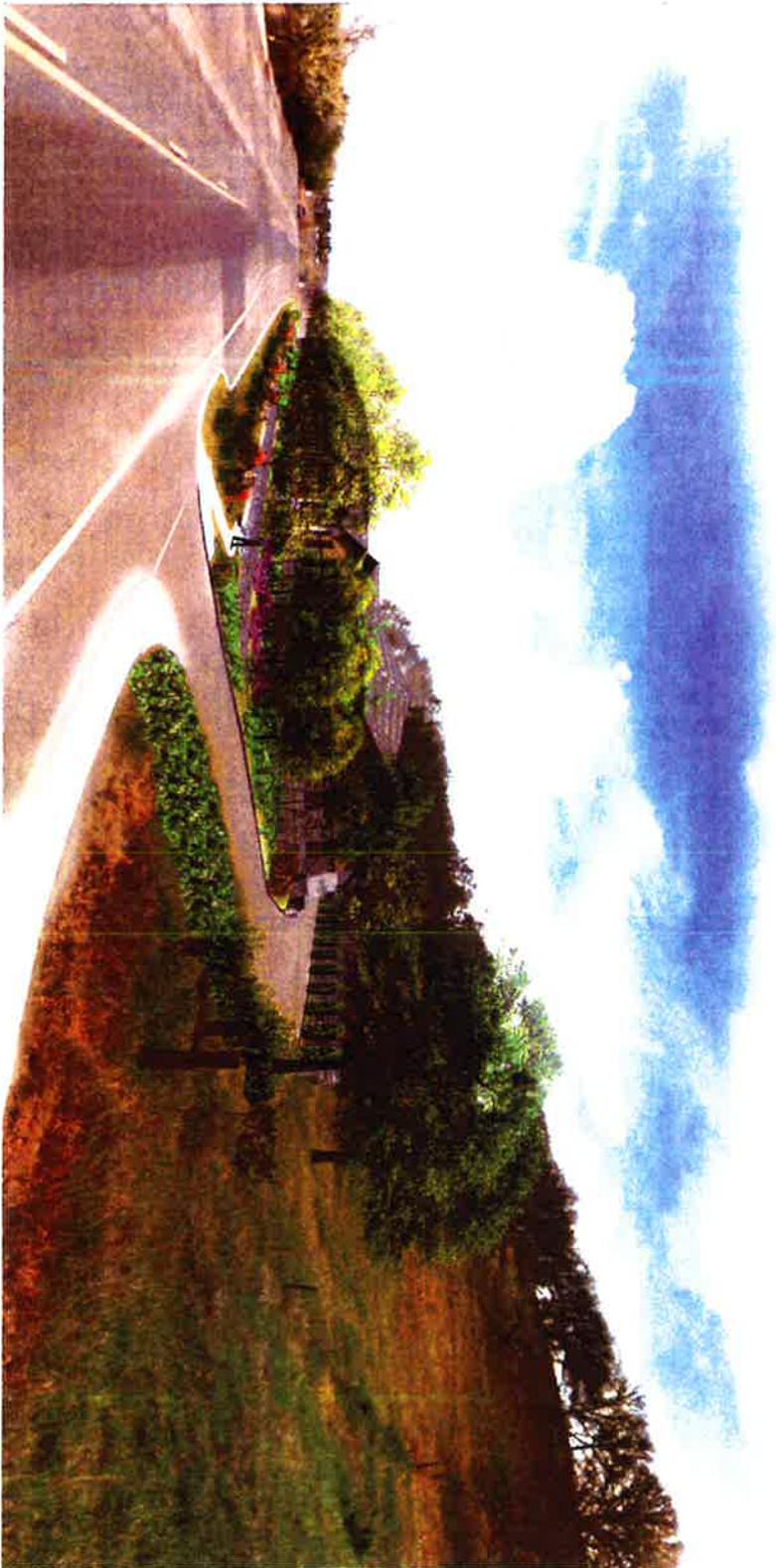
2.6 Exhibit F | 3D Perspectives with Landscape



Perspective from corner of South River Road and Serenade Drive



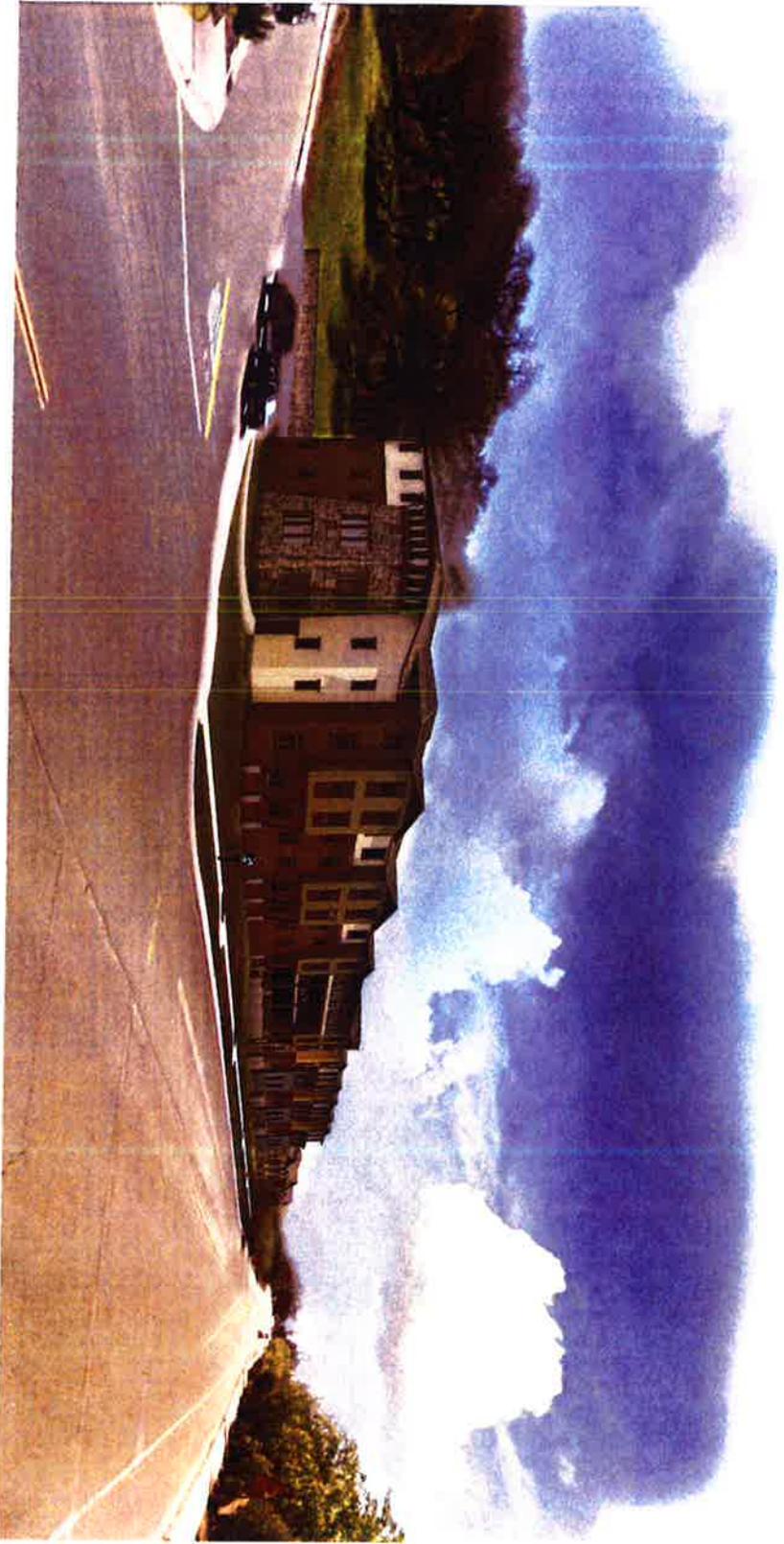
THE OAKS AT PASO ROBLES
Multilevel Retirement Community
City of Paso Robles, California



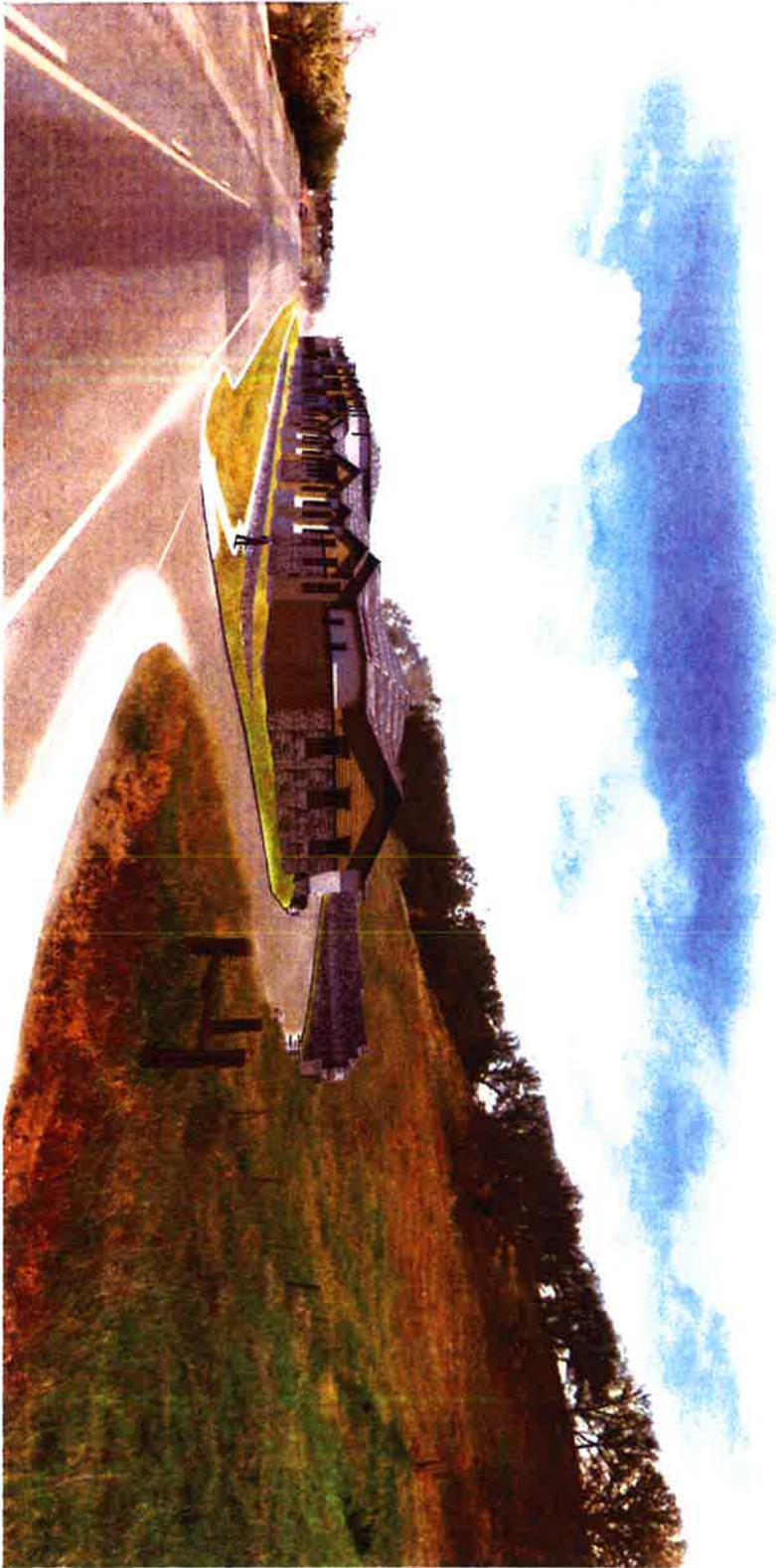
Perspective of South River Road Entrance

Section 2 - Exhibits

2.7 Exhibit G | 3D Perspectives without Landscape

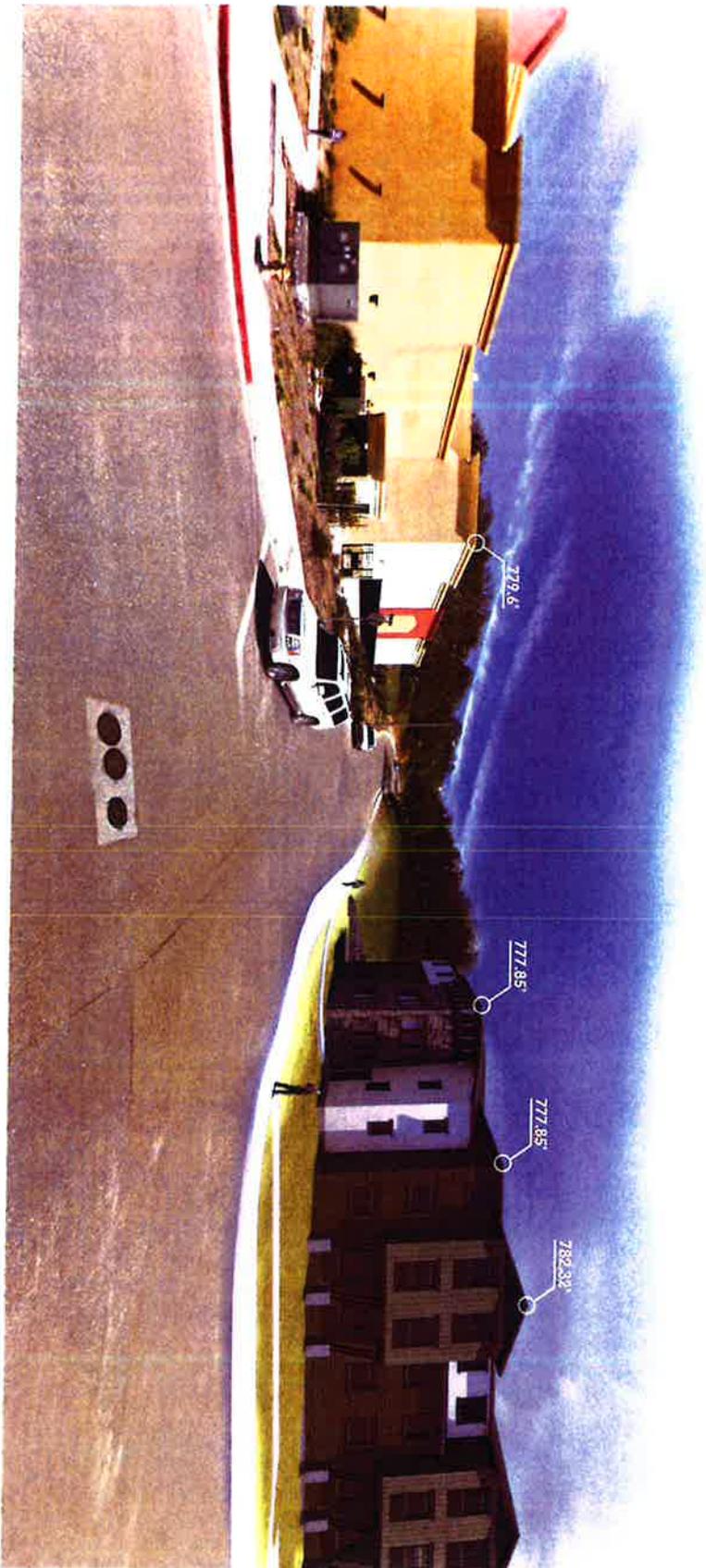


Perspective from corner of South River Road and Serenade Drive



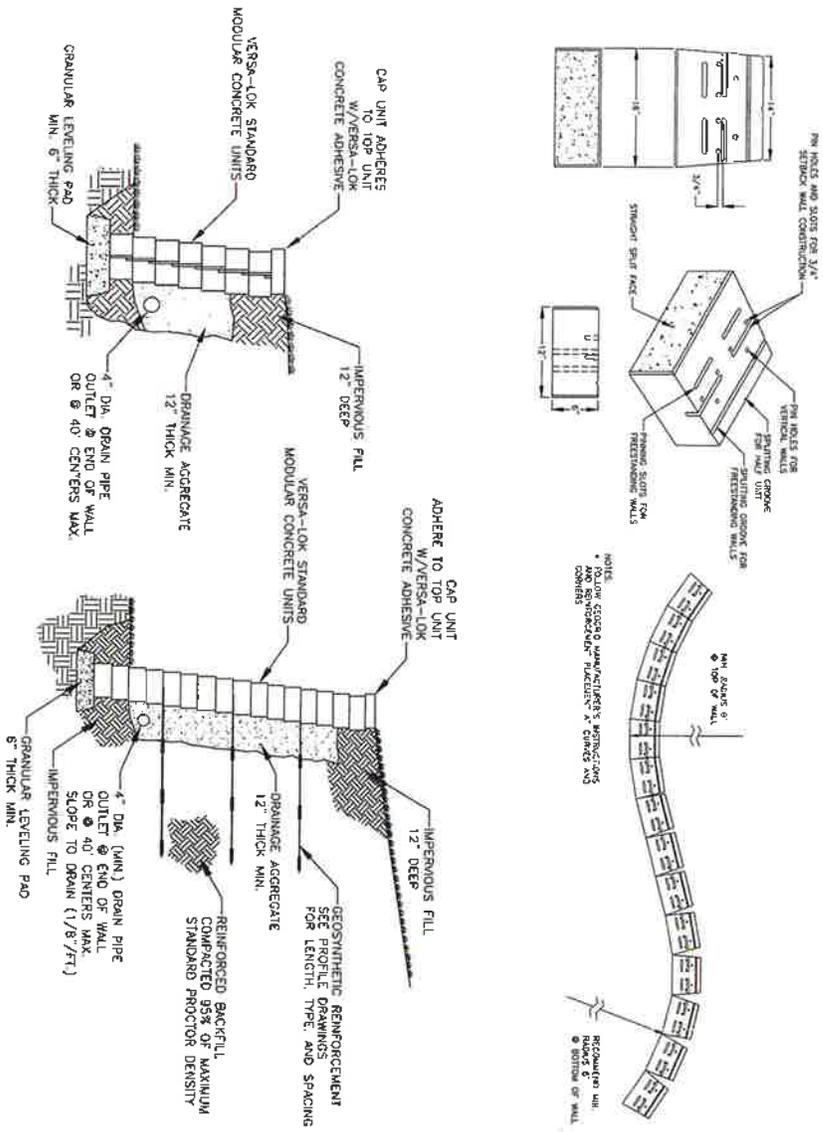
Perspective of South River Road Entrance

2.8 Exhibit H | 3D Perspective of Neighboring Context



Perspective of building adjacent to fitness facility

2.10 Exhibit J | Stem & Retaining Wall



These image examples show design intent only. The actual color & material selection may vary.





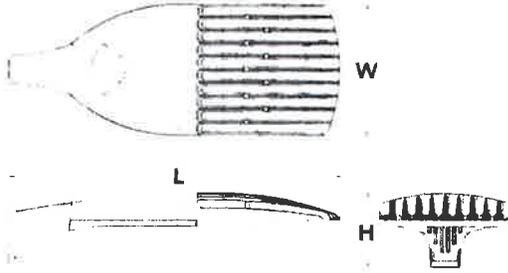
D-Series Size 1 LED Area Luminaire

d^{series}



Specifications

EPA:	1.2 ft ²
Length:	33" (853 mm)
Width:	13" (330 mm)
Height:	7 1/2" (190 mm)
Weight (max):	27 lbs (12.3 kg)



Catalog Number
Notes
Type

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing 100 - 400W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED 60C 1000 40K T3M MVOLT SPA DDBXD

DSK1LED

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	Forward optics	530 530 mA	30K 3000K	T1S Type I Short	TFTM Forward Throw Medium	MVOLT ¹
	30C 30 LEDs (one engine)	700 700 mA	40K 4000K	T2S Type II Short	TSM Type II Medium	120 ²
	40C 40 LEDs (two engines)	1000 1000 mA (1 A)	50K 5000K	T2M Type II Medium	TSVS Type I Very Short	208 ²
	60C 60 LEDs (two engines)		AMBPC Amber phosphor converter ³	T3S Type III Short	TSS Type II Short	240 ²
	Rotated optics⁴			T3M Type III Medium	TSM Type II Medium	277 ²
	60C 60 LEDs (two engines)			T4M Type IV Medium	TSW Type II Wide	347 ²
					480 ²	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor RPUMBA Round pole universal mounting adaptor Shipped separately⁵ KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) ⁶

Control options	Other options	Finish
Shipped installed PER TieBA twist-lock receptacle only (no controls) PERS Five-wire receptacle only (no controls) PER7 Seven-wire receptacle only (no controls) DMG 0-10V dimming driver (no controls) ⁷ DCR Dimmable and controllable via ROAM ⁸ (no controls) ⁹ DS Dual switching PIR Motion sensor, 3-12' mounting height ¹⁰	Shipped installed HS House-side cable ¹¹ WTB City terminal block ¹² SF Single fuse (208, 277, 347V) ¹³ DF Double fuse (208, 240, 480V) ¹⁴ L90 Left rotated optics ¹⁵ R90 Right rotated optics ¹⁶	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLTXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

Controls & Shields

Accessories

DL127F 1.5 CU IU	Photocell - SSL twist-lock (120-277V)
DL1347F 1.5 CU IU	Photocell - SSL twist-lock (347V)
DL1480F 1.5 CU IU	Photocell - SSL twist-lock (480V)
SC U	Shooting cap ¹⁷
DSX1HS 80C U	House-side shield for 80 LED unit
DSX1HS 90C U	House-side shield for 90 LED unit
DSX1HS 100C U	House-side shield for 100 LED unit
PUMBA DDBXD U*	Square and round pole universal mounting bracket (specify finish)
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ¹⁸

NOTES

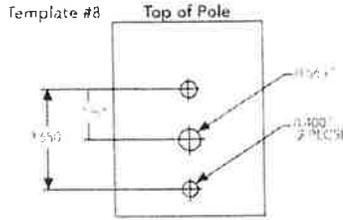
- 1 Rotated optics only available with 40C
- 2 AMBPC only available with 530mA or 700mA
- 3 MVCLT driver operates on any line voltage from 120-277V (5/3/6 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options)
- 4 Not available with single board, 530mA product (30C, 530, or 60C, 520 DS). Not available with DCR, BL30 or BL50
- 5 Available as a separate combination accessory: PUMBA (finish), 1.5 G combination load rating per ANCI C136.31
- 6 Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included)
- 7 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option
- 8 If ROAM mode required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR
- 9 DMG option for 247v or 480v requires 1000mA
- 10 Specifies a ROAM-enabled luminaire with 0-10V dimming capability; PER options required. Not available with 347 or 480V. Additional hardware and services required for ROAM deployment; must be purchased separately. Call 1-800-442-6745 or email: sales@acuitybrands.com. N/A with BL30, BL50, DS, PIR or PIRH
- 11 Requires 40C or 60C. Provides 50/50 luminaire operation via two independent drivers on two separate circuits. N/A with PER, DCR, WTB, PIR, or PIRH
- 12 Requires an additional switched circuit.
- 13 PIR specifies the control; PIRH specifies the control; see for details. Dimming driver standard. Not available with DS or DCR
- 14 Dimming driver standard. MVCLT only. Not available with 347, 480 DCR, DS or PIRH
- 15 Also available as a separate accessory; see Accessories information
- 16 WTB not available with DS
- 17 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option
- 18 Available with 60 LEDs (40C option) only.
- 19 Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Control



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DSX1-LED
Rev. 05/15/15

Drilling



DSX1 shares a unique drilling pattern with the AERIS™ family. Specify this drilling pattern when specifying poles per the table below.

DM19AS	Single unit	DM29AS	2 at 90° **
DM28AS	2 at 180°	DM39AS	3 at 90° **
DM49AS	4 at 80° **	DM32AS	3 at 120° **

Example: SSA 20 4C DM19AS 008RD

**Mount channels: 90° only to top hole in
 180° hole. 120° hole is not available. 120°
 Round pole top must be a 15" minimum.
 **File name: 120° hole center RPA only.

Tenon Mounting Slipfitter **

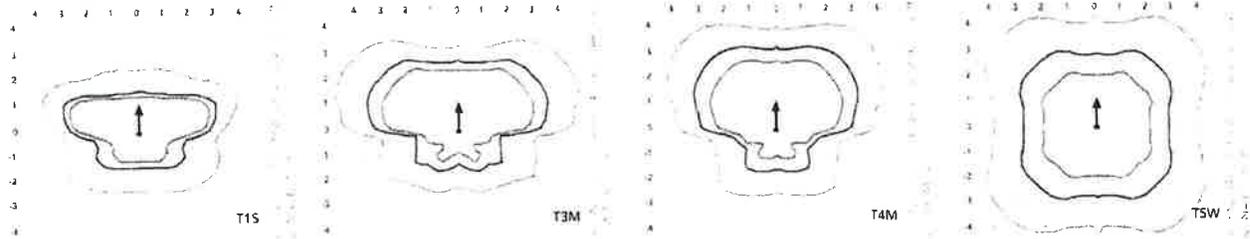
Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (20')

LEGEND



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.99

Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
30	530	52	0.52	0.30	0.26	0.23	-	-
	700	68	0.68	0.39	0.34	0.30	0.24	0.17
	1000	105	1.03	0.59	0.51	0.45	0.36	0.26
40	530	68	0.67	0.39	0.34	0.29	0.23	0.17
	700	89	0.89	0.51	0.44	0.38	0.31	0.22
	1000	138	1.35	0.78	0.67	0.58	0.47	0.34
60	530	99	0.97	0.56	0.48	0.42	0.34	0.24
	700	131	1.29	0.74	0.65	0.56	0.45	0.32
	1000	209	1.98	1.14	0.99	0.86	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11)

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor		DSX1 LED 60C 1000		
	1.0	0.95	0.93	0.88
		DSX1 LED 60C 700		
	1.0	0.99	0.98	0.96



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	50K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50W (5000 K, 70 CRI)					AMBPC (Dimmer Phosphor Conversion)				
				Lumens					Lumens					Lumens					Lumens				
				B	U	G	LPW	B	U	G	LPW	B	U	G	LPW	B	U	G	LPW				
30C (30 LEDs)	700 mA	68 W	T1S	5,697	1	0	1	84	7,127	2	0	2	105	7,180	2	0	2	106	4,561	1	0	1	67
			T2S	5,967	2	0	2	88	7,465	2	0	2	110	7,521	2	0	2	111	4,777	1	0	1	70
			T2M	5,773	1	0	2	85	7,222	2	0	2	106	7,276	2	0	2	107	4,622	1	0	2	68
			T3S	5,901	1	0	2	87	7,382	2	0	2	109	7,437	2	0	2	109	4,774	1	0	1	69
			T3M	5,872	1	0	2	86	7,346	2	0	2	108	7,401	2	0	2	109	4,701	1	0	2	69
			T4M	5,882	1	0	2	87	7,359	2	0	2	108	7,414	2	0	2	109	4,709	1	0	2	69
			FFTM	5,793	1	0	2	85	7,247	1	0	2	107	7,301	1	0	2	107	4,638	1	0	2	68
			TSVS	6,148	2	0	0	90	7,691	3	0	1	113	7,749	3	0	1	114	4,927	2	0	0	72
			T5S	6,074	2	0	0	89	7,598	3	0	0	112	7,655	3	0	0	113	4,863	2	0	0	72
			T5M	6,150	3	0	1	90	7,694	3	0	2	113	7,752	3	0	2	114	4,924	3	0	1	72
	TSW	5,979	3	0	1	88	7,479	3	0	2	110	7,536	3	0	2	111	4,787	3	0	1	70		
	1000 mA	105 W	T1S	7,913	2	0	2	75	9,899	2	0	2	94	9,973	2	0	2	95					
			T2S	8,288	2	0	2	79	10,368	2	0	2	99	10,446	2	0	2	99					
			T2M	8,019	2	0	2	76	10,031	2	0	2	96	10,106	2	0	2	96					
			T3S	8,196	2	0	2	78	10,253	2	0	2	98	10,330	2	0	2	98					
			T3M	8,156	2	0	2	78	10,202	2	0	2	97	10,279	2	0	2	98					
			T4M	8,170	2	0	2	78	10,220	2	0	2	97	10,297	2	0	2	98					
			FFTM	8,046	2	0	2	77	10,065	2	0	2	96	10,141	2	0	2	97					
			TSVS	8,539	3	0	1	81	10,682	3	0	1	102	10,762	3	0	1	102					
			T5S	8,436	3	0	1	80	10,553	3	0	1	101	10,632	3	0	1	101					
T5M			8,542	3	0	2	81	10,686	4	0	2	102	10,766	4	0	2	103						
TSW	8,104	1	0	2	79	10,188	4	0	2	99	10,166	4	0	2	100								
40C (40 LEDs)	700 mA	89 W	T1S	7,511	2	0	2	84	9,196	2	0	2	106	9,467	2	0	2	90	6,014	1	0	1	68
			T2S	7,868	2	0	2	88	9,842	2	0	2	111	9,916	2	0	2	94	6,299	2	0	2	71
			T2M	7,612	2	0	2	86	9,522	2	0	2	107	9,594	2	0	2	91	6,094	2	0	2	68
			T3S	7,780	2	0	2	87	9,733	2	0	2	109	9,806	2	0	2	93	6,229	1	0	2	70
			T3M	7,742	2	0	2	87	9,685	2	0	2	109	9,758	2	0	2	93	6,198	2	0	2	70
			T4M	7,756	2	0	2	87	9,702	2	0	2	109	9,775	2	0	2	93	6,209	1	0	2	70
			FFTM	7,638	2	0	2	86	9,555	2	0	2	107	9,627	2	0	2	92	6,115	1	0	2	69
			TSVS	8,106	3	0	1	91	10,140	3	0	1	114	10,216	3	0	1	97	6,490	2	0	0	73
			T5S	8,088	3	0	1	90	10,017	3	0	1	113	10,093	3	0	1	96	6,411	2	0	0	72
			T5M	8,109	3	0	2	91	10,144	4	0	2	114	10,220	4	0	2	97	6,492	3	0	1	73
	TSW	7,883	3	0	2	89	9,861	4	0	2	111	9,936	4	0	2	95	6,311	3	0	2	71		
	1000 mA	138 W	T1S	10,384	2	0	2	75	12,990	3	0	1	94	13,088	3	0	1	95					
			T2S	10,876	2	0	2	79	13,606	3	0	1	99	13,708	3	0	1	99					
			T2M	10,523	2	0	2	76	13,164	3	0	1	95	13,263	3	0	1	96					
			T3S	10,756	2	0	2	78	13,455	2	0	2	97	13,556	3	0	1	98					
			T3M	10,703	2	0	2	78	13,389	3	0	1	97	13,490	3	0	1	98					
			T4M	10,722	2	0	2	78	13,412	3	0	1	97	13,513	3	0	1	98					
			FFTM	10,559	2	0	2	77	13,209	2	0	2	96	13,308	2	0	2	96					
			TSVS	11,206	3	0	1	81	14,018	4	0	1	102	14,124	4	0	1	102					
			T5S	11,070	3	0	1	80	13,848	3	0	1	100	13,953	3	0	1	101					
T5M			11,210	4	0	2	81	14,023	4	0	2	102	14,129	4	0	2	102						
TSW	10,898	4	0	2	79	13,633	4	0	2	99	13,735	4	0	2	100								
60C (60 LEDs)	700 mA	131 W	T1S	11,182	2	0	2	81	13,988	3	0	1	101	14,093	3	0	1	102	8,952	2	0	2	68
			T2S	11,712	2	0	2	85	14,651	3	0	1	106	14,761	3	0	1	107	9,377	2	0	2	72
			T2M	11,332	2	0	2	82	14,175	3	0	1	103	14,282	3	0	1	103	9,072	2	0	2	69
			T3S	11,282	2	0	2	84	14,489	3	0	1	105	14,598	3	0	1	106	9,273	2	0	2	71
			T3M	11,525	2	0	2	84	14,418	3	0	1	104	14,526	3	0	1	105	9,227	2	0	2	70
			T4M	11,546	2	0	2	84	14,443	3	0	1	105	14,552	3	0	1	105	9,243	2	0	2	71
			FFTM	11,170	2	0	2	82	14,224	2	0	2	103	14,331	2	0	2	104	9,103	2	0	2	69
			TSVS	12,067	3	0	1	87	15,095	4	0	1	109	15,209	4	0	1	110	9,661	3	0	1	74
			T5S	11,921	3	0	1	86	14,913	4	0	1	108	15,025	4	0	1	109	9,544	3	0	1	73
			T5M	12,071	4	0	2	87	15,101	4	0	2	109	15,214	4	0	2	110	9,665	3	0	2	74
	TSW	11,735	4	0	2	85	14,680	4	0	2	106	14,791	4	0	2	107	9,395	4	0	2	72		
	1000 mA	209 W	T1S	15,107	3	0	3	73	19,148	3	0	3	92	19,292	3	0	3	92					
			T2S	16,033	3	0	3	77	20,056	3	0	3	96	20,207	3	0	3	97					
			T2M	15,512	3	0	3	74	19,405	3	0	3	93	19,551	3	0	3	94					
			T3S	15,855	3	0	3	76	19,834	3	0	3	95	19,983	3	0	3	96					
			T3M	15,777	3	0	3	75	19,736	3	0	3	94	19,885	3	0	3	95					
			T4M	15,805	3	0	3	76	19,771	3	0	3	95	19,920	3	0	3	95					
			FFTM	15,565	3	0	3	74	19,471	3	0	3	93	19,617	3	0	3	94					
			TSVS	16,519	4	0	1	79	20,664	4	0	1	99	20,820	4	0	1	100					
			T5S	16,119	4	0	1	78	20,414	4	0	1	98	20,567	4	0	1	98					
T5M			16,525	4	0	2	79	20,672	5	0	1	99	20,827	5	0	1	100						
TSW	16,065	4	0	3	77	20,096	5	0	1	96	20,247	5	0	1	97								



FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 meets the unprecedented high performance LED technology. It is ideal for many commercial and municipal applications such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece, die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for easy maintenance and future light engine upgrades. The LED driver is mounted to direct contact with the housing to guarantee low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EMI (12 mV) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TQIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without tracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole loading. Light engines are available in standard 4000 K (70 minimum CRI) or optional 5000 K (90 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a "Nighttime Friendly" product, meaning it is consistent with the LEED® and "Green Globes"™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of 30, 40 or 60 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L76/100,000 hours at 35°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an

expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category 2 low-voltage protection (per ANSI/IEEE C62.41.2).

INSTALLATION

Includes a mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 30 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AETIS™ series pole drilling pattern. Optional terminal block, tool-less entry, and NEMA phototransistor receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are ENEC rated, luminaires are IES ETL listed. Rated for 40°C maximum ambient. U.S. Patent No. D672,492 (International patent pending).

DesignLights Consortium (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.dlc.com to confirm which versions are qualified.

WARRANTY

Five-year limited warranty. Full warranty terms located at www.lithonia.com.

Note: Actual performance may differ as a result of end user environment and application. All values are design or typical values measured under laboratory conditions at 25°C. Specifications subject to change without notice.



A & T ARBORIS

P.O. BOX 1311 TEMPLETON, CA 93465 (805) 925-1311



**Tree Preservation Plan
For**

The Oaks APN# 009-815-007

**Prepared by A & T Arborists
and Vegetation Management**

**Chip Tamagni
Certified Arborist #WE 6436-A**

**Steven Alvarez
Certified Arborist #WE 511-A**

Tract # _____

PD # _____

Building Permit # _____

Project Description: This project involves the construction of “The Oaks” housing development along South River Road just south of Serenade Drive in Paso Robles. The focus of this report is in regard to the blue oak trees (*Quercus douglasii*) that border the construction zone to the east. There are two large valley oaks adjacent to South River Road that have been previously approved for removal, therefore, will not be discussed further in this report. There are no other oak tree removals for this project.

Specific Mitigations Pertaining to the Project: The greatest concern for tree impacts involves several of the 12 blue oak trees that were tagged and inventoried at the east edge of the development. There is a planned drainage swale adjacent to these trees that will involve excavating soil within the critical root zone of at least three trees. The greatest impact will be no more than 15% of the critical root zone. Prior to any construction work, approximately five of the trees shall require a minimum of canopy raising so any grading equipment will not damage or break any of the branches. Proper arboricultural practice dictates that these trees have some weight reduction throughout their canopies to aid in their long term preservation. The trenching for the swale shall not exceed two feet in depth. All spoils shall not be placed within any critical root zone. The project arborist shall be on site to perform any necessary root pruning for the trees with critical root zone encroachment. Tree protection fencing is mandatory as described in the standard mitigations below.

The term “critical root zone” or CRZ is an imaginary circle around each tree. The radius of this circle (in feet) is equal to the diameter (in inches) of the tree. For example, a 10 inch diameter tree has a critical root zone with a ten foot radius from the tree. Working within the CRZ usually requires mitigations and/or monitoring by a certified arborist.

All trees potentially impacted by this project are numbered and identified on both the grading plan and the spreadsheet. Trees are numbered on the grading plans and in the field with an aluminum tag. Tree protection fencing is shown on the grading plan. In the field oak trees to be saved have yellow tape. Both critical root zones and drip lines are outlined on the plans.

If pruning is necessary for building, road or driveway clearance, removal of limbs larger than 6 inches in diameter will require a city approved permit along with a deposit paid in advance (to the City of Paso Robles). The city will send out a representative to approve or deny the permit. Only 25% of the live crown may be removed.

Tree Rating System

A rating system of 1-10 was used for visually establishing the general health and condition of each tree on the spreadsheet. The rating system is defined as follows:

<u>Rating</u>	<u>Condition</u>
0	Deceased
1	Evidence of massive past failures, extreme disease and is in severe decline.

- 2 May be saved with attention to class 4 pruning, insect/pest eradication and future monitoring.
- 3 Some past failures, some pests or structural defects that may be mitigated by class IV pruning.
- 4 May have had minor past failures, excessive deadwood or minor structural defects that can be mitigated with pruning.
- 5 Relatively healthy tree with little visual, structural and/or pest defects and problems.
- 6 Healthy tree that probably can be left in its natural state.
- 7-9 Has had proper arboricultural pruning and attention or have no apparent structural defects.
- 10 Specimen tree with perfect shape, structure and foliage in a protected setting (i.e. park, arboretum).

Aesthetic quality on the spreadsheet is defined as follows:

- **poor** - tree has little visual quality either due to severe suppression from other trees, past pruning practices, location or sparse foliage
- **fair** - visual quality has been jeopardized by utility pruning/obstructions or partial suppression and overall symmetry is average
- **good** - tree has good structure and symmetry either naturally or from prior pruning events and is located in an area that benefits from the trees position
- **excellent** - tree has great structure, symmetry and foliage and is located in a premier location. Tree is not over mature.

The following mitigation measures/methods must be fully understood and followed by anyone working within the critical root zone of any native tree. Any necessary clarification will be provided by us (the arborists) upon request.

It is the responsibility of the **owner or project manager** to provide a copy of this tree protection plan to any and all contractors and subcontractors that work within the critical root zone of any native tree and confirm they are trained in maintaining fencing, protecting root zones and conforming to all tree protection goals. It is highly recommended that each contractor sign and acknowledge this tree protection plan.

Any future changes (within the critical root zone) in the project will need Project Arborist review and implementation of potential mitigation measures before any said changes can proceed.

Fencing: The proposed fencing shall be shown in orange ink on the grading plan. It must be a minimum of 4' high chain link, snow or safety fence staked (with t posts 8 feet on center) at the edge of the critical root zone or line of encroachment for each tree or group of trees. The fence shall be up before any construction or earth moving begins. The owner shall be responsible for maintaining an erect fence throughout the construction period. The arborist(s), upon notification, will inspect the fence placement once it is erected. After this time, fencing shall not be moved without arborist inspection/approval. If the orange plastic fencing is used, a minimum of four zip ties shall be used on each stake to secure the fence. All efforts shall be made to maximize

the distance from each saved tree. Weather proof signs shall be permanently posted on the fences every 50 feet, with the following information:

Tree Protection Zone

No personnel, equipment, materials, and vehicles are allowed

Do not remove or re-position this fence without calling:

A & T Arborists
434-0131

Soil Aeration Methods: Soils within the critical root zone that have been compacted by heavy equipment and/or construction activities must be returned to their original state before all work is completed. Methods include water jetting, adding organic matter, and boring small holes with an auger (18" deep, 2-3' apart with a 2-4" auger) and the application of moderate amounts of nitrogen fertilizer. The arborist(s) shall advise.

Chip Mulch: All areas within the critical root zone of the trees that can be fenced shall receive a 4-6" layer of chip mulch to retain moisture, soil structure and reduce the effects of soil compaction.

Trenching Within Critical Root Zone: All trenching within the critical root zone of native trees shall be **hand dug**. All major roots shall be avoided whenever possible. All exposed roots larger than 1" in diameter shall be clean cut with sharp pruning tools and not left ragged. A **Mandatory** meeting between the arborists and grading contractor(s) must take place prior to work start.

Grading Within The Critical Root Zone: Grading should not encroach within the critical root zone unless authorized. Grading should not disrupt the normal drainage pattern around the trees. Fills should not create a ponding condition and excavations should not leave the tree on a rapidly draining mound.

Exposed Roots: Any exposed roots shall be re-covered the same day they were exposed. If they cannot, they must be covered with burlap or another suitable material and wetted down 2x per day until re-buried.

Equipment Operation: Vehicles and all heavy equipment shall not be driven under the trees, as this will contribute to soil compaction. Also there is to be no parking of equipment or personal vehicles in these areas. All areas behind fencing are off limits unless pre-approved by the arborist.

Existing Surfaces: The existing ground surface within the critical root zone of all oak trees shall not be cut, filled, compacted or pared, unless shown on the grading plans **and** approved by the arborist.

Construction Materials And Waste: No liquid or solid construction waste shall be dumped on the ground within the critical root zone of any native tree. The critical root zone areas are not for storage of materials either.

Arborist Monitoring: An arborist shall be present for selected activities (trees identified on spreadsheet and items bulleted below). The monitoring does not necessarily have to be continuous but observational at times during these activities. It is the responsibility of the **owner(s) or their designee** to inform us prior to these events so we can make arrangements to be present. All monitoring will be documented on the field report form which will be forwarded to the project manager and the City of Paso Robles Planning Department.

- Pre-construction fence placement inspection
- All grading and trenching identified on the spreadsheet
- Any other encroachment the arborist feels necessary

Pre-Construction Meeting: An on-site pre-construction meeting with the Arborist(s), Owner(s), Planning Staff, and the earth moving team shall be required for this project. Prior to final occupancy, a letter from the arborist(s) shall be required verifying the health/condition of all impacted trees and providing any recommendations for any additional mitigation. The letter shall verify that the arborist(s) were on site for all grading and/or trenching activity that encroached into the critical root zone of the selected native trees, and that all work done in these areas was completed to the standards set forth above.

Pruning Class 4 pruning includes-Crown reduction pruning shall consist of reduction of tops, sides or individual limbs. A trained arborist shall perform all pruning. No pruning shall take more than 25% of the live crown of any native tree. Any trees that may need pruning for road/home clearance shall be pruned **prior** to any grading activities to avoid any branch tearing.

Landscape: All landscape within the critical root zone shall consist of drought tolerant or native varieties. Lawns shall be avoided. All irrigation trenching shall be routed around critical root zones, otherwise above ground drip-irrigation shall be used. It is the owner's responsibility to notify the landscape contractor regarding this mitigation.

Fertilization and Cultural Practices: As the project moves toward completion, the arborist(s) may suggest either fertilization and/or mycorrhiza applications that will benefit tree health. Mycorrhiza offers several benefits to the host plant, including faster growth, improved nutrition, greater drought resistance, and protection from pathogens.

The included spreadsheet includes trees listed by number, species and multiple stems if applicable, scientific name, diameter and breast height (4.5'), condition (scale from poor to excellent), status (avoided, impacted, removed, exempt), percent of critical root zone impacted, mitigation required (fencing, root pruning, monitoring), construction impact (trenching, grading), recommended pruning, aesthetic value and individual tree notes along with canopy spread.

If all the above mitigation measures are followed, we feel there will be no long-term significant impacts to the native trees.

Please let us know if we can be of any future assistance to you for this project.

Steven G. Alvarez
Certified Arborist #WC 0511

Chip Tamagni
Certified Arborist #WE 6436-A

A handwritten signature in dark ink, appearing to read 'CT', with a long horizontal flourish extending to the right.



Attachment 6 Parking Study

MAKING A DIFFERENCE IN SENIOR LIVING

June 25, 2015

City of Paso Robles

Attn: Susan DeCarli

Dear Susan,

The purpose of this letter is to provide a more thorough explanation of the day to day operation of the community as it pertains to the parking needs of the development. I have provided an attached spread sheet that details the number of employees per department on each given shift. I have been personally involved in nearly 100 senior housing developments throughout the United States. The formula provided previously of .4 parking spaces per resident unit has proven to be very accurate in all of those previous developments. The national study on parking and traffic impacts by senior housing communities takes several components, employees, visitors, vendors, and residents into account.

As you can see by referring to the attached spread sheet the peak hours for the community are from 8:00 am to 5:00 pm (normal business hours). During this time frame we have staggered shift times. The direct resident assistants and kitchen staff arrive at 6:00 am. The resident assistants provide help in getting residents up in the morning and ready for breakfast. These positions are held by entry level employees. Most are either dropped off by parents, spouses, use public transportation, or ride bicycles to work.

The administrative staff arrive at 8:00am and work until 5:00pm. Most of these employees do drive their own vehicles. At 2:00 pm the day resident assistants and kitchen staff are replaced by fewer swing shift personnel. The administrative staff depart at 5:00pm this creates a peak number of employees of 26 employees.

Unfortunately in this business we see only about 10% of our residents that have regular visitors. We would determine a regular visitor as someone who comes 3 times per week. The majority of the resident visitors arrive after normal business hours on their way home from work and don't stay past 8:00-9:00pm.

Our community will have a fairly small group of specialized vendors that visit the community. Generally the total group of vendors will not exceed a dozen. The most common vendor will be food deliveries.



MAKING A DIFFERENCE IN SENIOR LIVING

We use one vendor (Sysco) and they provide 90% of all food and housekeeping supplies. They generally deliver 2-3 times per week and are there approximately 20-30 minutes.

Residents of our community will be Assisted Living and Memory Care seniors. Assisted Living residents have lost much of their independence and very few continue to drive. The average age of assisted living residents is 83 years old and they need assistance with at least two Activities of Daily Living (ADL's). A few of the ADL's we assist with are assistance with bathing, dressing, grooming, ambulating, and medication administration. Many of our residents use walkers, wheel chairs, and electrically powered scooters. They generally have very limited mobility. We also provide transportation on a facility owned van complete with a wheel chair lift to transport our residents to doctor's appointments, shopping, and various other activities. The residents of our Memory Care don't drive they have the need to be in a secured environment for their safety.

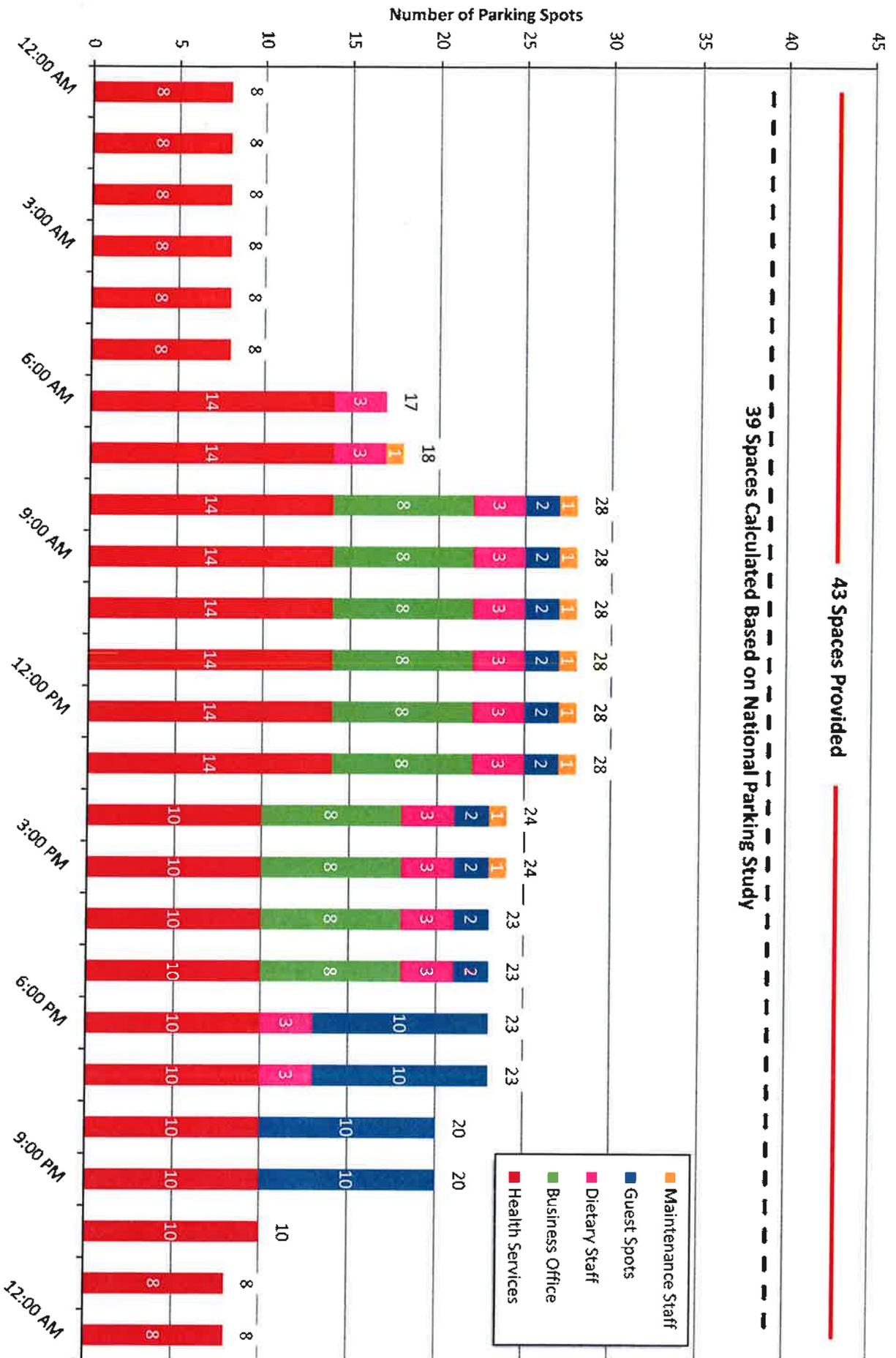
I trust this letter provides a more detailed understanding of how our community functions as it pertains to the parking needs. If you have further questions please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Sproul", is written over the typed name "Douglas Sproul".

Douglas Sproul

The Oaks in Paso Robles Parking Analysis



- Notes:
1. Data provided by operator based on projected staffing and experience with similar facilities.
 2. Parking study recommended 0.4 parking spaces per resident
 3. Parking lot provides 43 spaces, including 6 handicap spaces.

AIR QUALITY & GREENHOUSE GAS IMPACT ASSESSMENT

FOR

THE OAKS AT PASO ROBLES PROJECT

PASO ROBLES, CA

APRIL 2015

PREPARED FOR:

Monterey Pines Partners, LLC
5118 East Clinton Way
Suite 201
Fresno, CA 93727

PREPARED BY:



612 12TH STREET, SUITE 201
PASO ROBLES, CA 93446
805.226.2727

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LIST OF COMMON TERMS & ACRONYMS

AAM	Annual Arithmetic Mean
ADT	Average Daily Traffic
APCD	Air Pollution Control District
AQAP	Air Quality Attainment Plan
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DPM	Diesel-Exhaust Particulate Matter or Diesel-Exhaust PM
DRRP	Diesel Risk Reduction Plan
FCAA	Federal Clean Air Act
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
IPCC	Intergovernmental Panel on Climate Change
LOS	Level of Service
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards or National AAQS
NESHAPs	National Emission Standards for HAPs
NO _x	Oxides of Nitrogen
OAP	Ozone Attainment Plan
O ₃	Ozone
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter (less than 10 µm)
PM _{2.5}	Particulate Matter (less than 2.5 µm)
ppb	Parts per Billion
ppm	Parts per Million
ROG	Reactive Organic Gases
SIP	State Implementation Plan
SLOAPCD	San Luis Obispo County Air Pollution Control District
SO ₂	Sulfur Dioxide
SCCAB	South Central Coast Air Basin
SR	State Route
TAC	Toxic Air Contaminant
µg/m ³	Micrograms per cubic meter
U.S. EPA	United State Environmental Protection Agency
VMT	Vehicle Miles Traveled

INTRODUCTION

This report provides an analysis of air quality and greenhouse gas (GHG) impacts associated with the proposed Hilton Garden Inn project. This report also provides a summary of existing conditions in the project area and the applicable regulatory framework pertaining to air quality and climate change.

PROPOSED PROJECT

The Oaks at Paso Robles Senior Living Community will provide a combination of residential and support services to meet the needs of individuals 60 years and older or those needing assisted living services. The campus will include 73 assisted living units and 24 special memory care units. The project site totals approximately 2.79-acres located at the southeast corner of South River Road and Serenade Drive site. The project site is identified as Assessor's Parcel Number 009-815-007.

EXISTING & SURROUNDING LAND USES

The project site is located at the southeast corner of South River Road and Serenade Drive. The nearest noise-sensitive land use consists of residential dwellings, the nearest of which are located approximately 90 feet west of the project site, across South River Road. Residential land uses are also located approximately 160 feet to the east and 408 feet to the south of the project site. Commercial development is generally located north of the project site, across Serenade Drive.

AIR QUALITY

BACKGROUND INFORMATION

Paso Robles is located in San Luis Obispo County, which is part of the South Central Coast Air Basin (SCCAB) and within the jurisdiction of the County of San Luis Obispo Air Pollution Control District (SLOAPCD). Air quality in the SCCAB is influenced by a variety of factors, including topography, local and regional meteorology. Factors affecting regional and local air quality are discussed below.

TOPOGRAPHY, METEOROLOGY & CLIMATE

Topography

The City of Paso Robles is located in the upper Salinas River Valley. The Paso Robles area is bordered on the south and west by the rugged mountainous ridges of the Santa Lucia Coastal Range, to the east by the low hills of the La Panza and Temblor ranges, and to the north by the low hills and flat-topped mesas of the Diablo Range. The highest elevations in the vicinity are located in the Santa Lucia Coastal Range, where many peaks are 2,000 to 3,400 feet above mean sea level. Substantial ridgelines are distributed throughout the western, southern, and eastern portions of the City. The effects of the Pacific Ocean are diminished inland and by these major intervening terrain features.

Local and Regional Meteorology

The climate of the county can be generally characterized as Mediterranean, with warm, dry summers and cooler, relatively damp winters. Along the coast, mild temperatures are the rule throughout the year due to the moderating influence of the Pacific Ocean. This effect is diminished inland in proportion to distance from the ocean or by major intervening terrain features, such as the coastal mountain ranges. As a result, inland areas are characterized by a considerably wider range of temperature conditions. Maximum summer temperatures average about 70 degrees Fahrenheit near the coast, while inland valleys are often in the high 90s. Minimum winter temperatures average from the low 30s along the coast to the low 20s inland (SLOAPCD 2001).

Regional meteorology is largely dominated by a persistent high pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific High remains generally fixed several hundred miles offshore from May through September, enhancing onshore winds and opposing offshore winds. During spring and early summer, as the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland (SLOAPCD 2001).

From November through April the Pacific High tends to migrate southward, allowing northern storms to move across the county. About 90 percent of the total annual rainfall is received during this period. Winter conditions are usually mild, with intermittent periods of precipitation followed by mostly clear days. Rainfall amounts can vary considerably among different regions in the county. In the Coastal Plain, annual rainfall averages 16 to 28 inches, while the Upper Salinas River Valley generally receives about 12 to 20 inches of rain. The Carrizo Plain is the driest area of the county with less than 12 inches of rain in a typical year (SLOAPCD 2001).

Airflow around the county plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific High pressure system and other global patterns, by topographical factors, and by circulation patterns resulting from temperature differences between the land and sea. In spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze (SLOAPCD 2001).

In the Fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alternation of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, "trapping" pollutants near the surface (SLOAPCD 2001).

This effect is intensified when the Pacific High weakens or moves inland to the east. This may produce a "Santa Ana" condition in which air, often pollutant-laden, is transported into the county from the east and southeast. This can occur over a period of several days until the high pressure system returns to its normal location, breaking the pattern. The breakup of a Santa Ana condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they

combine with local emissions to cause high pollutant concentrations. Not all occurrences of the "post Santa Ana" condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the county (SLOAPCD 2001).

Atmospheric Stability and Dispersion

Air pollutant concentrations are primarily determined by the amount of pollutant emissions in an area and the degree to which these pollutants are dispersed into the atmosphere. The stability of the atmosphere is one of the key factors affecting pollutant dispersion. Atmospheric stability regulates the amount of vertical and horizontal air exchange, or mixing, that can occur within a given air basin. Restricted mixing and low wind speeds are generally associated with a high degree of stability in the atmosphere. These conditions are characteristic of temperature inversions (SLOAPCD 2001).

In the atmosphere, air temperatures normally decrease as altitude increases. At varying distances above the earth's surface, however, a reversal of this gradient can occur. This condition, termed an inversion, is simply a warm layer of air above a layer of cooler air, and it has the effect of limiting the vertical dispersion of pollutants. The height of the inversion determines the size of the mixing volume trapped below. Inversion strength or intensity is measured by the thickness of the layer and the difference in temperature between the base and the top of the inversion. The strength of the inversion determines how easily it can be broken by winds or solar heating (SLOAPCD 2001).

Several types of inversions are common to this area. Weak, surface inversions are caused by radiational cooling of air in contact with the cold surface of the earth at night. In valleys and low lying areas this condition is intensified by the addition of cold air flowing downslope from the hills and pooling on the valley floor. Surface inversions are a common occurrence throughout the county during the winter, particularly on cold mornings when the inversion is strongest. As the morning sun warms the earth and the air near the ground, the inversion lifts, gradually dissipating as the day progresses. During the late spring and early summer months, cool air over the ocean can intrude under the relatively warmer air over land, causing a marine inversion. These inversions can restrict dispersion along the coast, but they are typically shallow and will dissipate with surface heating (SLOAPCD 2001).

In contrast, in the summertime the presence of the Pacific high pressure cell can cause the air mass aloft to sink. As the air descends, compressional heating warms it to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion, is common to all of coastal California and can act as a nearly impenetrable lid to the vertical mixing of pollutants. The base of the inversion typically ranges from 1000 to 2500 feet above sea level; however, levels as low as 250 feet, among the lowest anywhere in the state, have been recorded on the coastal plateau in San Luis Obispo county. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion (SLOAPCD 2001).

CRITERIA AIR POLLUTANTS

For the protection of public health and welfare, the Clean Air Act (CAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the US EPA publishes criteria documents to justify the choice of standards. These

standards define the maximum amount of an air pollutant that can be present in ambient air without harm to the public's health. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. The CAA allows states to adopt additional or more health-protective standards. The air quality regulatory framework and ambient air quality standards are discussed in greater detail later in this report.

Human Health & Welfare Effects

Common air pollutants and associated adverse health and welfare effects are summarized in Table 1. Within the SCCAB, the air pollutants of primary concern, with regard to human health, include ozone, particulate matter (PM) and carbon monoxide (CO). As depicted in Table 2, exposure to increased pollutant concentrations of ozone, PM and CO can result in various heart and lung ailments, cardiovascular and nervous system impairment, and death.

**Table 1
Common Pollutants & Adverse Effects**

Pollutant	Human Health & Welfare Effects
Particulate Matter (PM ₁₀ & PM _{2.5})	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Ozone (O ₃)	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants: reduces crop yield. Damages rubber, some textiles and dyes.
Sulfur Dioxide (SO ₂)	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Carbon Monoxide (CO)	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Lead	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2013

ODORS

Typically odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

Neither the state nor the federal governments have adopted rules or regulations for the control of odor sources. The SLOAPCD does not have an individual rule or regulation that specifically

addresses odors; however, odors would be applicable to SLOAPCD's *Rule 204, Nuisance*. Any actions related to odors would be based on citizen complaints to local governments and the SLOAPCD. The SLOAPCD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine if the Project results in excessive nuisance odors, as defined under the California Code of Regulations, Health & Safety Code Section 41700, air quality public nuisance.

TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the Federal Clean Air Act (FCAA) or the California Clean Air Act (CCAA), and are thus not subject to National or State AAQS. TACs are not considered criteria pollutants in that the federal and California Clean Air Acts do not address them specifically through the setting of National or State AAQS. Instead, the U.S. EPA and CARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

At the state level, the CARB has authority for the regulation of emissions from motor vehicles, fuels, and consumer products. Most recently, Diesel-exhaust particulate matter (DPM) was added to the CARB list of TACs. DPM is the primary TACs of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk. The CARB has made the reduction of the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (CARB 2005).

At the local level, air districts have the authority over stationary or industrial sources. All projects that require air quality permits from the SLOAPCD are evaluated for TAC emissions. The SLOAPCD limits emissions and public exposure to TACs through a number of programs. The SLOAPCD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SLOAPCD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk

category, pursuant to AB 2588. No major existing sources of TACs have been identified in the project area.

Land Use Compatibility with TAC Emission Sources

The CARB published an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective (Handbook)* in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The CARB's Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site specific and should not be interpreted as defined "buffer zones". It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies (CARB 2005). Depending on site and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located within the distances identified. CARB-recommended separation distances for various sources of emissions are summarized in Table 2.

**Table 2
Recommendations on Siting New Sensitive Land Uses
Near Air Pollutant Sources**

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> • Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.
<p><i>Recommendations are advisory, are not site specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements.</i> Source: CARB 2005</p>	

ASBESTOS

Asbestos is the common name for a group of naturally-occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally-occurring asbestos, which was identified as a TAC in 1986 by CARB, is located in many parts of California and is commonly associated with ultramafic rock. The project site is located near areas that are likely to contain ultramafic rock. A map depicting known areas of naturally occurring areas within the County is included in Appendix A.

REGULATORY FRAMEWORK

Air quality within the SCCAB is regulated by several jurisdictions including the U.S. EPA, CARB, and the SLOAPCD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation.

FEDERAL

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the US EPA to establish National Ambient Air Quality Standards (NAAQS or National AAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 3.

STATE

California Air Resources Board

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are summarized in Table 3. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

**Table 3
Summary of Ambient Air Quality Standards & Attainment Designations**

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary ^(a)	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Non-Attainment	-	Non-Attainment Eastern SLO County - Attainment Western SLO County
	8-hour	0.070 ppm		0.075 ppm	
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Non-Attainment	-	Unclassified/Attainment
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Attainment	12 µg/m ³	Unclassified/Attainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment/Maintenance
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		-	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		100 ppm	
Sulfur Dioxide (SO ₂)	AAM	-	Attainment	0.03 ppm	Unclassified
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	-		0.5 ppm (1300 µg/m ³)**	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m ³	Attainment	-	No Attainment Information
	Calendar Quarter	-		1.5 µg/m ³	
	Rolling 3-Month Average	-		0.15 µg/m ³	
Sulfates	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	Attainment		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m ³)	No Information Available		
Visibility-Reducing Particle Matter	8-hour	Exinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Attainment		

* For more information on standards visit :<http://ww.arb.ca.gov/research/aaqs/aaqs2.pdf>
** Secondary Standard
Source: SLOAPCD 2015

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO₂, and NO₂ by the earliest practical date.

The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the Air Resources Board (ARB) adopted a regulation to reduce diesel particulate matter (PM) and oxides of nitrogen (NO_x) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. Such vehicles are used in construction, mining, and industrial operations. The regulation does not apply to stationary equipment or portable equipment such as generators. The off-road vehicle regulation, establishes emissions performance requirements, establishes reporting, disclosure, and labeling requirements for off-road vehicles, and limits unnecessary idling.

LOCAL

County of San Luis Obispo Air Pollution Control District

The SLOAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions within the region are maintained. Responsibilities of the SLOAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

IMPACT ANALYSIS

Air quality impacts attributable to the proposed project are summarized in Table 4.

**Table 4
Summary of Project-Related Air Quality Impacts**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
A) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

METHODOLOGY

Short-term construction and long-term operational emissions associated with the proposed project were calculated using the CalEEMod, version 2013.2.2, computer program. According to the project applicant, construction of project is anticipated to occur over an approximate 12-month period, beginning in October 2015. Approximately 600 cubic yards of soil would be exported from the project site. Detailed construction information (e.g., equipment required, construction schedules, etc.) was not available at the time of the analysis. Construction activity durations, equipment use, vehicle trips, equipment load factors and emission factors were based default parameters contained in the model. Mitigated construction emissions were quantified assuming the application of water a minimum of 3 times daily based on the default reductions identified in the model.

A traffic analysis was not prepared for this project. Operational vehicle trip-generation rates were, therefore, based on the default rates identified in the model. Modeling assumptions and output files are included in Appendix C of this report.

THRESHOLDS OF SIGNIFICANCE

To assist in the evaluation of air quality impacts, the SLOAPCD has developed recommended significance thresholds, which are contained in the SLOAPCD's *CEQA Air Quality Handbook* (2012). For the purposes of this analysis, project emissions are considered potentially significant impacts if any of the following SLOAPCD thresholds are exceeded:

Construction Impacts

The threshold criteria established by the SLOAPCD to determine the significance and appropriate mitigation level for a project's short-term construction emissions are presented in Table 5 and discussed, as follows (SLOAPCD 2012):

**Table 5
SLOAPCD Thresholds of Significance for Construction Impacts**

Pollutant	Threshold ⁽¹⁾		
	Daily (lbs/day)	Quarterly Tier 1 (tons)	Quarterly Tier 2 (tons)
Ozone Precursors (ROG + NO _x) ⁽²⁾	137	2.5	6.3
Diesel Particulate Matter (DPM) ⁽²⁾	7	0.13	0.32
Fugitive Particulate Matter (PM ₁₀), Dust	None	2.5	None
1. Daily and quarterly emissions thresholds are based on the California Health & Safety Code and the CARB Carl Moyer Guidelines. 2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5 tons PM ₁₀ quarterly threshold.			

ROG and NO_x Emissions

- Daily: For construction projects expected to be completed in less than one quarter (90 days), exceedance of the 137 lb/day threshold requires Standard Mitigation Measures;
- Quarterly – Tier 1: For construction projects lasting more than one quarter, exceedance of the 2.5 ton/qtr threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. If implementation of the Standard Mitigation and BACT measures cannot bring the project below the threshold, off-site mitigation may be necessary; and,
- Quarterly – Tier 2: For construction projects lasting more than one quarter, exceedance of the 6.3 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

Diesel Particulate Matter (DPM) Emissions

- Daily: For construction projects expected to be completed in less than one quarter, exceedance of the 7 lb/day threshold requires Standard Mitigation Measures;
- Quarterly - Tier 1: For construction projects lasting more than one quarter, exceedance of the 0.13 tons/quarter threshold requires Standard Mitigation Measures, BACT for construction equipment; and,
- Quarterly - Tier 2: For construction projects lasting more than one quarter, exceedance of the 0.32 ton/qtr threshold requires Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

Fugitive Particulate Matter (PM₁₀), Dust Emissions

- Quarterly: Exceedance of the 2.5 ton/qtr threshold requires Fugitive PM₁₀ Mitigation Measures and may require the implementation of a CAMP.

Operational Impacts

Criteria Air Pollutants

The threshold criteria established by the SLOAPCD to determine the significance and appropriate mitigation level for long-term operational emissions from a project are presented in Table 6.

Table 6
SLOAPCD Thresholds of Significance for Operational Impacts

Pollutant	Threshold ⁽¹⁾	
	Daily (lbs/day)	Annual (tons/year)
Ozone Precursors (ROG + NO _x) ⁽²⁾	25	25
Diesel Particulate Matter (DPM) ⁽²⁾	1.25	None
Fugitive Particulate Matter (PM ₁₀), Dust	25	25
CO	550	None

1. Daily and annual emissions thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.
2. CalEEMod – use winter operational emission data to compare to operational thresholds.

Toxic Air Contaminants

If a project has the potential to emit toxic or hazardous air pollutants, or is located in close proximity to sensitive receptors, impacts may be considered significant due to increased cancer risk for the affected population, even at a very low level of emissions. For the evaluation of such projects, the SLOAPCD recommends the use of the following thresholds:

- Type A Projects: new proposed land use projects that generate toxic air contaminants (such as gasoline stations, distribution facilities or asphalt batch plants) that impact sensitive receptors. Air districts across California are uniform in their recommendation to use the significance thresholds that have been established under each district's "Hot Spots" and permitting programs. The SLOAPCD has defined the excess cancer risk significance threshold at 10 in a million for Type A projects in SLO County; and,
- Type B Projects: new land use projects that will place sensitive receptors (e.g., residential units) in close proximity to existing toxics sources (e.g., freeway). The APCD has established a CEQA health risk threshold of 89 in-a-million for the analysis of projects proposed in close proximity to toxic sources. This value represents the population weighted average health risk caused by ambient background concentrations of toxic air contaminants in San Luis Obispo County. The SLOAPCD recommends Health Risk screening and, if necessary, Health Risk Assessment (HRA) for any residential or sensitive receptor development proposed in proximity to toxic sources.

Localized CO Concentrations

Localized CO concentrations associated with the proposed project would be considered less-than-significant impact if: (1) Traffic generated by the proposed project would not result in deterioration of intersection level of service (LOS) to LOS E or F; or (2) the project would not contribute additional traffic to an intersection that already operates at LOS of E or F (Caltrans 1996).

Odors

Screening of potential odor impacts is typically recommended for the following two situations:

- Projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate; and
- Residential or other sensitive receptor projects or other projects that may attract people locating near existing odor sources.

If the proposed project would locate receptors and known odor sources within one mile of each other, a full analysis of odor impacts is recommended. Known odor sources of primary concern, as identified by the SLOAPCD, include: landfills, transfer stations, asphalt batch plants, rendering plants, petroleum refineries, and painting/coating operations, as well as, composting, food processing, wastewater treatment, chemical manufacturing, and feedlot/dairy facilities.

PROJECT IMPACTS AND MITIGATION MEASURES

A. Would the project conflict with or obstruct implementation of the applicable air quality plan?

According to the SLOAPCD's *CEQA Air Quality Handbook* (2012), a consistency analysis with the Clean Air Plan is required for a program-Level environmental review, and may be necessary for a project-Level environmental review, depending on the project being considered. Project-level environmental reviews which may require consistency analysis with the Clean Air Plan and Smart/Strategic Growth Principles adopted by lead agencies include: subdivisions, large residential developments and large commercial/industrial developments. For such projects, evaluation of consistency is based on a comparison of the proposed project with the land use and transportation control measures and strategies outlined in the Clean Air Plan. If the project is consistent with these measures, the project is considered consistent with the Clean Air Plan.

The Clean Air Plan includes a variety of policies and strategies, including land use policies intended to result in reductions in overall vehicle miles traveled, as well as, various transportation control measures. The Clean Air Plan would reduce emissions through implementation of the following adopted control measures:

- Campus-Based Trip Reduction
- Voluntary Trip Reduction Program
- Local Transit System Improvements
- Regional Transit Improvements
- Bicycling and Bikeway Enhancements
- Park and Ride Lots
- Motor Vehicle Inspection and Control Program
- Traffic Flow Improvements
- Telecommuting, Teleconferencing, and Telelearning

The Clean Air Plan also includes various land use policies to encourage the use of alternative forms of transportation, increase pedestrian access and accessibility to community services and local destinations, reduce vehicle miles traveled within the County, and promote congestion management efforts.

The property is designated RMF20 (Residential Multi-Family- 20/acre) in the General Plan. The Zoning designation is RMF4 (Residential Multi-Family-Planned Development). The proposed use is consistent with the General Plan and existing zoning designations. As such, the project would not result in a significant increase in projected population or employment within the region. In addition, the proposed project is located near major commercial retail centers and local transit services and would not result in a substantial increase in vehicle traffic. Furthermore, as noted in "Impact C" below, the proposed project would not result in operational emissions that would exceed SLOAPCD's significance thresholds for criteria air pollutants. For these reasons, the proposed project would not conflict with or obstruct continued implementation of the CAP. This impact is considered less than significant.

B. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As noted in *Impact C*, below, short-term construction activities may result in localized concentrations of pollutants that could adversely affect nearby land uses. As a result, this impact is considered **potentially significant**. Refer to *Impact C* and *Impact D* of this report for more detailed discussions of air quality impacts and recommended mitigation measures.

Mitigation Measures

Implementation of Mitigation Measure AQ-1 and AQ-2, as identified in *Impact C* and *Impact D* below, would reduce this impact to a less-than-significant level.

C. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Short-term Construction Emissions

Construction-generated emissions are of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. Construction of the proposed project would result in the temporary generation of emissions associated with site grading and excavation, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces. Short-term construction emissions would result in increased emissions of ozone-precursor pollutants (i.e., ROG and NO_x) and emissions of PM. Emissions of ozone-precursors would result from the operation of on- and off-road motorized vehicles and equipment. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities and can result in increased concentrations of PM that can adversely affect nearby sensitive land uses.

Estimated daily and quarterly construction emissions are summarized in Table 7 and Table 8, respectively. The highest emissions are projected to occur during the later period of construction, largely associated with the evaporation of emissions during the application of architectural coatings. Additional emissions would also be generated by the use of onsite off-road equipment, on-road vehicle trips, and asphalt paving. Assuming that multiple construction

activities could occur simultaneously (e.g., building construction, paving, and architectural coating application), maximum daily emissions would total approximately 186.3 lbs/day of ROG+NO_x and 3.2 lbs/day of DPM. Daily construction-generated emissions of ROG+NO_x could exceed SLOAPCD's significance threshold of 137 lbs/day.

**Table 7
Estimated Daily Construction Emissions Without Mitigation**

Construction Period/Phase	Daily Emissions (lbs)	
	ROG+NO _x	Exhaust PM ₁₀
Summer Conditions		
Site Preparation	62.4	2.8
Grading/Excavation	47.4	2.2
Building Construction – Year 2015	35.7	2.0
Building Construction – Year 2016	33.7	1.9
Paving	20.4	1.0
Architectural Coating	130.0	0.2
Maximum Daily Emissions:	186.1	3.2
SLOAPCD Significance Thresholds:	137	7
Exceed SLOAPCD Thesholds?:	Yes	No
Winter Conditions		
Site Preparation	62.4	2.8
Grading/Excavation	47.5	2.2
Building Construction – Year 2015	35.9	2.0
Building Construction – Year 2016	33.8	1.9
Paving	20.4	1.0
Architectural Coating	130.0	0.2
Maximum Daily Emissions:	186.3	3.2
SLOAPCD Significance Thresholds:	137	7
Exceed SLOAPCD Thesholds?:	Yes	No
<i>Maximum Daily Emissions: Assumes that facility construction, paving, and application of architectural coatings could potentially occur simultaneously on any given day. Totals may not sum due to rounding. Refer to Appendix C for modeling assumptions and results.</i>		

As indicated in Table 8, the highest quarterly emissions would total approximately 2.3 tons of ROG+NO_x, 0.07 tons of DPM, and 0.05 tons of fugitive dust. Construction-generated emissions would not exceed SLOAPCD's quarterly significance thresholds.

Impact Summary

Construction-generated emissions, in comparison to SLOAPCD's significance thresholds, are summarized in Table 9. As depicted, maximum daily emissions of ROG+NO_x would total approximately 186.3 lbs/day, which would exceed SLOAPCD's daily significance threshold of 137 lbs/day. Emissions of DPM and fugitive dust are not projected to exceed corresponding SLOAPCD significance thresholds. However, fugitive dust generated during construction may result in localized pollutant concentrations that could result in increased nuisance concerns to

nearby land uses. Therefore, construction-generated emissions of ROG+NO_x and fugitive dust would be considered to have a potentially significant impact.

**Table 8
Estimated Quarterly Construction Emissions Without Mitigation**

Construction Quarter	Quarterly Emissions (tons)			
	ROG+NO _x	PM ₁₀		
		Exhaust	Dust	Total
Quarter 1 (Year 2015)	1.2	0.07	0.05	0.11
Quarter 2 (Year 2016)	1.1	0.06	0.01	0.07
Quarter 3 (Year 2016)	1.1	0.06	0.01	0.07
Quarter 4 (Year 2016)	2.3	0.06	0.01	0.07
SLOAPCD Significance Thresholds:	2.50	0.13	2.50	None
Emissions Exceed Thresholds?:	No	No	No	N/A

*Totals may not sum due to rounding.
Refer to Appendix C for modeling assumptions and results.*

**Table 9
Summary of Estimated Construction Emissions Without Mitigation
in Comparison to SLOAPCD Significance Thresholds**

Criteria	Project Emissions	SLOAPCD Significance Threshold	Exceed Significance Threshold?
Maximum Daily Emissions (ROG+NO _x):	186.3 lbs/day	137 lbs/day	Yes
Maximum Daily Emissions (DPM):	3.5 lbs/day	7.0 lbs/day	No
Maximum Quarterly Emissions (ROG+NO _x):	2.3 tons/qtr	2.5 tons/qtr	No
Maximum Quarterly Emissions (DPM):	0.07 tons/qtr	0.13 tons/qtr	No
Maximum Quarterly Emissions (Fugitive PM):	0.05 tons/qtr	2.5 tons/qtr	No

*Quarterly thresholds are based on the more conservative Tier 1 thresholds.
Refer to Appendix C for modeling assumptions and results.*

Mitigation Measure AQ-1:

- a. Interior and exterior paints used during project construction shall have a maximum allowable VOC content of 150 grams per liter.
- b. The following measures are recommended to minimize nuisance impacts associated with construction-generated fugitive dust emissions:
 1. Reduce the amount of the disturbed area where possible;
 2. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
 3. All dirt stock pile areas should be sprayed daily as needed;

4. 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;
 5. Reduce the amount of disturbed area where possible;
 6. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
 7. All dirt stock pile areas should be sprayed daily as needed;
 8. 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;
 9. 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;
 10. 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 APCD;
 11. 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;
 12. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
 13. 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 CVC Section 23114;
 14. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
 15. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;
 16. 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, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. 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 APCD Compliance Division prior to the start of any grading, earthwork or demolition.
- c. The following measures are recommended to reduce emissions from motorized construction equipment:
1. Maintain all construction equipment in proper tune according to manufacturer's specifications;
 2. Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
 3. Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation;
 4. Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;

5. Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative compliance;
6. All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit;
7. Diesel idling within 1,000 feet of sensitive receptors is not permitted;
8. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
9. Electrify equipment when feasible;
10. Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
11. Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

d. The above mitigation measures shall be shown on grading and building plans.

Significance After Mitigation

Mitigated emissions are summarized in Table 10. With implementation of Mitigation Measure AQ-1,a., which would require the use of architectural coatings having a maximum allowable VOC content of 150 grams per liter, maximum daily emissions of ROG+NO_x would be reduced to approximately 135 lbs/day, which would not exceed the SLOAPCD's significance threshold of 137 lbs/day. Mitigation Measure AQ-1,b and AQ-1,c include SLOAPCD-recommended mitigation measures for the control of fugitive dust and mobile-source emissions associated with construction activities. These measures would ensure compliance with SLOAPCD's 20-percent opacity limit (APCD Rule 401), nuisance rule (APCD Rule 402), and would minimize potential nuisance impacts to nearby receptors. With mitigation, this impact would be considered less than significant. Mitigated construction-generated emissions in comparison to SLOAPCD's significance thresholds are summarized in Table 10.

Table 10
Summary of Estimated Construction Emissions With Mitigation
in Comparison to SLOAPCD Significance Thresholds

Criteria	Project Emissions	SLOAPCD Significance Threshold	Exceed Significance Threshold?
Maximum Daily Emissions (ROG+NO _x):	135.4 lbs/day	137 lbs/day	No
Maximum Daily Emissions (DPM):	3.5 lbs/day	7.0 lbs/day	No
Maximum Quarterly Emissions (ROG+NO _x):	1.8 tons/qtr	2.5 tons/qtr	No
Maximum Quarterly Emissions (DPM):	0.07 tons/qtr	0.13 tons/qtr	No
Maximum Quarterly Emissions (Fugitive PM):	0.05 tons/qtr	2.5 tons/qtr	No
<i>Quarterly thresholds are based on the more conservative Tier 1 thresholds. Refer to Appendix C for modeling assumptions and results.</i>			

Long-term Operational Emissions

Long-term operational emissions associated with the proposed project would be predominantly associated with mobile sources. To a lesser extent, emissions associated with area sources, such as landscape maintenance activities, as well as, use of electricity and natural gas would also contribute to increased emissions. Daily unmitigated operational emissions for summer and winter conditions are summarized in Table 11. Table 12 provides a summary of unmitigated annual operational emissions.

As depicted in Table 11, operational emissions would be slightly higher during winter conditions. Maximum daily operational emissions would total approximately 7.1 lbs/day ROG+NO_x, 19.1 lbs/day CO, 1.4 lbs/day of fugitive PM₁₀, and 0.1 lbs/day of exhaust PM₁₀. Maximum annual emissions, as depicted in Table 12, would total approximately 1.1 tons/year of ROG+NO_x and approximately 0.2 tons/year of fugitive PM₁₀.

The proposed project may also include the future installation of a stand-by emergency generator. The stand-by emergency generator would be operated in the event of an emergency power failure or for routine testing and maintenance. The type, size and location of the generator has not yet been determined. The installation of the generator would be subject to SLOAPCD permitting requirements and would be limited to no more than 200 hours annually.

Impact Summary

Operational emissions in comparison to SLOAPCD's corresponding significance thresholds are summarized in Table 13. As depicted, operational emissions would not exceed the SLOAPCD's corresponding daily or annual significance thresholds. In addition, the future installation of the stand-by emergency generator would be subject to SLOAPCD permitting requirements. As a result, long-term operational emissions generated by the proposed project are considered to have a less than significant impact.

**Table 11
Estimated Daily Operational Emissions Without Mitigation**

Operational Period/Source	Daily Emissions (lbs/day)						
	ROG	NO _x	ROG+NO _x	CO	PM ₁₀		
					Fugitive	Exhaust	Total
Summer Conditions							
Project-Generated Emissions:	4.0	2.9	6.9	18.0	1.4	0.1	1.5
SLOAPCD Significance Thresholds:	--	--	25	550	25	1.25	--
Exceed SLOAPCD Thresholds?:	--	--	No	No	No	No	--
Winter Conditions							
Project-Generated Emissions:	4.0	3.1	7.1	19.1	1.4	0.1	1.5
SLOAPCD Significance Thresholds:	--	--	25	550	25	1.25	--
Exceed SLOAPCD Thresholds?:	--	--	No	No	No	No	--
<i>Refer to Appendix C for modeling output files and assumptions.</i>							

**Table 12
Estimated Annual Operational Emissions Without Mitigation**

Operational Period/Source	Annual Emissions (tons/year)						
	ROG	NO _x	ROG+NO _x	CO	PM ₁₀		
					Fugitive	Exhaust	Total
Project-Generated Emissions:	0.7	0.5	1.1	3.2	0.2	0.1	0.3
SLOAPCD Significance Thresholds:	--	--	25	--	25	--	--
Exceed SLOAPCD Thresholds?:	--	--	No	--	No	--	--

Refer to Appendix C for modeling output files and assumptions.

**Table 13
Summary of Estimated Operational Emissions
in Comparison to SLOAPCD Significance Thresholds**

Criteria	Project Emissions	SLOAPCD Significance Threshold	Exceed Significance Threshold?
Maximum Daily ROG+NO _x Emissions (Winter):	7.1 lbs/day	25 lbs/day	No
Maximum Daily CO Emissions:	19.1 lbs/day	550 lbs/day	No
Maximum Daily DPM Emissions:	0.1 lbs/day	1.25 lbs/day	No
Maximum Daily Fugitive PM Emissions:	1.4 lbs/day	25 lbs/day	No
Maximum Annual ROG+NO _x Emissions:	1.1 tons/year	25 tons/year	No
Maximum Annual Fugitive PM Emissions:	0.2 tons/year	25 tons/year	No

Refer to Appendix C for modeling output files and assumptions.

C. Would the project expose sensitive receptors to substantial pollutant concentrations?

No major stationary or area sources of toxic air contaminants (TACs) have been identified in the project vicinity. The proposed project does not include the installation of any major stationary sources of TACs. However, the proposed project may include the future installation of a stand-by emergency generator, which could result in localized increases in emissions. In addition, construction of the proposed project may also result in localized pollutant concentrations. The proposed project's potential to contribute to localized air quality impacts are discussed in greater detail, as follows:

Stand-by Emergency Generator

The stand-by emergency generator would be operated in the event of an emergency power failure or for routine testing and maintenance. The type, size and location of the stand-by generator has not yet been determined. However, depending on the type of unit installed, localized emissions could potentially exceed applicable ambient air quality standards, particularly at onsite receptor locations.

All internal combustion engines greater than 50 brake horsepower would be required to obtain a permit to construct from the SLOAPCD prior to installation, in accordance with SLOAPCD's Rule 431, *Stationary Internal Combustion Engines*. In accordance with Rule 431, operation of the stand-by generator would be limited to no more than 200 hours a year. Depending on permitting requirements, the generator may be either diesel fueled or alternatively fueled. The generator would also be required to comply with SLOAPCD-administrated Statewide Air Toxics Control Measure (ATCM) for Stationary Diesel Engines. Alternatively fueled engines, such as natural gas, ethanol, propane or dual fuels (diesel only for initial start-up and then primarily natural gas) are much cleaner and produce significantly less emissions. However, depending on the type and location of the generator, uncontrolled localized pollutant concentrations would have the potential to exceed applicable ambient air quality standards, particularly at onsite receptor locations. As a result, emissions associated with the generator would be considered to have a potentially significant localized air quality impact.

Localized CO Concentrations

Localized concentrations of CO are of primary concern in areas located near congested roadway intersections. Of particular concern are intersections that are projected to operate at unacceptable levels of service (LOS) E or F.

As an assisted living and memory care campus, most residents living at the facility would not drive. As a result, the proposed project would not result in a substantial increase in vehicle traffic on area roadways. For this reason, the proposed project would not be anticipated to result in or contribute to unacceptable levels of service (i.e., LOS E or F) at nearby signalized intersections. In addition, the proposed project would not result in emissions of CO in excess of the SLOAPCD's significance threshold of 550 lbs/day. Localized concentrations of CO are considered to be less than significant.

Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) has been identified as a toxic air contaminant by the California Air Resources Board (ARB). In accordance with ARB Air Toxics Control Measure (ATCM), prior to any grading activities a geologic evaluation should be conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the District. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos ATCM (SLOAPCD 2012).

Based on a review of the SLOAPCD's map depicting potential areas of NOA, the project site is located in an area that has been identified as having a potential for NOA. As a result, the disturbance and potential exposure to NOA is considered to have a potentially significant impact. A map of areas within the County potentially containing NOA is included in Appendix A.

Construction-Generated PM

Construction of the proposed project would result in short-term emissions of PM, including fugitive dust and diesel-exhaust PM, primarily during the initial site preparation and grading phase. These activities could result in localized PM concentrations that may result in adverse nuisance impacts to nearby sensitive receptors. As noted in Impact C, localized uncontrolled concentrations of construction-generated PM would be considered to have a potentially significant impact.

Mitigation Measures

Implement Mitigation Measure AQ-1, as identified in *Impact C* above, for the control of PM emitted during construction.

Mitigation Measures AQ-2:

- a. Prior to issuance of an occupancy permit, a permit to operate shall be obtained from the SLOAPCD for any diesel emergency back-up generator, 50 hp or greater, that is included as part of the project plans. If the applicant decides to add a permit-required generator to the facility after the occupancy permit, then this mitigation measure is official notice to the applicant that an APCD permit is required prior to the installation of the proposed generator.
- b. Prior to any grading activities a geologic evaluation shall be conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the SLOAPCD. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos ATCM. These requirements may include but are not limited to:
 1. Development of an Asbestos Dust Mitigation Plan, which must be approved by the SLOAPCD prior to construction, and,
 2. Development and approval of an Asbestos Health and Safety Program (required for some projects).

Significance After Mitigation

Mitigation Measure AQ-1 includes measures for the control of construction-generated emissions, including emissions of fugitive dust and DPM from onsite equipment, as recommended by the SLOAPCD. Mitigation Measure AQ-2.a. would require the future installation of the stand-by emergency generator to comply with SLOAPCD permitting requirements for stationary emissions sources. Mitigation Measure AQ-2.b. would require implementation of additional measures in the event that NOA is discovered during construction. With implementation of Mitigation Measure AQ-1 and AQ-2, this impact would be considered less than significant.

E. Would the project create objectionable odors affecting a substantial number of people?

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The proposed project would not result in the installation of any equipment or processes that would be considered a major odor-emission source. However, construction of the proposed

project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. For these reasons, potential exposure of sensitive receptors to odorous emissions would be considered less than significant.

GREENHOUSE GASES AND CLIMATE CHANGE

SETTING

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion. There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change, such as adjusting transportation design standards to withstand more intense storms and higher sea levels (Caltrans 2013).

REGULATORY FRAMEWORK

FEDERAL

Executive Order 13514 (October 5, 2009): This order is focused on reducing GHGs internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.

The U.S. EPA and the National Highway Traffic Safety Administration are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include

developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons (MMT) and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut GHG emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish GHG emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 MMT and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles (Caltrans 2013).

STATE

Assembly Bill 1493, Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.

Assembly Bill 32, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the CalEPA and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the CARB to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

CALIFORNIA BUILDING CODE

The California Building Code contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The California Building Code is adopted every three years by the Building Standards Commission (BSC). In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide; however, a local jurisdiction may amend a CBC standard if it makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions.

Green Building Standards

In essence, green buildings standards are indistinguishable from any other building standards. Both are contained in the California Building Code and regulate the construction of new buildings and improvements. The only practical distinction between the two is that whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance.

AB 32, which mandates the reduction in greenhouse gas emissions in California to 1990 levels by 2020, increased the urgency around the adoption of green building standards. In its scoping plan for the implementation of AB 32, the CARB identified energy use as the second largest contributor to California's GHG emissions, constituting roughly 25 percent of all such emissions. In recommending a green building strategy as one element of the scoping plan, the CARB estimated that green building standards would reduce GHG emissions by approximately 26 million metric tons of CO₂e (MMTCO₂e) by 2020 (BSC 2011).

2010 Green Building Code

On January 12, 2010, the Building Standards Commission adopted the *2010 California Green Building Standards Code*, also known as the 2010 CALGreen Code. In addition to the new statewide mandates, CALGreen encourages local governments to adopt more stringent voluntary provisions, know as Tier 1 and Tier 2 provisions, to further reduce greenhouse gas emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. The most significant features of the 2010 CALGreen Code include the following (BSC 2011):

- 20 percent mandatory reduction in indoor water use, with voluntary goal standards for 30, 35 and 40 percent reductions;
- Separate indoor and outdoor water meters to measure nonresidential buildings' indoor and outdoor water use with a requirement for moisture-sensing irrigation systems for larger landscape projects;

- Diversion of 50 percent of construction waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80 percent for commercial projects;
- Mandatory periodic inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies;
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT

The SLOAPCD is a local public agency with the primary mission of realizing and preserving clean air for all county residents and businesses. Responsibilities of the SLOAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by federal and state regulatory requirements.

GHG Significance Thresholds

The SLOAPCD recently adopted recommended GHG significance thresholds. These thresholds are based on AB 32 GHG emission reduction goals, which take into consideration the emission reduction strategies outlined in ARB's Scoping Plan. The GHG significance thresholds include one qualitative threshold and two quantitative thresholds options for evaluation of operational GHG emissions. The qualitative threshold option is based on a consistency analysis in comparison to a Qualified Greenhouse Gas Reduction Strategy, or equitably similar adopted policies, ordinances and programs. If a project complies with a Qualified Greenhouse Gas Reduction Strategy that is specifically applicable to the project, then the project would be considered less than significant. The two quantitative threshold options include: 1) a bright-line threshold of 1,150 MTCO₂e/year; and 2) an efficiency threshold of 4.9 MTCO₂e/service population (residents+employees)/year. An additional GHG significance threshold of 10,000 MTCO₂e/year is proposed for industrial stationary sources. The applicable GHG significance threshold to be used would depend on the type of project being proposed. Projects with GHG emissions that do not exceed the selected threshold would be considered to have a less-than-significant impact. The APCD's GHG emission thresholds are summarized in Table 14.

Table 14
SLOAPCD GHG Thresholds of Significance

Project	Draft Threshold
Projects other than Stationary Sources	1. Compliance with Qualified GHG Reduction Strategy; or 2. 1,150 MT CO ₂ e/year; or 3. 4.9 MT CO ₂ e/SP/year (residents+employees)
Stationary Sources (Industrial)	10,000 MT CO ₂ e/year
Construction	Amortized over the project life and added to operation GHG emissions
Source: SLOAPCD 2012	

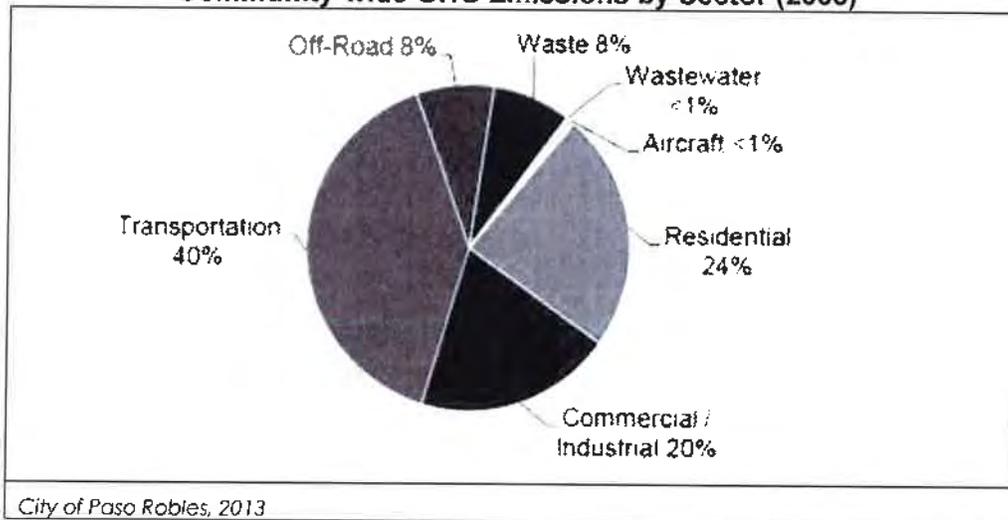
CITY OF PASO ROBLES CLIMATE ACTION PLAN

The City of Paso Robles Climate Action Plan (CAP) was adopted by the City Council on November 18th, 2013. The CAP is a long-range plan to reduce greenhouse gas (GHG) emissions from City government operations and community activities within Paso Robles and prepare for the anticipated effects of climate change. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life (City of Paso Robles, 2013).

According to the GHG emissions inventory identified in the CAP, in 2005, the Paso Robles community emitted approximately 169,557 metric tons of carbon dioxide equivalent GHG emissions (MT CO₂e), as a result of activities that took place within the transportation, residential energy use, commercial and industrial energy use, off-road vehicles and equipment, solid waste, aircraft and wastewater sectors. As shown in Figure 1, the largest contributors of GHG emissions were the transportation (40 percent), residential energy use (24 percent) and commercial/industrial energy use (20 percent) sectors. The remainder of emissions resulted from the solid waste (eight percent), off-road vehicles and equipment (8 percent), aircraft (less than one percent), and wastewater (less than one percent) sectors (City of Paso Robles, 2013).

In accordance with SLOAPCD-recommended significance thresholds, as discussed above, projects that are determined to be consistent with the GHG-reduction plan, or in this case the CAP, would be considered to have a less-than-significant impact. To assist with this determination, the CAP includes a worksheet that identifies various "mandatory", as well as, "voluntary" measures. All "mandatory" actions must be incorporated as binding and enforceable components of the project to be considered consistent with the CAP. If a project cannot meet one or more of the "mandatory" actions, substitutions may be allowed provided equivalent reductions can be achieved. In addition, to demonstrate consistency with the CAP, all required measures must be incorporated as binding and enforceable components of the project. A copy of the City's CAP consistency worksheet is included in Appendix B.

Figure 1
City of Paso Robles
Community-wide GHG Emissions by Sector (2005)



IMPACT ANALYSIS

GHG impacts attributable to the proposed project are summarized in **Table 15**.

**Table 15
Summary of GHG Emissions Impacts**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS				
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"/>
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"/>

METHODOLOGY

The methodologies used for quantification of GHG emissions are consistent with those discussed earlier in this report for the quantification of criteria air pollutants. Modeling assumptions and output files are included in Appendix C of this report.

THRESHOLDS OF SIGNIFICANCE

In accordance with SLOAPCD recommended significance thresholds, the proposed project would be considered to have a potentially significant impact on the environment if project-generated emissions would exceed 1,150 MTCO_{2e}/year.

The City of Paso Robles CAP includes a "Consistency Worksheet", which identifies various mandatory and voluntary actions designed to reduce GHG emissions. The CAP Consistency Worksheet can be used to demonstrate project-level compliance with the CAP. Consistency with the City of Paso Robles CAP would be considered potentially significant if the proposed project does not incorporate, at a minimum, the mandatory project-level GHG-reduction measures, as identified in the CAP Consistency Worksheet. The CAP Consistency Worksheet is included in Appendix B of this report.

PROJECT IMPACTS AND MITIGATION MEASURES

A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? and

Estimated GHG emissions attributable to future development would be primarily associated with increases of CO₂ from mobile sources. To a lesser extent, other GHG pollutants, such as CH₄ and N₂O, would also be generated. Short-term and long-term GHG emissions associated with the development of the proposed project are discussed in greater detail, as follows:

Short-term Construction GHG Emissions

Estimated increases in GHG emissions associated with construction of the proposed project are summarized in Table 16. Based on the modeling conducted, annual emissions of greenhouse gases associated with construction of the proposed project would range from approximately 109.6 to 305.7 MTCO_{2e}. Amortized GHG emissions, when averaged over the assumed 50-year life of the project, would total approximately 8.3 MTCO_{2e}/year. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. Actual emissions may vary, depending on the final construction schedules, equipment required, and activities conducted.

**Table 16
Construction-Generated GHG Emissions Without Mitigation**

Construction Year	GHG Emissions (MTCO _{2e} /Year)
Year 2015	109.6
Year 2016	305.7
Total:	415.3
Amortized Construction Emissions*:	8.3

**Amortized emissions are quantified based on an estimated 50-year project life. Refer to Appendix C for modeling assumptions and results.*

Long-term Operational GHG Emissions

Estimated long-term increases in GHG emissions associated with the proposed project are summarized in Table 17. Based on the modeling conducted, operational GHG emissions would be predominantly associated with mobile sources and energy use. To a lesser extent, GHG emissions would also be associated with solid waste generation, as well as, water use and conveyance. With amortized construction-generated emissions, annual emissions would total approximately 472 MTCO_{2e}/year. Project-generated GHG emissions would not exceed SLOAPCD's significance threshold of 1,150 MTCO_{2e}/year. This impact would be considered less than significant.

**Table 17
Operational GHG Emissions Without Mitigation**

Source	GHG Emissions (MTCO _{2e} /Year)
Area Source	2.1
Energy Use	139.7
Motor Vehicles	261.3
Waste Generation	39.0
Water Use and Conveyance	21.2
Total Project-Generated Emissions:	463.4
Construction (Amortized)	8.3
Total:	471.7
SLOAPCD Significance Threshold:	1,150
Exceeds Significance Threshold?:	No

Refer to Appendix C for modeling assumptions and results.

B. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed earlier in this report, the City of Paso Robles CAP was adopted by the City Council on November 18th, 2013. The CAP is a long-range plan to reduce greenhouse gas (GHG) emissions from City government operations and community activities within Paso Robles and prepare for the anticipated effects of climate change. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life (City of Paso Robles, 2013). To help achieve these goals, the CAP includes a "Consistency Worksheet", which identifies various mandatory and voluntary actions designed to reduce GHG emissions. The CAP Consistency Worksheet can be used to demonstrate project-level compliance with the CAP.

A CAP consistency worksheet for the proposed project is included in Appendix B of this report. As depicted in the worksheet, the proposed land use would be consistent with current zoning and would implement all applicable mandatory measures identified in the City's CAP. The proposed project would also include numerous voluntary measures, which would further reduce project-generated GHG emissions. Furthermore, as noted in Table 17, project-generated GHG emissions would not exceed SLOAPCD's significance threshold for GHG emissions. For these reasons, the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. This impact would be considered less than significant.

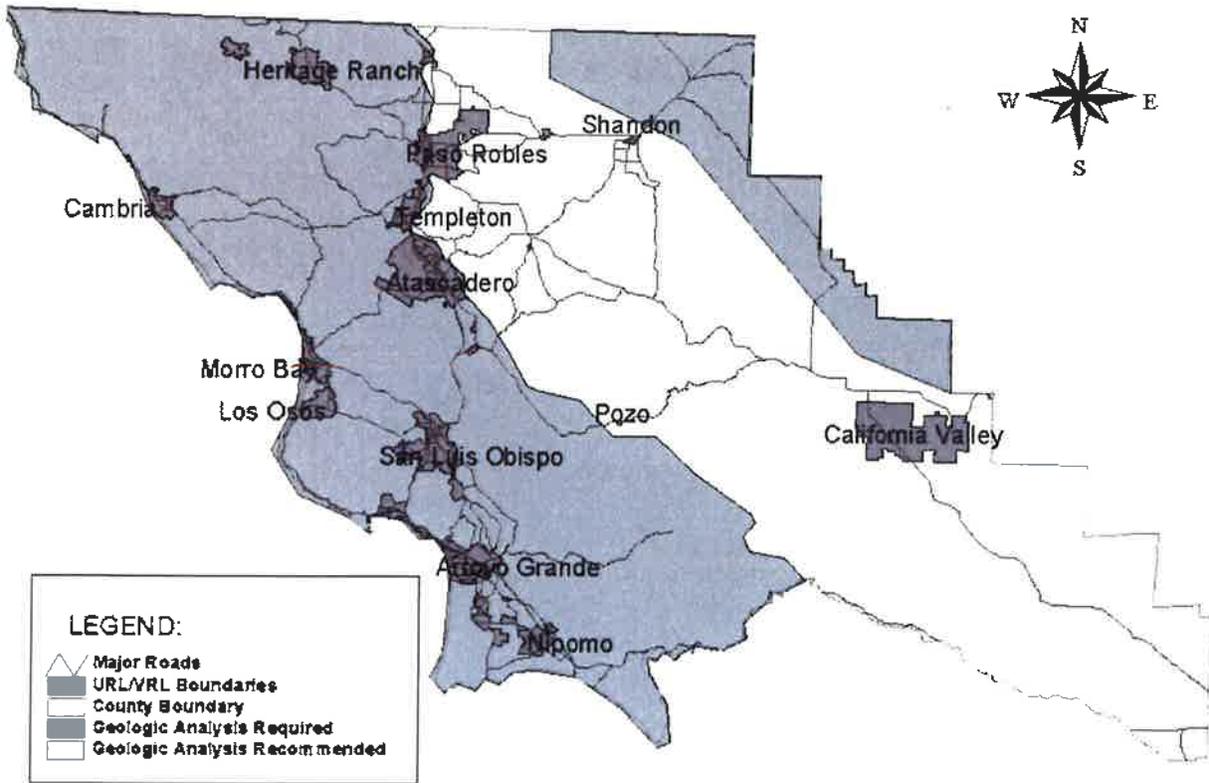
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APPENDIX A

AREAS OF KNOWN NATURALLY OCCURRING ASBESTOS

Areas Likely to Contain Naturally Occurring Asbestos



Source: SLOAPCD April 2012

APPENDIX B

**CITY OF PASO ROBLES CLIMATE ACTION PLAN
CAP CONSISTENCY WORKSHEET**

CAP Consistency Worksheet

The City of Paso Robles CAP was developed to comprehensively analyze and mitigate the significant effects of GHG emissions consistent with CEQA Guidelines Section 15183.5(b) and to support the State's efforts to reduce GHG emissions under Executive Order S-3-05 and AB 32 (see CAP Chapter 1, Sections 1.1 and 1.4). Pursuant to CEQA Guidelines Sections 15064(h)(3) and 15130(d), if a project is consistent and complies with the requirements of an adopted plan, such as a CAP, that includes the attributes specified in CEQA Guidelines Section 15183.5(h), the lead agency may determine that the project's GHG impacts are less than significant with no further analysis required. This appendix sets forth a CAP consistency worksheet that an applicant may use to demonstrate project compliance with the CAP. This checklist should be filled out for each new project, subject to discretionary review of the City of Paso Robles.

To determine project consistency and compliance with the CAP, the applicant should complete Sections A and B below, providing project-level details in the space provided. Generally, only projects that are consistent with the General Plan land use designations, and SLOCOG population and employment projections, upon which the GHG emissions modeling and CAP is based, can apply for a determination of consistency with the CAP. In addition, all mandatory actions identified in Section B must be incorporated as binding and enforceable components of the project for it to be found consistent with the CAP. If an action is not applicable to the proposed project, please identify and explain.

At this time, the voluntary actions are not required for project consistency with the CAP; however, if a project does include voluntary actions identified in Section B, project-level details should be described to help the City track implementation of voluntary CAP actions that would contribute to Paso Robles's achievement of its GHG emissions reduction target.

If the project cannot meet one or more of the mandatory actions, substitutions (preferably starting with the voluntary actions) may be allowed if the applicant can demonstrate how substituted actions would achieve equivalent reductions to the City's satisfaction. The applicant would also be required to demonstrate that the project would not substantially interfere with implementation of the mandatory CAP actions.

If it is determined that a proposed project is not consistent with the CAP, further analysis would be required and the applicant would be required to demonstrate that the proposed project's GHG emissions fall below the APCD's adopted GHG significance thresholds (see CAP Chapter 1, Section 1.2.3, and Table 1-2). The project would also be required to demonstrate that it would not substantially interfere with implementation of the CAP.

CITY OF PASO ROBLES CLIMATE ACTION PLAN CONSISTENCY WORKSHEET

A. Project Information

Please complete cells highlighted in light grey. Attach additional/supportive information, as needed, to support consistency conclusions.

Date:	20-Apr-15		
Project Name:	Paso Oaks		
Project Address:	South River Road		
Project Type:	Assisted Living		
Project Size:	2.8 Acres		
Existing General Plan Land Use Designation(s):	Residential Multi-Family 20		
Proposed General Plan Land Use Designation(s):	NO CHANGE	Is Proposed Land Use Designation Consistent with Existing GP Land Use Designation(s)?:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Existing Zoning Designation(s):	R4 PD		
Proposed Zoning Designation(s):	NO CHANGE	Is Proposed Zoning Designation Consistent with Existing Zoning Designation(s)?:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Project Service Population (Residents + Employees):			
Brief Project Description:			
Compliance Checklist Prepared By:			

*Existing General Plan Land Use Designations can be found at website url: <http://www.paso.org/government/departments/commdev/planning/land-use-maps.asp>

*Existing Zoning Designations can be found at website url: <http://www.paso.org/Government/departments/commdev/planning/zoning.asp>

CITY OF PASO ROBLES CLIMATE ACTION PLAN CONSISTENCY WORKSHEET

B. CAP Measure Compliance Worksheet

Date: 4/21/14
 Project Name: Paso Oaks

Measure	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/N/A)	Details of Compliance
Energy				
Measure E-4: Incentives for Exceeding Title 24 Energy Efficiency Building Standards	Does the project exceed 2013 Title 24 Building Energy Efficiency Standards?	Voluntary	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project design will likely exceed 2013 Title 24 Building Energy Efficiency Standards.
Measure E-5: Energy Efficient Public Realm Lighting Requirements	Does the project utilize high efficiency lights in parking lots, streets, and other public areas?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project would utilize high efficiency lights in parking lots, streets, and other public areas.
Measure E-6: Small-Scale On-Site Solar PV Incentive Program	Does the project include installation of small-scale on-site solar PV systems and/or solar hot water heaters? If so, what type and how much renewable energy would be generated?	Voluntary	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Measure E-7: Income-Qualified Solar PV Program	Does the project include installation of small-scale on-site solar PV systems and/or solar hot water heaters on income-qualified housing units? If so, what type and how much renewable energy would be generated?	Voluntary	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Transportation and Land Use				
Measure TL-1: BicycleNetwork	For subdivisions and large developments, does the project incorporate bicycle lanes, routes, and/or shared-use paths -no street systems to provide a continuous network of routes, facilitated with markings, signage, and bicycle parking?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	A bike lane will be located in front of the project site.
	For non-residential development, does the project comply with mandatory California Green Building Standards Code bicycle parking standards?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
	Does the project incorporate bicycle facilities and/or amenities beyond those required?	Voluntary	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	

CITY OF PASO ROBLES CLIMATE ACTION PLAN CONSISTENCY WORKSHEET

B. CAP Measure Compliance Worksheet (Continued)

Date: 4/21/14
 Project Name: Paso Oaks

Measure	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/N/A)	Details of Compliance*
Transportation and Land Use (Continued)				
Measure TL-2: Pedestrian Network	Does the project provide a pedestrian access network that internally links all uses and connects all existing or planned external streets and pedestrian facilities contiguous with the project site?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	There is pedestrian connectivity that internally links all uses and connects to one of the external streets (Serrano Drive)
	Does project minimize barriers to pedestrian access and interconnectivity?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	There is good pedestrian connectivity on the site.
	Does the project implement traffic calming improvements as appropriate (e.g., marked crosswalks, turn-down signal timers, curb extensions, speed tables, raised crosswalks, median islands, mini-circles, tight corner radii, etc.)?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Traffic calming is achieved by reducing the road in front of the project from 4 lanes to 2 lanes. It also uses a bulbout to delineate the parallel parking area along the street. The parking along the street has the effect of slowing down traffic.
	Does the project incorporate pedestrian facilities and/or amenities beyond those required?	Voluntary	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project is proposing enhancing the pedestrian connectivity along the South River Road frontage by moving the sidewalk to the other side of the approximately 25' landscaping and retention area so that the pedestrians do not have to walk close the traffic on the arterial road.
Measure TL-3: Expand Transit Network	Does the project provide safe and convenient access to public transit within and/or contiguous to the project area?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Walking distance to City Bus Stop on Niblick Road.
Measure TL-6: Parking Supply Management	Does the project include a reduced number of parking spaces or utilize shared parking?	Voluntary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Proposed to coordinate with Woodland Plaza I to allow overflow parking for special events and high use days. Parking is reduced compared to a multifamily type of project. Assisted care projects typically use a much smaller parking ratio.
Measure TL-7: Electric Vehicle Network and Alternative Fueling Stations	Does the project include the installation of electric or other alternative fueling stations?	Voluntary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	
Measure TL-8: Infill Development	Is the project consistent with the City's land use and zoning code?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project is consistent with the General Plan and Zoning code.
	Does the project include any "smart growth" techniques, such as mixed use, higher density, and/or infill development near existing or planned transit routes, in existing community centers/downtowns, and/or in other designated areas?	Voluntary	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project is a high density Assisted Care Project. The Project is within walking distance of major retail center including Walmart and Albarson's. Near an existing City bus stop.

CITY OF PASO ROBLES CLIMATE ACTION PLAN CONSISTENCY WORKSHEET

B. CAP Measure Compliance Worksheet (Continued)

Date: 4/21/14
 Project Name: Paso Oaks

Measure	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Details of Compliance*
Off-Road				
Measure O-1: Equipment Upgrades, Retrofits, and Replacements	If the project involves construction or demolition, does equipment utilize low- or zero-emissions vehicles or equipment?	Voluntary	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	No Demolition
Water				
Measure W-1: Exceed SB X7-7 (Water Conservation Act of 2009), Water Conservation Target	Does the project meet CALGreen Tier 1 or Tier 2 standards for water efficiency and conservation?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
	Does the project incorporate grey Voluntary water or recycled water infrastructure?	Voluntary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	
Solid Waste				
Measure S-1: Solid Waste Diversion Rate	If the project involves construction or demolition, will the contractor divert 65 percent of non-hazardous construction or demolition debris?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	No Demolition
	Does the project provide receptacles for the collection of organic waste?	Voluntary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	
	Does the project include composting facilities?	Voluntary	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	
Tree Planting				
Measure T-1: Tree Planting Program	Does the project include the planting of native and drought tolerant trees beyond those required as mitigation for tree removal? If so, how many?	Mandatory	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The project will include planting of native and drought tolerant trees beyond mitigation requirements. All newly planted trees will be native to the region. Exact quantities have yet to be determined.

*Please attach additional pages as needed to complete the description and provide project details.

APPENDIX C
EMISSIONS MODELING



NORTH COAST ENGINEERING, INC.

Civil Engineering • Land Surveying • Project Development

Draft

Water Demand Analysis – The Oaks at Paso Robles

The Oaks at Paso Robles is a proposed Assisted Care and Memory Care Campus located on the southeast corner of South River Road and Serenade Drive. The campus will consist of 73 Assisted Care Units and 24 Special Memory Care units. The project will incorporate water saving features both in domestic use and in landscaping uses.

In order to estimate the water demand for this project it was considered appropriate to analyze similar facilities. Three facilities in the North County were analyzed. One of the facilities had separate landscaping metering and separate domestic metering (Facility 1) and two (Facilities 2 & 3) of the facilities had combined metering. Oasis Associates has calculated the anticipate landscaping water use for the Oaks at Paso Robles so it was necessary to estimate the average domestic use for the two facilities that did not have separate meters. In order to calculate the average domestic use of the facilities it was necessary to separate out the domestic use from the total use. Water use calculations were based on per person use to provide a common denominator for comparison.

The City of Paso Robles calculates sewer fees based on winter water use for residential uses, basing that water use which would have the minimum amount of landscape use for the winter months of December, January and February. This, therefore was considered an appropriate method of calculation. Based on the actual metered water use (Facility 1) for those months it was calculated that domestic use was 80% of the total water use for those months.

The facility (Facility 1) that had separate meters used an actual average of 40 Gallons per Day per Person. The facilities without separate water meters were calculated to use the following based on their total winter water use:

Facility 2 – 69 Gallons per Day per Person

Facility 3 – 88 Gallons per Day per Person

Average Calculated Domestic: 66 Gallons per Day per Person

The greater water use in Facilities 2 and 3 is probably attributable to the age of the facilities and the assumed lack of upgrades with water saving features. Even though these numbers were much higher than the metered water use they were used in the average domestic water demand, resulting in a very conservative and defensible number. The average is 65% more than the facility with the measured consumption.

Assisted Care and Memory Care facilities are unique in their consumption of water and use considerably less water than Residential Single Family and Residential Multi Family uses. Residents shower less frequently, meals are prepared in water efficient commercial kitchens and laundry processed in a water efficient commercial laundry.

The previously approved project on this property consisted of 25 Single Family homes. When compared to the water use of the Single Family homes the total water use of The Oaks at Paso Robles is slightly less. More significantly though, the water use per person is significantly less. The comparison of the water use per person is listed below and detailed in Table B.

The Oaks at Paso Robles	85 Gallons per Day per Person
Previously Approved Project	124 Gallons per Day per Person

The Previously Approved Project is estimated to use 39 Gallons per Day more per Person or 69% more water per person than the proposed Oaks at Paso Robles Assisted Care project.

The Oaks in Paso Robles will incorporate the latest in water efficient fixtures and appliances which will help reduce water consumption. Landscaping is primarily drought tolerant and there is no turf. The following water saving features will be incorporated into the project:

1. The dishwasher, in addition to being Energy Star rated for low energy usage, would only utilize .74 gallons of 120 degree water per rack, which is below the industry standard of .89 gallons per rack.
2. The Oaks at Paso Robles will utilize a low-flow pre rinse sprayer in the soiled dishwashing scrapping sink that would be rated at .65 gpm which is below the standard 1.5 gpm units commonly used.
3. The Oaks at Paso Robles will utilize low-flow faucets in the pot/pan and preparation sinks as well as the utility beverage counter sinks, with a usage factor of 1.5 gpm which is below the standard 2.2 gpm units commonly used.
4. The Oaks at Paso Robles will utilize Electronic hand sink faucets with a rated flow of .5 gpm and be set on a timed cycle.
5. The Oaks at Paso Robles will utilize 0.35 gpm aerators in the lavatories in lieu of the standard 0.5 gpm aerators.
6. The Oaks at Paso Robles will utilize 1.0 gpm aerators in the kitchen sinks in lieu of the standard 1.5 gpm aerators.
7. We will utilize either 1.28 gpf or dual flush water closets in lieu of the standard 1.6 gpf water closets.

In summary, The Oaks at Paso Robles will use significantly less water per person than the previously approved project and provide a much needed service for the community.

Attachments:

Table A – The Oaks at Paso Robles Water Demand and Comparison to Previously Approved Project

Table B – Calculation of average Domestic Water Use based on Winter Consumption

TABLE A

The Oaks in Paso Robles Water Demand Estimate

Total Residents

Assisted Care	Memory Care	TOTAL
73	24	97

DOMESTIC		
ESTIMATED TOTAL DOMESTIC ¹	66	Gallons per day per person
LANDSCAPING⁴		
<u>AREAS</u>		
LOW (DROUGHT TOLERANT)	48,042	SF
MODERATE	16,000	SF
HIGH	0	SF
TOTAL	64,042	SF
MAWA GALLONS ²	1,361,917	Gallons per year
ETWA GALLONS ³	668,679	Gallons per year
	1,832	Gallons per day
	19	Gallons per day per person
TOTAL ESTIMATED WATER USE	85	Gallons per day per person

COMPARISON TO PREVIOUSLY APPROVED PROJECT (25 SFR ON 3 ACRES- 8 UNITS PER ACRE)⁵				
	Gallon per day per Resident	Gallons per Year per Resident	Residents	Gallons per Year for Project
Previously Approved Project	124	45,260.00	67	3,009,790
The Oaks Assisted Care	85	31,025.00	97	3,009,425

Notes:

- 1 Estimate is based on actual and calculated water use in similar facilities (See Table B)
- 2 **MAWA= Maximum Applied Water Allowance.** This is the upper limit of the annual allowed water for an established landscape area. The calculated number is based upon the size of the Landscape and evapotranspiration (ETo).
- 3 **ETWU=Estimated Total Water Use** ETWU is estimated water use based upon the *types of plant material used* in the design
- 4 Landscape water use provided by Oasis and Associates
- 5 Water use base on 2014 Water System Master Plan Update for SFR-6 Water Demand Factor

Table B

CALCULATION OF AVERAGE DOMESTIC WATER USE BASED ON WINTER CONSUMPTION							
	Gallons per Month	Residents	Domestic Gallons per day per Resident Metered	Actual Landscaping Use Metered (Gallons per day per Resident)	Calculated Landscaping Use per Metered User (Gallons per day per Resident) ⁴	Calculated Domestic Use per Metered User (Gallons per day per Resident) ⁴	Total Gallons per day per Resident
Facility 1 ¹	129,659	97	40	10	----	----	50
Facility 2 ^{2,3}	170,000	65	----	----	17	69	86
Facility 3 ^{2,3}	100,000	30	----	----	21	88	109
Average Domestic Water use-Gallons per day per person:						66	
NOTES: 1 Facility has separate Landscape Meter and Domestic meter 2 Facility has COMBINED Landscape Meter and Domestic meter 3 Water use calculated using WINTER water use based on Facility 1 metered use							

**NOISE
IMPACT
ASSESSMENT**

FOR

**THE OAKS
AT PASO ROBLES
PROJECT
PASO ROBLES, CA**

APRIL 2015

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APPENDIX A Noise Modeling

INTRODUCTION

This report describes the existing noise environment in the project vicinity and identifies potential noise impacts associated with development of the proposed project. Noise-reduction measures have been identified, where necessary, to reduce noise-related impacts.

PROJECT OVERVIEW

The Oaks at Paso Robles Senior Living Community will provide a combination of residential and support services to meet the needs of individuals 60 years and older or those needing assisted living services. The campus will include 73 assisted living units and 24 special memory care units. The project site totals approximately 2.79-acres located at the southeast corner of South River Road and Serenade Drive site. The project site is identified as Assessor's Parcel Number 009-815-007.

ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration.

AMPLITUDE

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

FREQUENCY

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of this range than in the lower. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and noise levels are depicted in Figure 1.

ADDITION OF DECIBELS

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

**Figure 1
Typical Community Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)		Rock Band
Gas Lawn Mower at 1 m (3 ft)		
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)		Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime		
Gas Lawn Mower, 30 m (100 ft) Commercial Area		Vacuum Cleaner at 3 m (10 ft) Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)		Large Business Office
Quiet Urban Daytime		Dishwasher Next Room
Quiet Urban Nighttime		Theater, Large Conference
Quiet Suburban Nighttime		Room (Background)
Quiet Rural Nighttime		Library
		Bedroom at Night, Concert Hall (Background) Broadcast/Recording Studio
		
Lowest Threshold of Human Hearing		Lowest Threshold of Human Hearing

Source: Caltrans 2012

SOUND PROPAGATION & ATTENUATION

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level decreases (attenuates) at a rate of approximately 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 decibels for each doubling of distance from a line source, depending on ground surface characteristics. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between a line source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation for soft surfaces results in an overall attenuation rate of 4.5 decibels per doubling of distance from a line source.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in an approximate 5 dB of noise reduction. Taller barriers provide increased noise reduction.

NOISE DESCRIPTORS

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound-pressure level in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies, which is referred to as the "A-weighted" sound level (expressed in units of dBA). The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted noise scale. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with environmental noise.

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are typically used. For the evaluation of environmental noise, the most commonly used descriptors are L_{eq} , L_{dn} , and CNEL. The energy-equivalent noise level, L_{eq} , is a measure of the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, L_{dn} , is the 24-hour average of the noise intensity, with a 10-dBA "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn} but adds an additional 5-dBA penalty for evening noise (7 p.m. to 10 p.m.) Common noise descriptors are summarized in Table 1.

**Table 1
Common Acoustical Terms and Descriptors**

Descriptor	Definition
Decibel (dB)	A unit-less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to referenced sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Energy Equivalent Noise Level (L_{eq})	The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value (in dBA) is calculated.
Minimum Noise Level (L_{min})	The minimum instantaneous noise level during a specific period of time.
Maximum Noise Level (L_{max})	The maximum instantaneous noise level during a specific period of time.
Day-Night Average Noise Level (DNL or L_{dn})	The 24-hour L_{eq} with a 10 dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours to account for increases sensitivity to noise during these hours.
Community Noise Equivalent Level (CNEL)	The CNEL is similar to the L_{dn} described above, but with an additional 5 dBA "penalty" added to noise events that occur between the hours of 7:00 p.m. to 10:00 p.m. The calculated CNEL is typically approximately 0.5 dBA higher than the calculated L_{dn} .

HUMAN RESPONSE TO NOISE

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans;
- Outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial;
- A 10-dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

A limitation of using a single noise-level increase value to evaluate noise impacts, as discussed above, is that it fails to account for pre-project noise conditions. With this in mind, the Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. The FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments. FICON-recommended noise evaluation criteria are summarized in Table 2.

Table 2
Federal Interagency Committee on Noise
Recommended Criteria for Evaluation of Increases in Ambient Noise Levels

Ambient Noise Level Without Project	Increase Required for Significant Impact
< 60 dB	5.0 dB, or greater
60-65 dB	3.0 dB, or greater
> 65 dB	1.5 dB, or greater

Source: FAA 2000, FICON 1992

As depicted in Table 2, a noise level increase of 5.0, or greater, would typically be considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dB. Within areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Increases of 1.5 dB, or greater, could result in increased levels of annoyance in areas where the ambient noise level exceeds 65 dB. The rationale for the FICON-recommended criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant increases in annoyance (FICON 1992, FAA 2000).

AFFECTED ENVIRONMENT

NOISE-SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The project site is located at the southeast corner of South River Road and Serenade Drive. The nearest noise-sensitive land use consists of residential dwellings. The nearest residential land uses are located approximately 90 feet west of the project site, across South River Road. Residential land uses are also located approximately 160 feet to the east and 408 feet to the south of the project site. Commercial development is generally located north of the project site, across Serenade Drive.

AMBIENT NOISE ENVIRONMENT

To document existing ambient noise levels at the project site, short-term ambient noise measurements were conducted on April 16th and 17th, 2015. Noise measurements were conducted using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter positioned at a height of approximately 4.5 feet above ground level at approximately 57 feet from the centerline of South River Road. Measured ambient noise levels are summarized in Table 3. Based on the noise measurement surveys conducted, average-hourly daytime noise levels near the western boundary of the project site generally range from approximately 64 to 68 dBA L_{eq} . The highest average-hourly noise levels occurred during the peak morning and late-afternoon commute hours. Ambient noise levels during the late evening and nighttime hours are roughly 5 to 10 dBA below daytime ambient noise levels.

Ambient noise levels were primarily influenced by vehicular traffic on South River Road. No nearby stationary sources of noise were detectable at the project site. Based on the noise measurement surveys conducted, the existing average-daily traffic noise levels are projected to range from approximately 55 dBA CNEL/ L_{dn} near the eastern boundary of the project site to approximately 65 dBA CNEL/ L_{dn} near the western boundary, at approximately 57 feet from the centerline of South River Road.

Table 3
Summary of Measured Ambient Noise Levels

Monitoring Period	Location	Noise Level (dBA) ⁽¹⁾	
		L_{eq}	L_{max}
0735-0745	Approximately 57 feet from South River Road centerline.	67.8	76.9
1000-1010		64.3	74.5
1245-1255		65.5	75.3
1730-1740		68.4	78.8
2030-2040		60.6	74.1
2320-2340		56.1	74.9

Noise measurement surveys were conducted on April 16th and 17th, 2015 using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter positioned at a height of approximately 4.5 feet above ground level.

REGULATORY FRAMEWORK

NOISE

2010 California Green Building Standards

The 2010 California Green Building Standards (California Code of Regulations Title 24, Part 11, Section 5.507) requires that the wall and roof-ceiling assemblies making up a building envelope to have a minimum Sound Transmissions Class (STC) of 50, and exterior windows to have a minimum STC of 30 for any of the following building locations:

1. Within 1,000 feet of freeways
2. Within 5 miles of airports serving more than 10,000 commercial jets per year;
3. Where the sound levels at the property line regularly exceed 65 decibels, other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems.

The above standards do not apply to buildings with few or no occupants or where occupants are not likely to be affected by exterior noise (as determined by the enforcement authority), such as factories, stadiums, storage, enclosed parking structures and utility buildings. This section also identifies a minimum STC of 40 for interior walls and floor-ceiling assemblies that separate tenant spaces and public spaces (CBSC 2010).

City of Paso Robles General Plan

Transportation Sources

The City's noise criteria for determination of land use compatibility are presented in Figure 4. These guidelines are used to assess whether or not transportation noise can potentially pose a conflict with proposed land uses. For convalescent care/nursing facilities, an exterior noise level of 65 dBA CNEL/L_{dn} is considered "normally acceptable." Exterior noise levels between 60 and 70 dBA CNEL/L_{dn} are considered "conditionally acceptable" and exterior levels between 70 and 80 dBA CNEL/L_{dn} are considered "normally unacceptable." Exterior noise levels in excess of 80 dBA CNEL/L_{dn} are considered "clearly unacceptable."

In addition to the noise criteria for determination of land use compatibility, General Plan Policy N-1A also establishes exterior and interior noise standards for transportation sources. Accordingly, the maximum allowable noise exposure for outdoor activity areas is 65 dBA CNEL/L_{dn}. The maximum allowable noise exposure for interior occupied areas is 45 dBA CNEL/L_{dn}.

Stationary Sources

The City of Paso Robles has also adopted noise standards for stationary sources. The noise standards are applied at the property line of the receiving land use. The City's noise standards for stationary sources are summarized in Table 4.

**Table 4
Maximum Allowable Noise Exposure-Stationary Noise Sources¹**

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L, dB ⁽²⁾	50	45
Maximum level, dB ⁽²⁾	70	65
Maximum level, dB-Impulsive Noise ⁽³⁾	65	60
<p>1. As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of the noise barriers or other property line noise mitigation measures.</p> <p>2. Sound level measurements shall be made with the slow meter response.</p> <p>3. Sound level measurements shall be made with the fast meter response.</p> <p>Source: City of Paso Robles 2003</p>		

GROUNDBORNE VIBRATION

There are no federal, state, or local regulatory standards for ground-borne vibration. However, various criteria have been established to assist in the evaluation of vibration impacts. For instance, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance. Caltrans-recommended criteria for the evaluation of groundborne vibration levels, with regard to structural damage and human annoyance, are summarized in Table 5 and Table 6, respectively. The criteria differentiate between transient and continuous/frequent sources. Transient sources of ground-borne vibration include intermittent events, such as blasting; whereas, continuous and frequent events would include the operations of equipment, including construction equipment, and vehicle traffic on roadways (Caltrans 2002, 2004).

The ground-borne vibration criteria recommended by Caltrans for evaluation of potential structural damage is based on building classifications, which take into account the age and condition of the building. For residential structures and newer buildings, Caltrans considers a minimum peak-particle velocity (ppv) threshold of 0.5 inches per second (in/sec) for transient sources and 0.3 in/sec for continuous/frequent sources to be sufficient to protect against building damage. With the exception of fragile buildings, ruins, and ancient monuments, continuous ground-borne vibration levels below approximately 0.2 in/sec ppv are unlikely to cause structural damage. In terms of human annoyance, continuous vibrations in excess of 0.04 in/sec ppv and transient sources in excess of 0.25 in/sec ppv are identified by Caltrans as being "distinctly perceptible". Within buildings, short periods of ground vibration in excess of 0.2 in/sec ppv are generally considered to result in increased levels of annoyance (Caltrans 2002, 2004).

**Figure 2
City of Paso Robles Land Use Compatibility Noise Criteria for Transportation Noise Sources**

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE						
	Ldn or CNEL, dBA						
	55	60	65	70	75	80	85
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES		Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
RESIDENTIAL - MULTI-FAMILY			Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
TRANSIENT LODGING - MOTELS, HOTELS			Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES			Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
PLAYGROUNDS, NEIGHBORHOOD PARKS				Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES					Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL				Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE					Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable



NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: City of Paso Robles 2003

**Table 5
Damage Potential to Buildings at Various Groundborne Vibration Levels**

Structure and Condition	Vibration Level (in/sec ppv)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely Fragile Historic Buildings, Ruins, Ancient Monuments	0.12	0.08
Fragile Buildings	0.2	0.1
Historic and Some Old Buildings	0.5	0.25
Older Residential Structures	0.5	0.3
New Residential Structures	1.0	0.5
Modern Industrial/Commercial Buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2002, 2004

**Table 6
Annoyance Potential to People at Various Groundborne Vibration Levels**

Human Response	Vibration Level (in/sec ppv)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2002, 2004

IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Criteria for determining the significance of noise impacts were developed based on information contained in the California Environmental Quality Act Guidelines (CEQA Guidelines, Appendix G). According to the guidelines, a project may have a significant effect on the environment if it would result in the following conditions:

- a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or of applicable standards of other agencies;
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels;
- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0, or greater, where the noise levels, without project implementation, are less than 60 dBA CNEL/L_{dn}; 3 dBA, or greater, where the noise level, without project implementation, ranges from 60 to 65 dBA CNEL/L_{dn}; and 1.5 dB, or greater, where the noise level, without project implementation, exceeds 65 dBA CNEL/L_{dn}, based on the previously discussed FICON noise criteria (**Table 2**). The rationale for these noise criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause a substantial increase in annoyance.

METHODOLOGY

A combination of existing literature, noise level measurements, and application of accepted noise prediction and sound propagation algorithms were used for the prediction of short-term construction and long-term operational noise levels. Stationary source noise levels were evaluated based on represented noise level data obtained from existing environmental documentation. Traffic noise levels were derived from the *City of Paso Robles 2011 General Plan Circulation Element Final Environmental Impact Report* (February 2011) and were evaluated for existing and projected future (year 2025) conditions. Predicted exterior noise levels at the proposed building façade were calculated based on the identified noise contours and assuming an average noise-attenuation rate of 4.5 dB per doubling of distance from the source. Predicted interior noise levels were calculated assuming an average exterior-to-interior noise reduction of 25 dB.

IMPACT DISCUSSION AND MITIGATION MEASURES

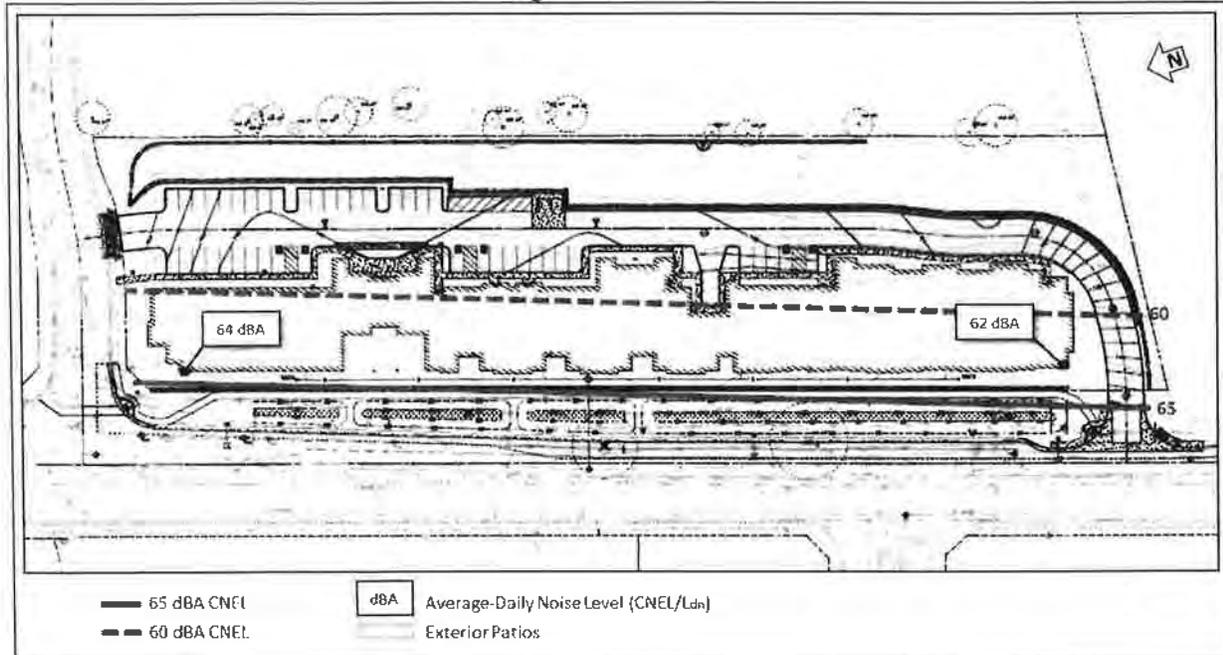
IMPACT A Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or of applicable standards of other agencies.

Existing Traffic Noise Levels

Predicted existing traffic noise levels are depicted in Figure 3. As depicted, predicted existing traffic noise levels would be greatest along the western façade of the building. Existing exterior traffic noise levels along the western façade would range from approximately 62 dBA CNEL/L_{dn} near the southern boundary to approximately 64 dBA CNEL/L_{dn} near the northern boundary. Noise levels at exterior patios would be approximately 64 dBA CNEL/L_{dn}.

New building construction typically provides exterior-to-interior noise reductions of 25-30 dB. Based on the predicted exterior noise levels discussed above and assuming a minimum exterior-to-interior noise reduction of 25 dB, predicted interior noise levels would be approximately 39 dBA CNEL/L_{dn}, or less.

**Figure 3
Predicted Existing Exterior Traffic Noise Levels**



*Projected noise contours are approximate and do not include shielding from proposed structures.
Image Source: NCE 2015*

Future Traffic Noise Levels

Predicted future traffic noise levels are depicted in Figure 4. As depicted, future traffic noise levels along the western façade would range from approximately 64 dBA CNEL/L_{dn} near the southern boundary to approximately 66 dBA CNEL/L_{dn} near the northern boundary. Noise levels at exterior patios would be approximately 63 to 65 dBA CNEL/L_{dn}. Noise levels would be highest near the western edge of the patios, which would equal but would not be projected to exceed the City’s exterior noise standards of 65 dBA CNEL/L_{dn}. Assuming a minimum exterior-to-interior noise reduction of 25 dB, predicted future interior noise levels would be approximately 41 dBA CNEL/L_{dn}, or less.

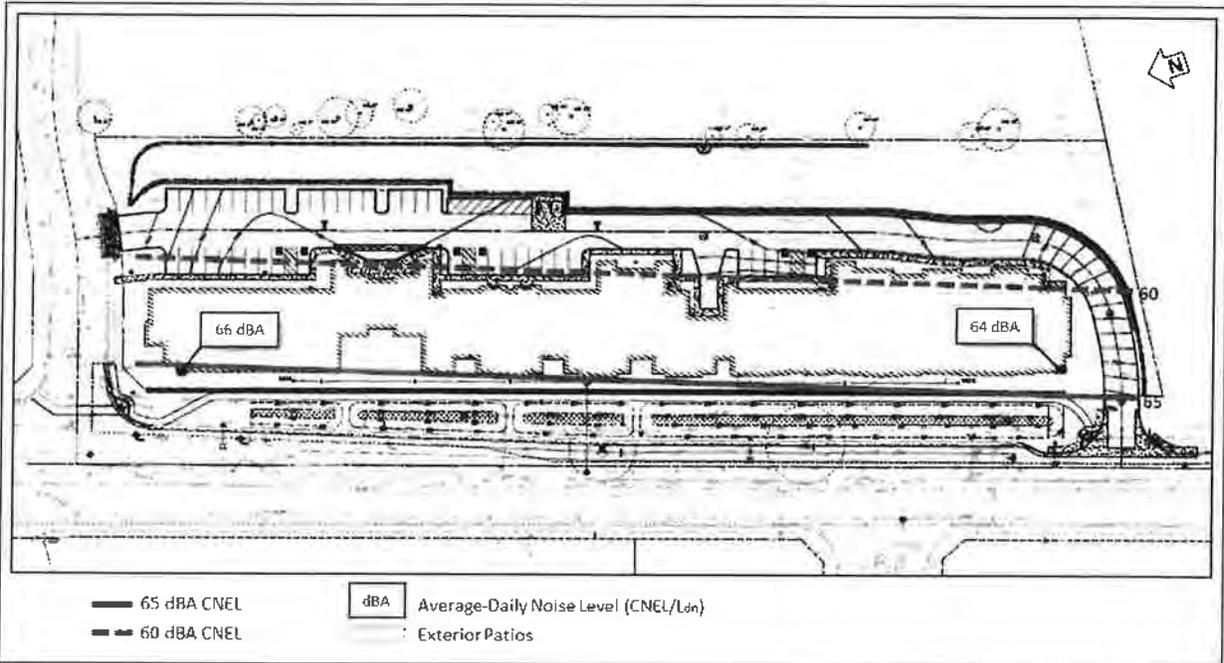
Impact Summary

For determination of land use compatibility, the City’s General Plan establishes a “normally acceptable” exterior noise standard of 65 dBA CNEL/L_{dn}. Exterior noise levels of up to 70 dBA CNEL/L_{dn} are considered “conditionally acceptable” provided necessary noise-reduction measures are incorporated. In addition to the noise criteria for determination of land use compatibility, General Plan Policy N-1A also establishes exterior and interior noise standards for transportation sources. Accordingly, the maximum allowable noise exposure within outdoor activity areas is 65 dBA CNEL/L_{dn}. The maximum allowable noise exposure for interior areas is 45 dBA CNEL/L_{dn}.

Under predicted future conditions, noise levels within exterior patios are not projected to exceed the City’s exterior noise standard of 65 dBA CNEL/L_{dn}. Assuming a minimum exterior-to-interior noise reduction of 25 dB, predicted future interior noise levels would be approximately 41 dBA CNEL/L_{dn}, or less, and would not exceed the City’s interior noise standard of 45 dBA CNEL/L_{dn}.

Because predicted traffic noise levels would not exceed the City's applicable noise standards, this impact is considered *less than significant*.

Figure 4
Predicted Future Exterior Traffic Noise Levels



*Projected noise contours are approximate and do not include shielding from proposed structures.
Image Source: NCE 2015*

IMPACT B Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Increases in groundborne vibration levels attributable to the proposed project would be primarily associated with short-term construction-related activities. Construction activities associated with the proposed project would likely require the use of various off-road equipment, such as tractors, concrete mixers, and haul trucks. The use of major groundborne vibration-generating construction equipment, such as pile drivers, is not anticipated to be required for this project.

Groundborne vibration levels associated with representative construction equipment are summarized in Table 7. Based on the vibration levels presented, ground vibration generated by construction equipment would not be exceeded approximately 0.08 inches per second ppv at 25 feet. Predicted vibration levels at the nearest offsite structures, which are located in excess of 25 feet from the project site, would not exceed the minimum recommended criteria for structural damage and human annoyance (0.2 and 0.1 in/sec ppv, respectively). As a result, this impact would be considered less than significant.

**Table 7
Representative Vibration Source Levels for Construction Equipment**

Equipment	Peak Particle Velocity at 25 Feet (in/Sec)
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozers/Tractors	0.003
Source: FTA 2006, Caltrans 2004	

IMPACT C A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Implementation of the proposed project would result in increased traffic volumes along area roadways, predominantly South River Road. Typically, a double of vehicle traffic would be required before a noticeable increase (i.e., 3 dBA, or greater) in traffic noise levels would occur.

Assuming a trip-generation rates obtained from the Institute of Transportation Engineers, the project would generate approximately 2.74 vehicle trips/dwelling unit on weekdays. This rate would decrease slightly on weekends to roughly 2.2 vehicle trips/dwelling unit on Saturdays and 2.4 vehicle trips/dwelling unit on Sundays (CalEEMod 2014). In total, the project would generate a maximum of approximately 266 daily vehicle trips. By comparison, traffic volumes along nearby roadways, including the adjacent South River Road, are projected to average several thousand vehicle trips/day. Implementation of the proposed project would not result in a doubling of vehicle traffic on area roadways.

Exterior stationary noise sources associated with the proposed project would be limited to roof-top mounted air conditioning (AC) units and a standby emergency power generator. Noise levels associated with air conditioning units generally range from approximately 60 to 75 dBA L_{eq} at 5 feet, depending on the manufacturer, type, and size of the unit. Based on these noise levels, predicted noise levels at the property line of nearby land uses would be approximately 43 dBA L_{eq} , or less, would primarily operate during the daytime hours, and would be largely masked by traffic noise emanating from nearby roadways. Operational noise levels associated with roof-top mounted AC units would not exceed the City's applicable daytime or nighttime noise standards of 50 and 45 dBA L_{eq} , respectively.

The type and location of the stand-by generator has not yet been determined. Noise levels generated by emergency generators can reach levels up to approximately 80 dBA L_{eq} at 50 feet, depending on the manufacturer, type, and size of the unit. Depending on the location and type of unit installed, predicted noise levels at the property line of the nearest land uses could reach levels in excess of 70 dBA L_{eq} . It is important to note that operation of the stand-by generator would only occur during electrical service outages and during routine maintenance activities. In accordance with air quality permitting requirements, routine maintenance and testing activities would likely be limited to a maximum of 100 hours annually. Nonetheless, operational noise levels associated with the proposed stand-by generator could potentially exceed the City's daytime and nighttime noise standards. As a result, this impact would be considered potentially significant.

Mitigation Measure Noise-1:

- a. Prior to installation of the standby emergency power generator, an acoustical analysis shall be prepared to assess operational noise levels. To the extent necessary and applicable, the acoustical analysis shall identify appropriate design and noise-attenuation features to be incorporated sufficient to demonstrate compliance with the City's maximum allowable noise-exposure standards for stationary noise sources. The acoustical analysis shall be submitted to and approved by the City of Paso Robles Planning & Development Department prior to installation.

In accordance with Mitigation Measure Noise-1, the stand-by generator would be required to demonstrate compliance with the City's noise standards prior to installation. Appropriate design and noise-attenuation features would be incorporated sufficient to demonstrate compliance with the City's maximum allowable noise-exposure standards for stationary noise sources. With mitigation, this impact would be considered less than significant.

IMPACT D: *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., land clearing, grading, excavation, and paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the initial site preparation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential. Noise levels associated with individual construction equipment is summarized in Table 8.

As depicted in Table 8, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 89 dBA L_{max} at 50 feet (FTA 2006). Average-hourly noise levels associated with road improvement projects can vary, depending on the activities performed, reaching levels of up to approximately 83 dBA L_{eq} at 50 feet. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips may also result in temporary increases in ambient noise levels at nearby receptors. Construction activities occurring during the more noise-sensitive nighttime hours would be of particular concern given the potential for increased levels of annoyance. The proposed project, however, does not identify hourly restrictions for construction activities. As a result, noise-generating construction activities occurring during the nighttime hours, if required, would be considered to have a potentially significant short-term noise impact.

Mitigation Measure Noise-2:

- a. Unless otherwise provided for in a validly issued permit or approval, noise-generating construction activities should be limited to the hours of 7:00 a.m. and 7:00 p.m. Noise-generating construction activities should not occur on Sundays or City holidays.
- b. Construction equipment should be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds should be closed during equipment operation.

With implementation of Mitigation Measure Noise-2, construction activities would be limited to the daytime hours. The proper maintenance of construction equipment and use of mufflers would reduce equipment noise levels by approximately 10 dB. With mitigation, this impact would be considered less than significant.

**Table 8
Typical Construction Equipment Noise Levels**

Equipment	Typical Noise Level (dBA Lmax) 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Vibrator	76
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Truck	88
Paver	89
Pneumatic Tool	85
Roller	74
Saw	76
Sources: FTA 2006	

IMPACT E & F: *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels; AND*

For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within two miles of a public airport or private airstrip. The nearest airport is the Paso Robles Municipal Airport, which is located approximately 3.9 miles northeast of the project site. The project site is not located within the 65 dBA CNEL contour of this airport. As a result, the project site is not subject to high levels of aircraft noise. This impact is considered less than significant.

REFERENCES

- California Building Standards Commission (CBSC). June 2010. *2010 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11*. June 2010. Available at website url: http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf.
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- North Coast Engineering (NCE). 2015. *Site Plan. The Oaks at Paso Robles*.
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APPENDIX A
NOISE MODELING



NOISE MONITORING SURVEY

MONITORING DATE: 4/14/2015

NOISE MONITORING LOCATION



MET CONDITIONS: 73F, 5-6 MPH, 34%RH, CLEAR SKY, DRY

NOISE MONITORING EQUIPMENT: LARSON DAVIS MODEL 820, TYPE I SLM

CALIBRATED PRIOR TO AND UPON COMPLETION OF MEASUREMENTS: YES

MONITORING PERIOD	MONITORING LOCATION	NOISE LEVEL		TRAFFIC COUNTS					
		LEQ	LMAX	LDA/T	MDT	HDT	MC	RV	TOTAL
0735-0745	~57 FEET FROM ROAD CENTERLINE	67.8	76.9						
1000-1010	~57 FEET FROM ROAD CENTERLINE	64.3	74.5						
1245-1255	~57 FEET FROM ROAD CENTERLINE	65.5	75.3						
1730-1740	~57 FEET FROM ROAD CENTERLINE	68.4	78.8	157	4	0	2	0	163
2030-2040	~57 FEET FROM ROAD CENTERLINE	60.6	74.1						
2320-2340	~57 FEET FROM ROAD CENTERLINE	56.1	74.9						
CALCULATED CNEL:		65.4							

PROJECTED TRAFFIC NOISE CONTOURS

DISTANCE TO CNEL CONTOURS:	<u>70 dBA</u>	<u>65 dBA</u>	<u>60 dBA</u>	<u>55 dBA</u>
EXISTING	27	57	121	260
FUTURE (YR 2025)	35	70	149	325

**Derived from General Plan 2010 Circulation Element Update (City of Paso Robles, February 2011) for S. River Rd., Serenade Rd to Niblick Rd.*

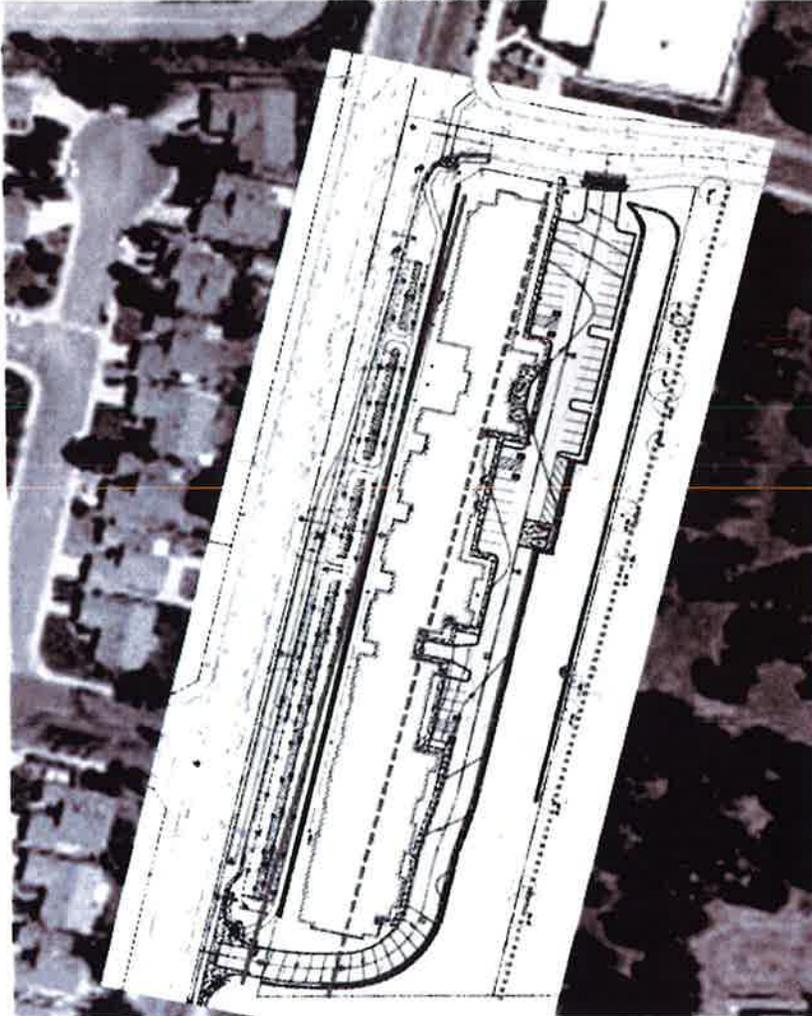
CALCULATED CNEL AT 57 FT FROM ROAD CENTERLINE: 65 dBA

**Based on noise measurement data.*

CONSISTENT WITH PROJECTED NOISE CONTOURS: YES

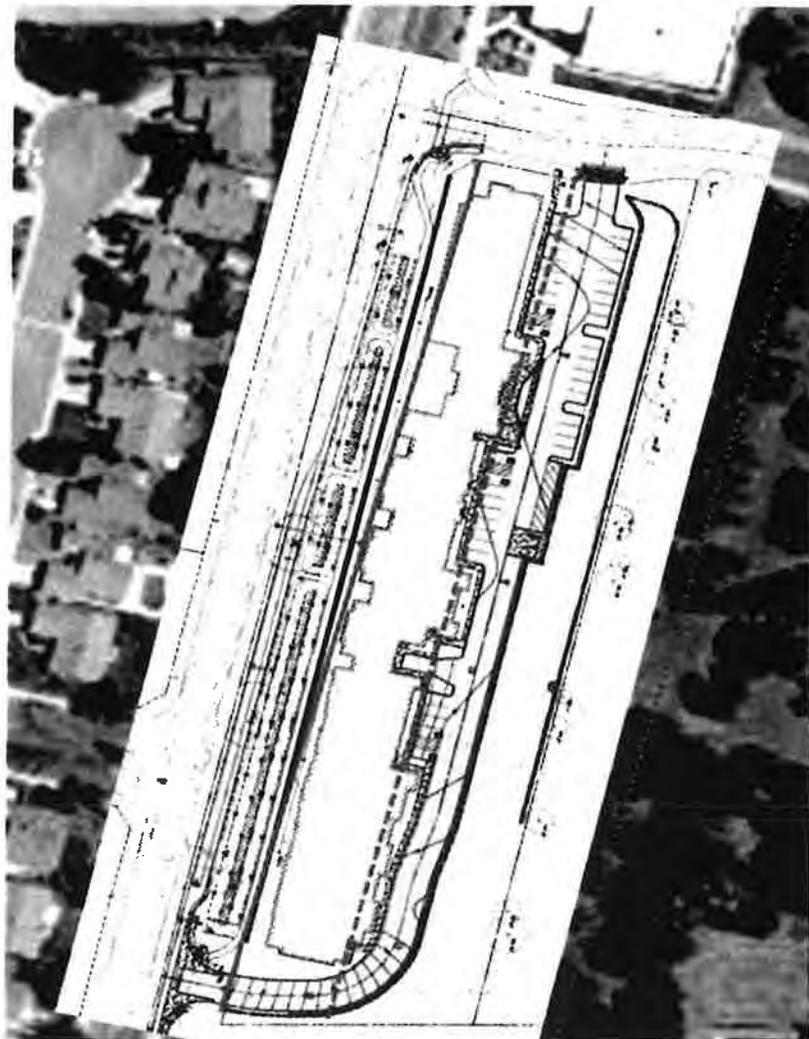
EXTERIOR-TO-INTERIOR REDUCTION (dBA): 25 (T24-NEW CONSTRUCTION)

PROJECTED EXISTING CNEL CONTOURS (65, 60, 55 dBA)



	<u>CALCULATED CNEL</u>	
	<u>EXTERIOR</u>	<u>INTERIOR</u>
NORTHWEST CORNER	64	39
SOUTHWEST CORNER	62	37

PROJECTED FUTURE CNEL CONTOURS (65, 60, 55 dBA)



	<u>CALCULATED CNEL</u>	
	<u>EXTERIOR</u>	<u>INTERIOR</u>
NORTHWEST CORNER	66	41
SOUTHWEST CORNER	64	39

STATIONARY SOURCE NOISE PREDICTION

SOURCE: AC UNIT
 REFERENCE NOISE LEVELS: 60-75 50 FT
 MODELED NOISE LEVEL: 75 50 FT
 ATTENUATION RATE SOFT
 SHIELDING 5 DB

PREDICTED NOISE LEVELS AT NEARBY PROPERTY LINES

	<u>DISTANCE</u>	<u>LOS</u>	<u>SHIELDED</u>
EAST	250	41	36
SOUTHEAST	285	40	35
WEST	120	47	42

SOURCE: GENSET
 REFERENCE NOISE LEVELS: 75-80 50 FT
 MODELED NOISE LEVEL: 80 50 FT
 ATTENUATION RATE SOFT
 SHIELDING 0 DB

PREDICTED NOISE LEVELS AT NEARBY PROPERTY LINES

	<u>DISTANCE</u>	<u>LOS</u>	<u>SHIELDED</u>
EAST	150	71	
SOUTHEAST	185	69	
WEST	100	74	



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TECHNICAL MEMORANDUM

Date: 5/15/2015

To: Susan DeCarli, City Planner

From: Kurt Legleiter, Principal

Subject: The Oaks at Paso Robles – Traffic Noise Impact Assessment Methodology

The assessment of traffic noise impacts relied upon traffic noise data obtained from existing documentation and onsite noise measurement survey data. When preparing the noise impact assessment, both the General Plan (GP) Noise Element (2003) and the more recent noise assessment prepared for the GP Circulation Element (CE) Update (2011) were reviewed. As would be expected, traffic volumes are highest along South River Road, north of Serenade Drive, and then decrease substantially as you move southward. The GP Noise Element does not make a distinction between volumes north/south of Serenade Drive. Between Niblick Road and Charolais Road the 2003 GP identifies a future volume of 18,500. However, in the more recent 2011 CE Update future volumes are identified as 17,400 between Serenade Road and Niblick Road and decreasing to 2,600 south of Charolais Road, which are lower than what was identified in the 2003 GP.

It is also important to note that the projected noise contours contained in the 2003 GP Noise Element are based on what are referred to as "hard" site conditions (e.g., paved surfaces). Although this assumption may be appropriate for some site-specific conditions, such as large commercial developments/parking lots, it is typically not representative of conditions along most roadways and can result in a significant over estimation of contour distances. In addition, the noise contours identified in the 2003 GP Noise Element assumed that the adjacent segment of S. River Road would be improved to a total of four lanes under future conditions, which also contributes to increased distances to projected noise contours. The 2011 CE Update, however, assumes that the adjacent roadway segment would not be improved to four lanes and that South River Road, south of Serenade Drive, would remain a two-lane roadway.

Based on the noise measurement surveys conducted at the project site, the existing traffic noise level for the adjacent segment of South River Road was 65 dBA CNEL at 57 feet from the road centerline. This measured noise level correlates well with the existing levels identified in the more recent 2011 CE Update for the segment of S. River Road north of Serenade. The noise contours identified in the GP Noise Element were not found to be representative on noise conditions at the project site. For these reasons, the noise assessment was based on the contours identified in the more current 2011 CE Update.

SENIOR HOUSING TRIP () AND PARKING DEMAND CHARACTERISTICS

by

Stephen B. Corcoran, P.E. (M)^a

presented at the
Institute of Transportation Engineers
66th Annual Meeting

INTRODUCTION

As the baby boomer generation ages, special housing projects have been developed for them in lieu of the traditional single-family home or apartment. Congregate care facilities, independent living apartments, assisted-care units, and senior apartments are being marketed, developed, and built to handle the needs of older adults.

The changing lifestyle of older adults affects their transportation needs and usage as well. Trip generation and parking demand within this age group vary significantly from traditional residential uses because residents no longer have to be at work, pick up their children, or do their shopping at specific times. Also many senior communities provide on-site services to meet their residents' needs. This paper will present the author's experiences with senior housing and its trip and parking characteristics along with data on projects in suburban Chicago, Illinois and around the United States.

SENIOR HOUSING TYPES

Older adults have many special needs that change over time. Many seniors are clearly independent and need little assistance other than help with major chores or repairs. They are generally active and healthy. As time goes by, however, their needs change and grab bars become important, as well as, other features such as higher electrical outlets, emergency response systems, and lower reach cabinets. Good nutrition, socialization, and access to medical and supportive care also becomes more important. Several distinct types of housing have been developed to accommodate these needs:

Senior Single Family Homes are senior-only subdivisions which have been developed for retirees ages 55 and up in the southeast and southwest sections of the United States. These developments typically include recreational facilities. Many of the residents are retired.

Senior Apartments are traditional apartment complexes with a minimum age requirement of 55 years old. Some amenities include recreational facilities, security, and special design features. Residents are independent and may still be working.

Independent Living Units are cottages or apartments where older adults live independently but without the worries of maintenance or housekeeping. Medical care can be available at the facility or by visiting medical staff. A variety of amenities are provided for the residents depending on the size of the community.

^a Senior Transportation Consultant, Metro Transportation Group, Inc, Hanover Park, Illinois

Assisted-Care Units are for older adults having difficulty managing in an independent living arrangement but who do not need nursing home care. Assisted-care is usually apartment living with additional staff to help with normal daily activities.

Congregate Care Facilities contain a full spectrum of housing types in one development with town homes or cottages, independent living units, assisted-care units, and nursing care. Congregate Care Facilities (CCF) allow the elderly to age in one place with nursing care available if they need it. This is particularly important for elderly couples wishing to stay together with one spouse needing special care. CCFs are in essence self-contained communities. **Table 1** lists the amenities that are typically available at a CCF.

Table 1

Typical Congregate Care Facility On-Site Services and Facilities

Standard Services	Extra Services	Common Facilities
<ul style="list-style-type: none"> • Main Meal of the Day • 24-Hour Nursing • Daily Check-In • Weekly Laundry • Utilities • Housecleaning • Organized Programs • In Room Food Service • Bus Shuttle • 24-Hour Security • Complete Maintenance • Free Parking • Garbage Collection • Notary Public Service • Supportive Care Nurse • Chaplain 	<ul style="list-style-type: none"> • Breakfast and Lunch • Extended Room Service • Specialized Diets • Guest Meals • Catering • Physician • Podiatrist • Physical/Speech Therapy • Insurance • Chauffeur Service • Garages • Telephone • Cable TV • Photocopying 	<ul style="list-style-type: none"> • Lounge Area • Dining Room • Library • Chapel • Recreation Room • Country Store • Pharmacy • Arts and Crafts Room • Workshop • Cafe • Exercise Room • Beauty/Barber Shop • Bank Branch Office • Solarium • Whirlpool • Outside Patio • Garden Plots

Source: Milwaukee, Wisconsin CCF Brochure

LITERATURE REVIEW

A review was made of available data on senior trip generation and parking demands. Information was obtained from the Institute of Transportation Engineers Trip and Parking Generation Manuals, the author's files, data from other consultants, as well as, information from California, Arizona, and Florida Departments of Transportation. After reviewing the data, it became clear that the amount of data is small and that the definition of senior housing was not consistent among each source. The data did not distinguish between the five categories mentioned previously.

FACTORS AFFECTING TRIP GENERATION AND PARKING

Several factors affect the trip generation and parking demand at any particular facility. These include the number of dwelling units, nursing beds, average age of residents, resident's affluence, number of employees, and available bus shuttle/chauffeur service. More data needs to be collected in order to properly analyze their relationship to trip generation and parking demand. The trip generation rates for individual facilities varied. Insufficient information on all the survey locations made it difficult to statistically draw conclusions on individual impact of those factors.

However, experience has indicated that as the average age of residents increases, the number of trips and parking demand decreases. This is an obvious affect of the aging process. Nursing beds require more staff to service a patient needs than a more independent resident. When the proportion of nursing beds to residential units increases, the amount of traffic and parking generally increase. The economic well being of residents increases the likelihood that they own a car and thus drive and park. Lastly, bus shuttle/chauffeur service will provide an option to the auto for residents keeping traffic and parking rates lower.

DAILY TRAFFIC GENERATION

Information on daily trip ends was obtained from surveys by the California Department of Transportation (Caltrans) and the Florida and Arizona Departments of Transportation. This data generally categorized the facilities as retirement communities but included CCFs, senior apartment complexes, and may have nursing beds. The author's data consisted of one CCF in Pennsylvania. **Table 2** summarizes the trip data and rates. The average trip rate daily varied between 2.78 and 8.91 trips per unit. The variation in rates supports the conclusion that the number of units/beds is not the only variable influencing trip production. The weighted average trip ends were 4.52 trips per unit which included one large development of 3,122 units. Without the 3,122 unit project, the weighted average rate was 5.64 trips per units.

The weighted daily trip generation rate, was 5.64 trip ends a day for senior housing developments. Senior housing generates two-thirds the amount of traffic compared to a typical single-family development. It's closer to other multi-family categories, including apartments (6.47 trips/unit) and condominiums or townhouses (5.86 trips/units). **Table 3** shows the weekly variation in volumes based on one facility. The weekday volumes were consistent. Weekend traffic volumes were slightly lower.

Table 4 illustrates the hourly distribution of traffic throughout an average weekday, Saturday, and Sunday. The peak-hour volumes of the facility occurred at lunch time and mid-afternoon (2:00 to 4:00 PM). Caltrans data indicated that the peak-hour occurred between 11:00 AM and 4:00 PM, depending on the facility. These peak-hour times do not coincide with the peak-hour of adjacent street traffic because the residents do not have or want to travel during the rush hour. Also, the employee shifts are generally off peak. Most facilities are staffed 24 hours a day with a 7:00 AM-3:00 PM, 3:00 PM -11:00 PM, 11:00 PM-7:00 AM shift schedule. Some administrative staff follow a typical 9:00 AM to 5:00 PM shift.

PEAK-HOUR TRIP GENERATION RATES

Table 5 shows the trip generation rates for eight facilities during the morning and evening peak-hour of the adjacent street system. The weighted average trip rate was 0.222 trips per unit/bed in the morning peak and 0.247 trips per unit/bed in the evening peak. Trip rates ranged from 0.085 to 0.450 per unit. The directional splits were 65% inbound and 35% outbound in the morning and 40% inbound and 60% outbound in the evening. Compared to other residential land-uses, senior developments generate significantly less traffic on a per unit basis.

Table 2

Daily Trip Generation Rates for Senior Housing

Source	Number of Dwelling Units	Daily Trips	Trip Rates
Caltrans	3122	9630	3.09
	300	830	2.78
	108	310	2.87
	76	260	3.42
	460	2252	4.90
Florida DOT	366	3262	8.91
	560	1985	3.55
	187	1449	7.75
	120	901	7.51
	127	561	4.42
Arizona DOT	125	972	7.78
	176	855	4.86
	74	447	6.04
	60	285	4.75
	216	1386	6.42
	175	1058	6.05
	129	941	7.30
	112	922	8.23
	106	820	7.74
	89	538	6.05
	81	529	6.53
	60	494	8.23
	59	432	7.30
Penn. CCF	247	1163	4.71
Weighted Average	7135	32282	4.52
Without 3,122 units	4013	22652	5.64
ITE Average Weekday Daily Rates			
Single-Family (Code 210)			9.55
Apartment (Code 220)			6.47
Condo/townhouse (Code 230)			5.86
Congregate Care Facility (Code 251)			2.15

Table 3

Weekly Volume Distribution

Day of the Week	Percentage
Monday	15%
Tuesday	15%
Wednesday	16%
Thursday	17%
Friday	15%
Saturday	12%
Sunday	10%
Total	100%

Table 4

Hourly Traffic Distribution

Start Hour	Average Weekday	Saturday	Sunday
12:00 AM	1.46%	1.45%	2.76%
1:00 AM	0.07%	0.12%	0.26%
2:00 AM	0%	0.00%	0.26%
3:00 AM	0.12%	0.00%	0.00%
4:00 AM	0.46%	0.00%	0.66%
5:00 AM	0.41%	0.60%	0.39%
6:00 AM	1.94%	2.05%	1.71%
7:00 AM	5.74%	5.06%	3.94%
8:00 AM	6.70%	5.06%	4.99%
9:00 AM	6.19%	5.78%	6.17%
10:00 AM	7.20%	9.40%	7.74%
11:00 AM	9.33%	9.04%	8.53%
12:00 PM	7.05%	8.07%	8.01%
1:00 PM	7.44%	6.27%	4.86%
2:00 PM	9.76%	7.59%	8.40%
3:00 PM	9.54%	10.24%	9.84%
4:00 PM	8.39%	9.40%	9.32%
5:00 PM	5.26%	6.14%	6.96%
6:00 PM	3.14%	3.25%	3.54%
7:00 PM	2.90%	2.89%	4.20%
8:00 PM	2.59%	2.05%	2.49%
9:00 PM	1.10%	1.57%	1.31%
10:00 PM	1.24%	1.33%	1.05%
11:00 PM	1.96%	2.65%	2.62%

Table 5

Peak-Hour Trip Generation Rates

Facility	Location	Occupied Units		Total	AM Peak Volume	Rate	PM Peak Volume
		Dwelling Units	Nursing Beds				
Covenant Village	Northbrook, IL	220	151	371	86	.231	133
Friendship Village	Lombard, IL	620	100	720	86	.120	180
Presbyterian Home	Evanston, IL	312	166	478	92	.193	139
Glenview Terrace	Glenview, IL	243		243			21
Good Shephard Manor	Barrington, IL	102		102	18	.180	17
Mayslake	Oakbrook, IL	630		630	67	.106	75
Leisure Village	New Jersey	200		200	65	.325	62
Pennsylvania CCF		210	37	247	78	.316	111
Totals		2537	454	2991	492		738
Weighted Average Trip Rate						.164	.247
					Inbound Percentage	65%	40%
					Outbound Percentage	35%	60%
Comparison to other ITE Residential Rates							
Single Family Homes (Land Use Code 26)						0.74	1.01
Apartments (Land Use Code 220)						0.51	0.63
Condominiums/Townhouses (Land Use Code 230)						0.44	0.55

PARKING DEMAND SURVEYS

Parking demand characteristics were obtained from a number of surveys conducted in the Chicago metropolitan area. The peak parking demand occurred during the mid-day between 11:00 AM to 3:00 PM corresponding, in part, with the largest employee shift on-site. **Table 6** summarizes those surveys. The peak day of the year is Mother's Day when many facilities run out of visitor parking, according to the on-site staff.

The peak parking demand rates varied between 0.214 and 0.579 vehicles per unit/bed with a weighted average rate of 0.404 vehicles per unit/bed. Employee, resident, and visitor parking is included. This rate is one third to one half the parking rate of other residential uses. Readers should note that the survey sites with the higher parking rates generally have more nursing beds which requires more employees than the residential units.

Table 6

Peak Parking Demand Surveys

<u>Development</u>	<u>Location</u>	<u>Dwelling Units</u>	<u>Nursing Beds</u>	<u>Total Units/Beds</u>	<u>Peak Parking Rate</u>	<u>Peak Parking Demand</u>
Covenant Village	Northbrook, IL	220	151	371	0.490	182
Beacon Hill	Lombard, IL	235	23	258	0.565	146
Friendship Village	Schaumburg, IL	620	100	720	0.390	281
Presbyterian Home	Evanston, IL	312	166	478	0.579	277
Glenview Terrace	Glenview, IL	243		243	0.214	52
Mayslake	Oakbrook, IL	630		630	0.408	257
<u>EJM Engineering Studies</u>						
Lilac Lodge	Waukegan, IL	203		203	0.315	64
Deerfield Place	Deerfield, IL	98		98	0.230	23
<u>ITE Parking Manual, 2nd Ed</u>						
Retirement Community (Land Use Code 250)		500		500	0.270	135
		3061	440	3501		1417
Weighted Average					0.404	
<u>ITE Parking Manual, 2nd Edition</u>						
Low/Mid-Rise Apartments (Land Use Code 221)					1.21	
High-Rise Apartments (Land Use Code 222)					0.88	
Residential Condominium (Land Use Code 230)					1.11	

Conclusions

Based on the analyses and studies for this paper, the following findings were made:

1. The overall category of senior housing should be broken down into at least five categories for trip generation and parking demand purposes. These categories could be:
 - Senior Single-Family Housing
 - Senior Apartments
 - Independent Living Units
 - Assisted-Care Units
 - Congregate Care Facility
2. Several factors affect the trip generation and parking demand at any particular facility. Any new survey should include the number of dwelling units, nursing beds, average age of residents, resident's affluence, number of employees, and available bus shuttle/chauffeur service. More data needs to be collected in order to properly analyze their relationship to trip generation and parking demand.
3. Daily trip generation rates were found to be 4.52 to 5.64 trip ends a day for senior housing developments. Senior housing generates two-thirds the amount of traffic compared to a typical single-family development. It's daily rates are similar to other multi-family categories, including apartments (6.47 trips/unit) and condominiums/townhouses (5.86 trips/units).
4. Trip generation rates during the peak hour of adjacent street traffic are significantly less because most employees arrive/depart during off-peak periods and residents avoid the peak-hour congestion. The peak hour rates are one-half to one-fourth that of other residential land-uses.
5. The peak-hours of site traffic occurs in the late-morning or early afternoon.
6. The peak parking demand at most senior facilities occurred midday with an average peak demand of 0.40 vehicles per dwelling unit for residents, employees, and visitors. Mother's Day is the highest parking day of the year with many facilities short of spaces for that one day.

References

1. Trip Generation Manual, 5th Edition; Institute of Transportation Engineers; January, 1991
2. Parking Generation Manual, 2nd Edition; Institute of Transportation Engineers; August, 1987
3. Parking Requirements for Retirement Centers Requirements and Demands; EJM Engineering; May, 1987
4. 6th Progress Report of Trip Ends Generation Research Counts; California Department of Transportation; 1965-1970
5. Florida Department of Transportation Trip Generation Data
6. Arizona Department of Transportation Trip Generation Data

STORMWATER CONTROL PLAN

For

The Oaks in Paso Robles Senior Living Community
South River Road, Paso Robles, CA

Fresno Supreme
215 W. Fallbrook Ave. Suite 224
Fresno, CA 93711-6211



Prepared by:
North Coast Engineering, Inc.
725 Creston Road, Suite B
Paso Robles, CA 93446

May 2015

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TABLES:

Table 1: Drainage Management Areas Breakdown

APPENDICES:

Appendix A: Vicinity Map and Location Exhibit

Appendix B: Watershed Management Zone Exhibit

Appendix C: 85th & 95th Percentile Rainfall Exhibit

Appendix D: Development Plans (for reference)

Appendix E: Watershed Exhibit / Drainage Management Areas (DMAs)

I. Introduction

Project Name: The Oaks in Paso Robles Senior Living Community

Application Number: _____

Name of Applicant: Jeffrey DeMure & Associates

A. The Property

Location: The proposed The Oaks in Paso Robles Senior Living Community project site is located on a 2.79 acre parcel at the southeast corner of South River Road and Serenade Drive. (See Appendix A for Vicinity Map and Location Exhibit)

Address: South River Rd and Serenade Dr, Paso Robles, CA 93446

Assessor's Parcel Numbers: 009-815-007

Existing property description: The project site is unoccupied and is covered in very sparse vegetation. The site generally slopes west at 5% to 30% to South River Road. Runoff is carried south along South River Road.

Existing Drainage facilities: A storm drain system consisting of two drain inlets at Serenade Dr., South River Rd. intersection and two field inlets along South River Rd. collect runoff from the 2.7 acres site as well as from approximately 32 acres of offsite tributary area. This drainage system conveys storm water runoff west across South River Rd in a 30" PVC Pipe that connects to the storm drain system serving the residential development on the west side of South River Rd. This storm drain system eventually discharges to the Salinas River which is approximately 0.5 miles west of the project site.

B. The Project

Project Type: Private commercial project

Project Description: The proposed senior living community will consist of approximately 70 assisted living units, 24 special memory care units and associated parking lot. Development will include frontage improvements on both South River Road and Serenade Drive, utility improvements, retaining walls for parking and main building and detention basins along the west facing portion of the site.

Impervious Area Summary

Buildings:	37,980 sf
Asphalt Pavement:	27,080 sf
Concrete flatwork:	11,610 sf
<hr/>	
Impervious area subtotal:	76,670 sf
Bioswale and landscape areas:	32,630 sf
<hr/>	
Total developed project area:	109,300 sf
Undeveloped Area: (Runoff not conveyed to bio-retention facilities)	29,100 sf

C. The Purpose

The purpose of this Stormwater Control Plan is to outline the site planning, Low Impact Development (LID) concepts, best management practices (BMP's) and Stormwater Control Measures (SCMs) that will be employed in the design and development of the project. This report will demonstrate that the requirements will be met for the Post-Construction Stormwater Management Requirements in the Central Coast Region Resolution No. R3-2013-0032 prepared by the California Regional Water Quality Control Board Central Coast Region. These requirements go into effect on September 1, 2015. The requirements, methodology of analysis and results will be outlined in the remainder of this report.

Compliance with these requirements maintains the hydrologic function of the site, promotes groundwater recharge and mitigates water quality impacts caused by the addition of impervious surfaces.

Please note, this report will not address the traditional City of Paso Robles Public Works stormwater drainage flooding requirements which are listed in the Engineering Division Standard Details and Specifications. Corresponding calculations will subsequently be prepared during final design under separate cover.

II. Methodology

A. Post-Construction Stormwater Management Requirements

The total new and/or replaced impervious surface area is **76,670 sf**.

Since the project is located within Watershed Management Zone 4 (WMZ), the Performance Requirement No. 4 Peak Management does not apply. (See Appendix B)

If the impervious surface area exceeds the thresholds listed in the Post-Construction Stormwater Management Requirements, the corresponding Performance Requirements apply to the project. See the summary table below for which requirements apply to the project:

Performance Requirement	Impervious Threshold	Applies:
No. 1 Site Design and Runoff Reduction	> 2,500 sf	Yes
No. 2 Water Quality Treatment	> 5,000 sf	Yes
No. 3 Runoff Retention	> 15,000 sf	Yes
No. 4 Peak Management	> 22,500 sf	No

The project is located within the Paso Robles designated groundwater basin.

Note, there are **no adjusted requirements** based on the local jurisdiction's approval, an allowance of a Special Circumstance, or Urban Sustainability Area designation. Even though there is a Paso Robles Groundwater Basin Management Plan (March 2011), a description of technical infeasibility will not be needed since there will be no additional associated projects that will be providing off-site mitigation. All of the mitigation will be handled on-site.

The performance requirement criteria and how they are satisfied are contained in the next sections.

1. Performance Requirement No. 1
Site Design and Runoff Reduction

Since the project's impervious area of **76,670 sf** exceeds the threshold of 2,500 sf, the following components will be utilized to satisfy this requirement.

Site assessment summary:

The following site assessment measures were used to identify opportunities and constraints to implement LID Stormwater Control Measures. The site plan was developed and designed taking the following into account (See Appendix D: Development Plans for reference):

- Site topography
- Hydrologic features including contiguous natural areas
- Soil types and hydrologic soil groups
- Vegetative cover/trees
- Run-on characteristics (source and estimated runoff from offsite which discharge to the project area)
- Existing drainage infrastructure for the site and nearby areas including the location of municipal storm drains
- Utilities
- Easements
- Zoning/Land Use
- Setbacks
- Other pertinent overlay(s)

Site design measures used:

- Define development envelope and identify areas that are most suitable for development
- Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised
- Conform the site layout along natural topography to the maximum extent practicable

Runoff Reduction Measures:

- Direct runoff from parking areas and circulation improvements safely away from building foundations and footings, consistent with the California Building Code, onto vegetated areas and/or bioswale areas to the maximum extent practicable

Drainage Management Areas (DMAs)

Drainage Management Areas (DMAs) were delineated to support a decentralized approach to stormwater management (see Appendix E for the Watershed Exhibit / Drainage Management Areas (DMAs) showing the DMAs and Table 1: DMA Breakdown).

Table 2: Drainage Management Areas (DMAs)

DMA I.D. ²	AREA (sf)	IMPERVIOUS (sf)	PERVIOUS (sf)	% IMPERVIOUS "I"	RUNOFF COEFFICIENT "C"	RETENTION VOLUME REQUIRED (cf)
1	21,856	4,961	16,895	0.23	0.19	490
2	28,571	20,336	8,234	0.71	0.51	1744
3	21,144	17,450	3,693	0.83	0.63	1609
4	9,852	9,225	627	0.94	0.79	935
5	19,599	17,736	1,863	0.90	0.74	1747
6	6,255	4,989	1,266	0.80	0.60	451
7	2,029	1,975	55	0.97	0.85	207
Total	109,305	76,673	32,632	0.70	0.50	6541
8	5,760 ³	0	5,760	0.00	0.04	0
9	12,405 ³	0	12,405	0.00	0.04	0
10	10,930 ³	0	10,930	0.00	0.04	0

95th Percentile 24-hr Rainfall Depth = 1.45 inches

Notes / assumptions:

1. % Impervious and Runoff Coefficient from equations in report.
2. See Appendix E: Watershed Exhibits for DMAs
3. Assumed area is undeveloped and runoff is not directed to bioretention swales.

#

2. Performance Requirement No. 2
Water Quality Treatment

Since the project's impervious area of **76,673 sf** exceeds the threshold of 5,000 sf, Low Impact Development (LID) Treatment Systems have been incorporated to satisfy this requirement.

The stormwater runoff is treated using onsite measures to reduce pollutant loads and concentrations using physical, biological and chemical removal using Low Impact Development (LID) Treatment Systems – implementing harvesting and use, infiltration and evapotranspiration Stormwater Control Measures that collectively achieve the following hydraulic sizing criteria:

- Hydraulic sizing criteria: LID systems shall be designed to retain stormwater runoff equal to the volume of runoff generated by the 85th percentile 24-hour storm event, based on local rainfall data.
- 85th Percentile 24-hour Rainfall Depth = **0.9 inches**
 - *Note: Rainfall statistics provided by the Central Coast Regional Water Quality Control Board (RWQCB) were used.*

Performance Requirement No. 2 will be satisfied on-site with a series of bioretention swales.

3. Performance Requirement No. 3
Runoff Retention

Since the project's impervious area of **76,673 sf** exceeds the threshold of 15,000 sf, LID systems have been incorporated to satisfy this requirement.

- For Watershed Management Zone 4, hydraulic sizing criteria: LID systems shall be designed to retain stormwater runoff equal to the volume of runoff generated by the 95th percentile 24-hour storm event, based on local rainfall data. Prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event. Compliance must be achieved by infiltration.
- 95th Percentile 24-hour Rainfall Depth = **1.45 inches**
 - *Note: Rainfall statistics provided by the RWQCB were used.*

A series of bioretention swales will be installed on-site, where feasible, to capture runoff from adjacent impervious surfaces.

B. Hydrology

Developed watersheds have been delineated and broken out into drainage management areas (DMAs) using the preliminary grading and drainage plans and design for the site. They were delineated to support a decentralized approach to stormwater management. All historical drainage patterns were maintained to the maximum extent practicable. Since the impervious threshold > 15,000 sf was exceeded for Performance Requirement No. 3 Runoff Retention, the 95th percentile storm event was used to determine all Post-construction Stormwater Management retention requirements. As prescribed in Attachment D of the Post-construction Stormwater Management Requirements, Method 1: Simple Method was used to determine that the SCM Capture Volume was greater than the Retention Volume for the 95th Percentile 24-hr Rainfall Depth. This analytic method is 'static' and does not take into account any infiltration.

As mentioned earlier, this report will not address the traditional City of Paso Robles Public Works stormwater drainage flooding requirements which are listed in the Engineering Division Standard Details and Specifications. Corresponding calculations will subsequently be prepared during final design under separate cover.

The Post-Construction Stormwater Requirements in this report were calculated employing the methodology outlined in Attachment D of Resolution R3-2012-0032.

$$\text{Disturbed Tributary Area} = (\text{Total Project Area})$$

$$\underline{\text{Disturbed Tributary Area}} = \underline{109,305\text{sf}}$$

Compute the Runoff Coefficient "C"

$$C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$$

Where "i" is the fraction of the tributary area that is impervious

$$i = (\text{Impervious Area}) / (\text{Tributary Area})$$

$$i = (76,673 \text{ sf}) / (109,305 \text{ sf})$$

$$i = 0.70$$

$$C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$$

$$C = 0.858 (0.70)^3 - 0.78 (0.70)^2 + 0.774(0.70) + 0.04$$

$$C = 0.2943 - 0.3822 + 0.5418 + 0.04$$

$$C = 0.50$$

Please note, the C-value calculated above is per the prescribed Post-Construction Stormwater Management Requirements. This C-value may not match the weighted runoff coefficient calculated in either previous or future drainage reports related to this project.

Retention Volume for 85th Percentile 24-hr Rainfall Depth = (C) x (Rainfall Depth_{95th}) x (Tributary Area)

Retention Volume for 85th Percentile 24-hr Rainfall Depth = (0.50) x (0.9 in) x (1 ft/12 in) x (109,300 sf)

Retention Volume for 85th Percentile 24-hr Rainfall Depth = 4,100 cubic feet

Retention Volume for 95th Percentile 24-hr Rainfall Depth = (0.50) x (1.45 in) x (1 ft/12 in) x (109,305 sf)

Retention Volume for 95th Percentile 24-hr Rainfall Depth = 6,541 cubic feet

Proposed Storm Drain System

The proposed storm drain system, as shown in Appendix E, is divided into two parts. The first part will collect runoff from offsite and from the undeveloped portion of the site east of the proposed driveway and parking areas in inlets I-2, I-8, I-11, I-13, I-22 and I-23. These inlets will directly connect into the existing storm drain system. The second part of the system will collect runoff from the developed portion of the site and will discharge into the bio-retention swales on the west side of the site. Where feasible, runoff will be allowed to sheet flow directly into the bio-retention swales, and the roof drains will discharge to vegetated areas instead of being directly connected to the storm drain system.

Structural Stormwater Control Measure (SCM) Sizing

As described above, the Method 1: Simple Method was used to determine that the SCM Capture Volume was greater than the Retention Volume for the 95th Percentile 24-hr Rainfall Depth. The available volume of the storage and infiltration systems was calculated in a **static state** to demonstrate the SCM Capture Volume. As mentioned before, no infiltration was taken into account using the static state Simple Method.

Bioretention swales are located in the western half of the project to capture runoff from the parking facilities, flatwork and building. These facilities are designed to provide 12" of surface retention before spilling into the adjacent bioretention swale. The farthest downstream bioretention swale is designed to provide 18" of surface retention below the elevation of the associated drainage inlet structure. The total SCM Capture Volume for these facilities is approximately 6,900 cubic feet. All basins will have 6" of free board. Any excess runoff will discharge into the existing storm drain system, but not before flowing through the series of bioretention swales.

SCM Capture Volume, On-Site > Retention Volume for 85th Percentile 24-hr Rainfall Depth

6,900 cubic feet > 4,100 cubic feet

(Note: the SCM Capture Volume has been broken out per DMA in Table 1)

Therefore, Performance Requirement No. 2 is satisfied.

SCM Capture Volume = SCM Capture Volume On-Site

SCM Capture Volume = 6,900 cubic feet

SCM Capture Volume > Retention Volume for 95th Percentile 24-hr Rainfall Depth

6,900 cubic feet > 6,541 cubic feet

(Note: the SCM Capture Volume has been broken out per DMA in Table 2)

Therefore, Performance Requirement No. 3 is satisfied.

III. Results

The project incorporates the Runoff Reduction Measures and Structural Stormwater Control Measures (SCMs) described in this report. This will satisfy all requirements prescribed by the Post-construction Stormwater Management Requirements.

- **Performance Requirement No. 1 is satisfied**
- **Performance Requirement No. 2 is satisfied**
- **Performance Requirement No. 3 is satisfied**
- **Performance Requirement No. 4 is not required**

The selection, sizing, and design of the Stormwater Control Measures (SCMs) meet all of the applicable Water Quality Treatment, Runoff Retention and Peak Management Performance Requirements. Please note, the SCMs shown on the plans and described in the report are subject to change during the final design process.

A. Statement of Compliance

There is no documentation needed to demonstrate infeasibility where on-site compliance cannot be achieved because it doesn't apply. The Water Quality Treatment Requirement will be met on-site. Runoff Retention and Peak Management Performance Requirements will be met through a series of bioretention basins.

B. Operations and Maintenance (O&M) Plan

For all structural Stormwater Control Measures (SCMs) to ensure long-term performance, the following O&M Plan for all structural SCMs should be followed:

- Have designated personnel conduct inspections of stormwater conveyance systems prior to the rainy season
- Inspect all structural SCMs:
 - At least once annually prior to the rainy season.
 - Prior to a forecast rain
 - Daily during extended rain events
 - After rain events
 - Weekly during the rainy season
- Keep the parking areas clean and orderly.
 - Remove debris in a timely fashion.
- Routinely sweep, shovel, and dispose of litter to appropriate trash receptacles.
- Allow sheet runoff to flow into landscape areas and/or bioswale areas; remove any accumulated sediment from the curbs and gutters or the curb cuts.
- Inspect overflow inlets for leaves and other debris.
 - Remove and dispose of debris in a timely fashion.
- Establish frequency of parking lot sweeping based on usage and field observations of debris accumulation.
 - Sweep all parking lots at least once before the onset of the wet season.
 - Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.

Owner of facilities

The owner of the facilities is: The Oaks at Paso Robles

APPENDICES:

Appendix A: Vicinity Map and Location Exhibit

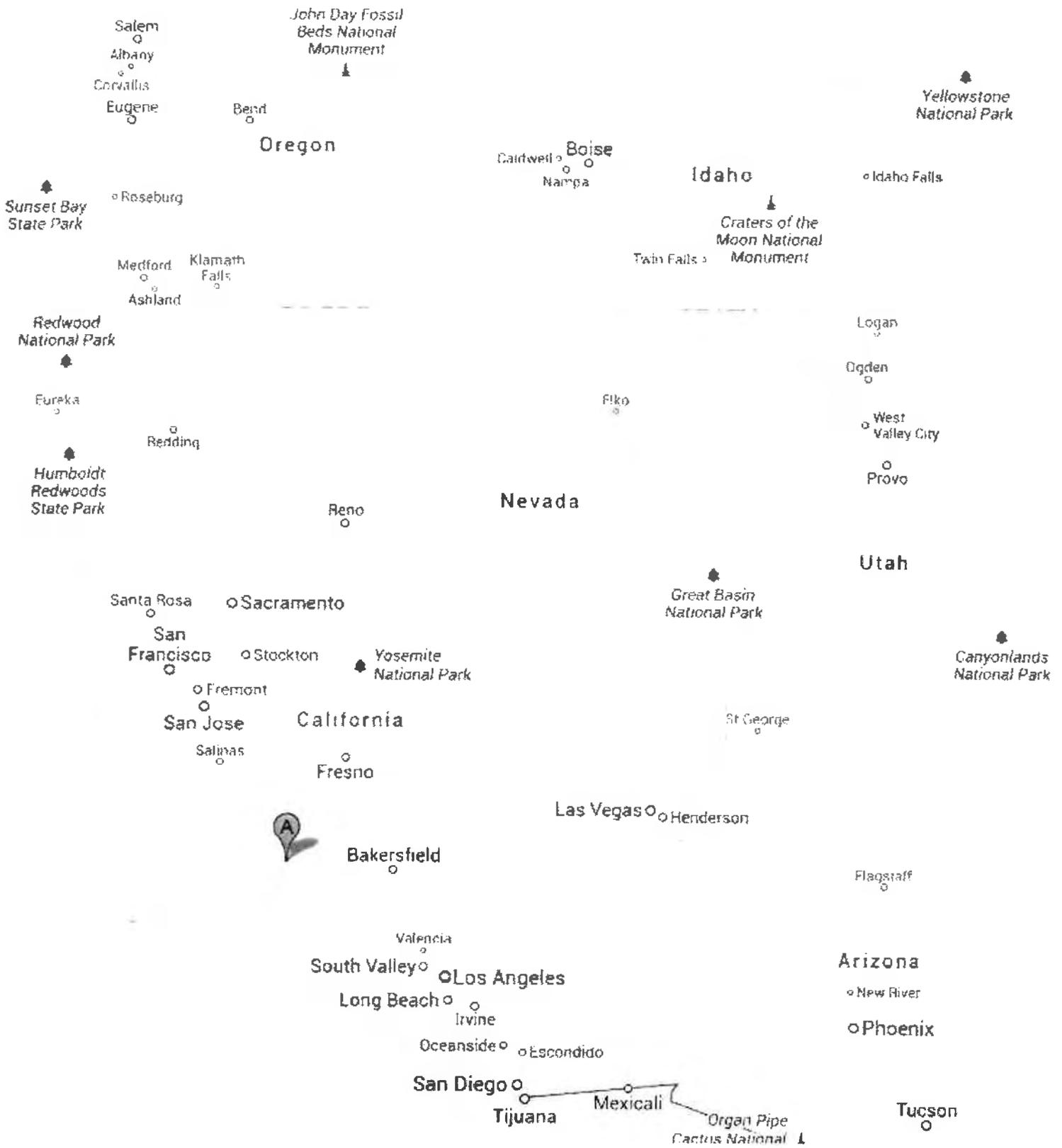
Appendix B: Watershed Management Zone Exhibit

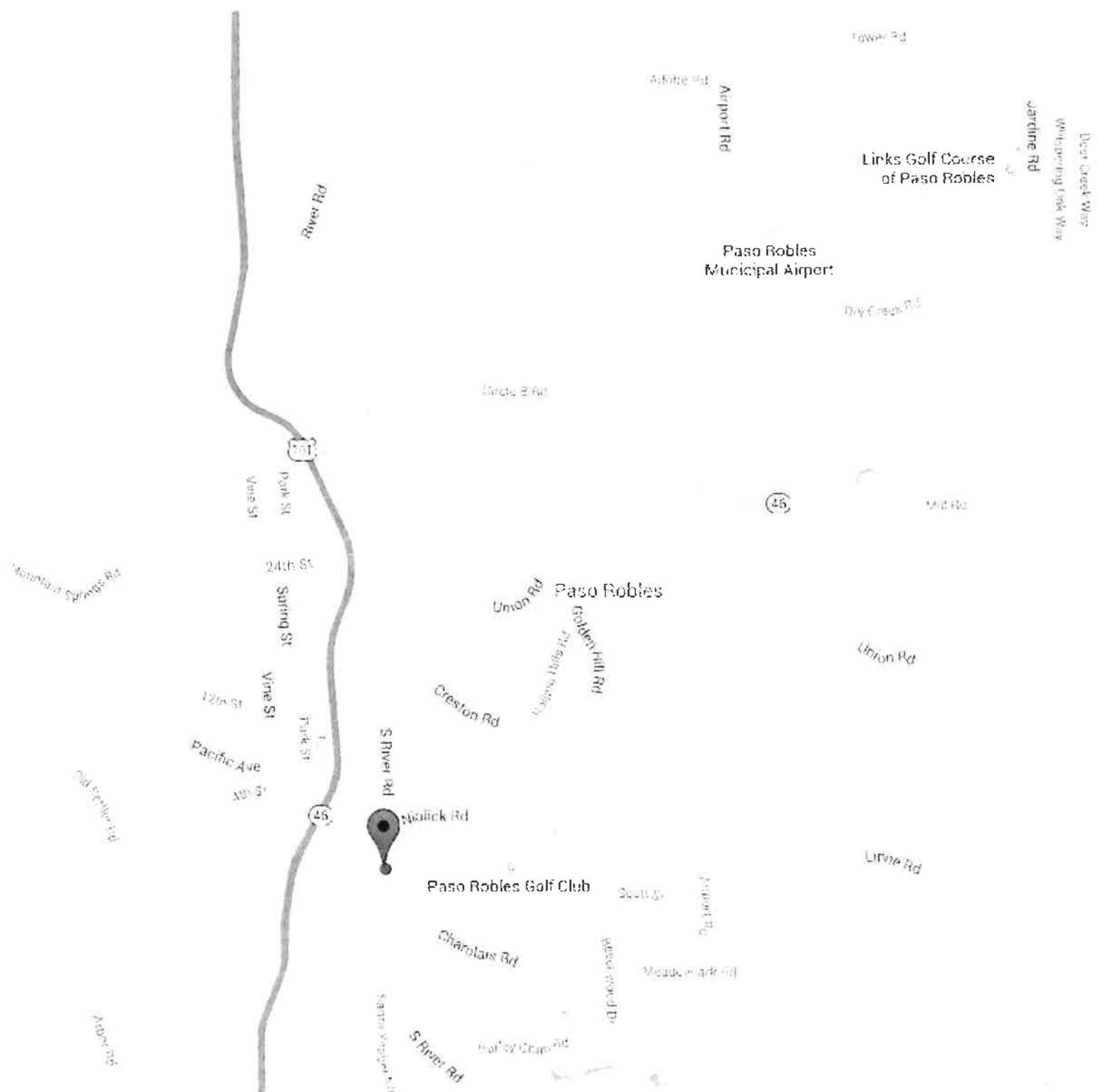
Appendix C: 85th & 95th Percentile Rainfall

Appendix D: Development Plans (for reference)

Appendix E: Watershed Exhibit / Drainage Management Areas (DMAs)

Appendix A: Vicinity Map and Location Exhibit





River Rd

Lower Rd

Arriba Rd
Airport Rd

Deer Creek Way
Whispering Fork Way
Jardine Rd

Links Golf Course
of Paso Robles

Paso Robles
Municipal Airport

Day Creek Rd

Cardo B Rd

46

Mid Rd

Union Rd Paso Robles

Golden Hill Rd
Hollins Hills Rd

Creston Rd

Union Rd

Park St
Vine St
24th St
Sitting St
Vine St
12th St
Pacific Ave
10th St

46

S River Rd

Nalick Rd

Paso Robles Golf Club

Scott St
Airport Rd
Woodmark Rd

Lithe Rd

Charlans Rd

S River Rd

S River Rd

Halcyon Rd

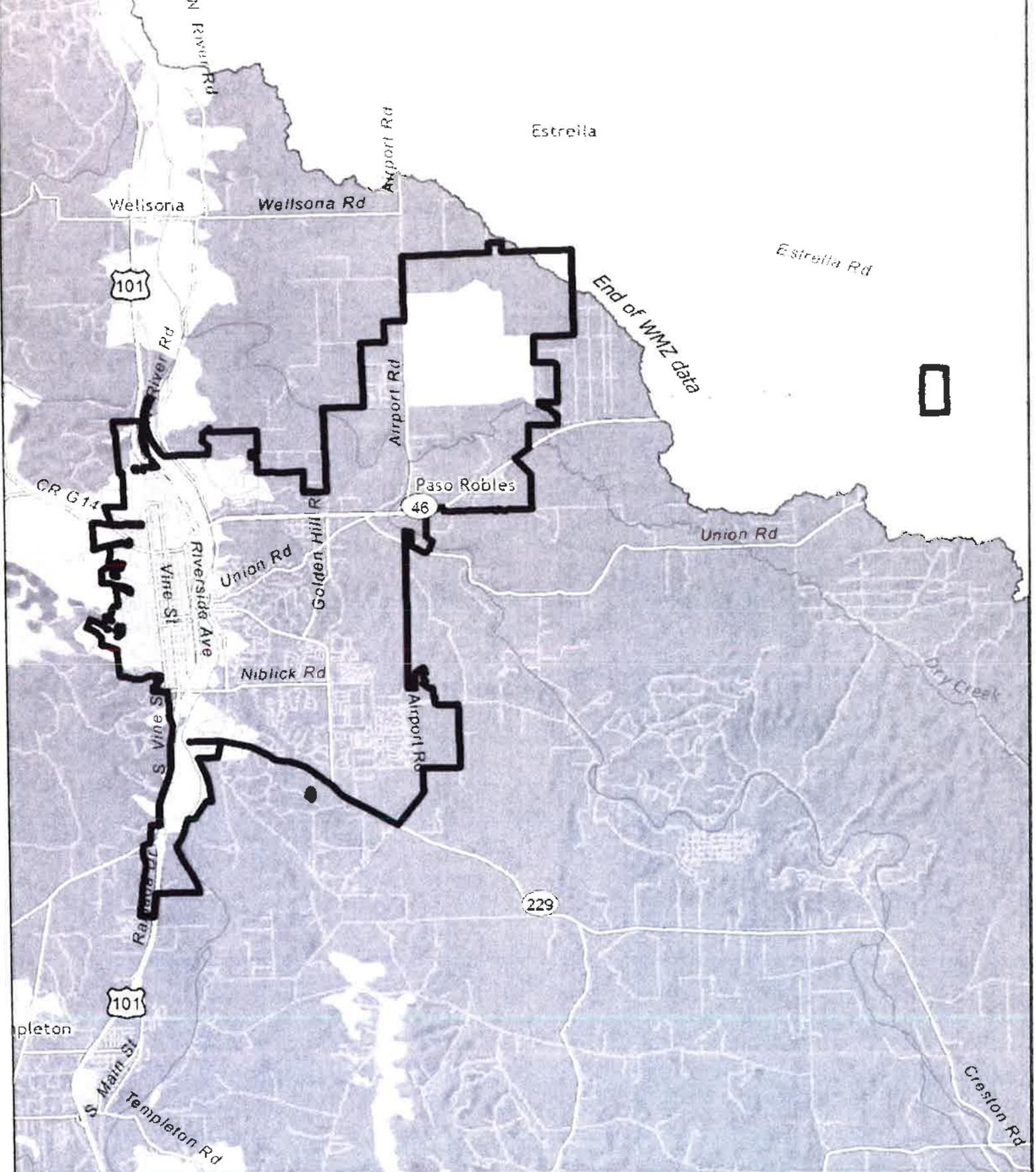
Mountain Springs Rd

Old Barber Rd

Arroyo Rd



Appendix B: Watershed Management Zone Exhibit



CENTRAL COAST JOINT EFFORT

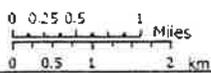
El Paso de Robles, California

Watershed management zones

- | | | | | | |
|--|---|--|---|--|----|
| | 1 | | 5 | | 9 |
| | 2 | | 6 | | 10 |
| | 3 | | 7 | | |
| | 4 | | 8 | | |

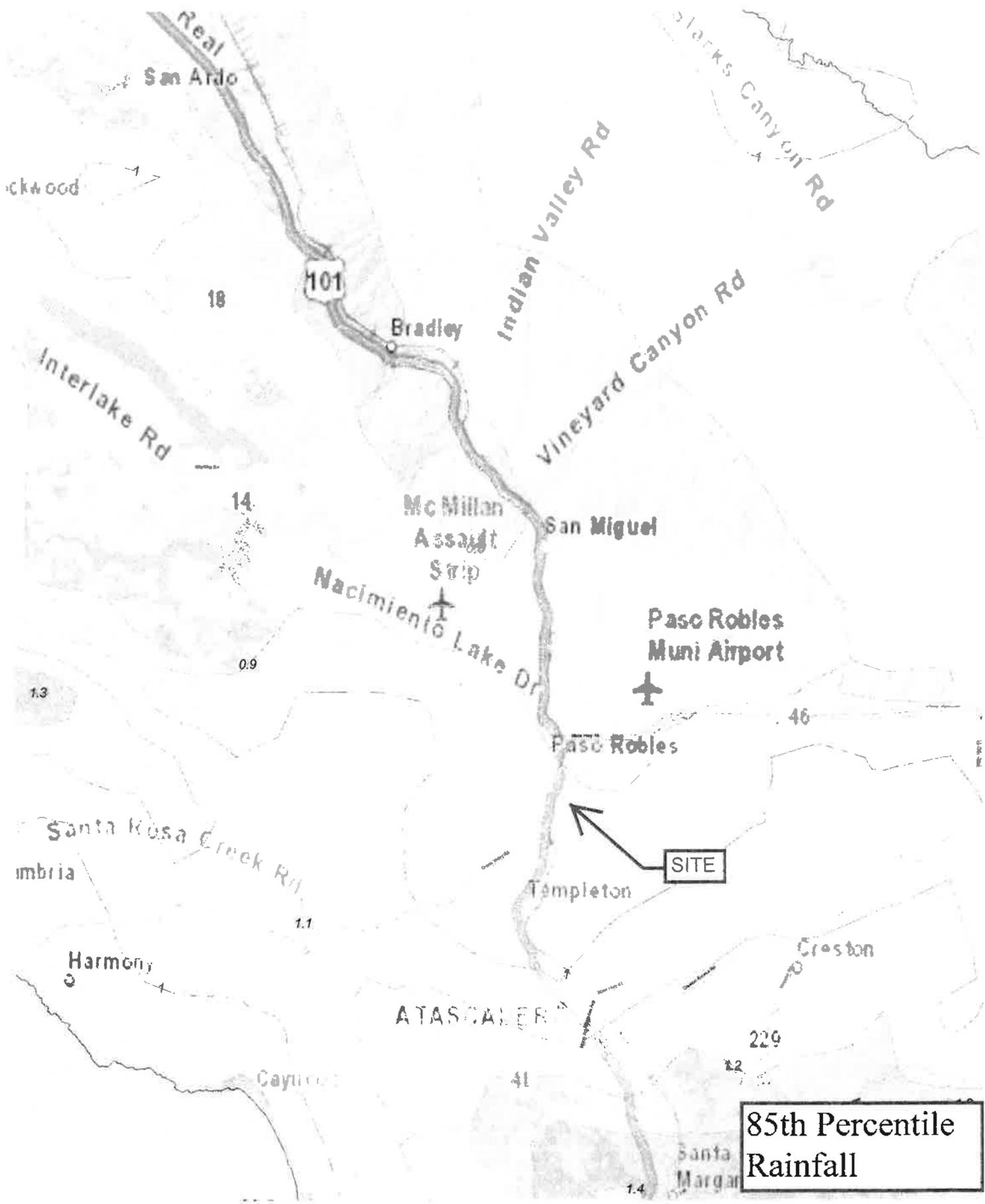
Urban area boundary

Data sources
 Watershed management zones: Stillwater Sciences, 2012
 Base data: ESRI 2010

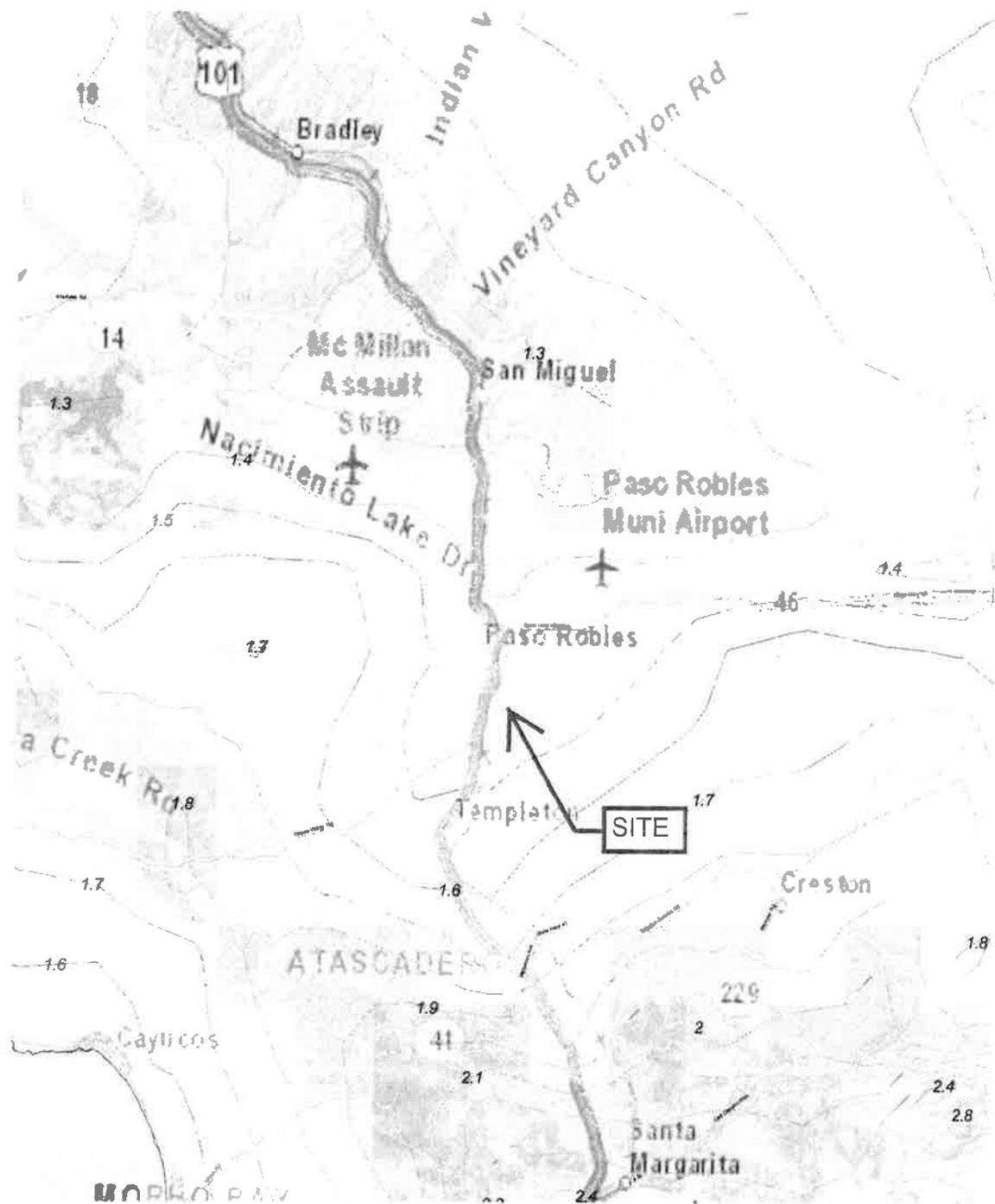


Stillwater Sciences
www.stillwatersci.com

Appendix C: 85th & 95th Percentile Rainfall

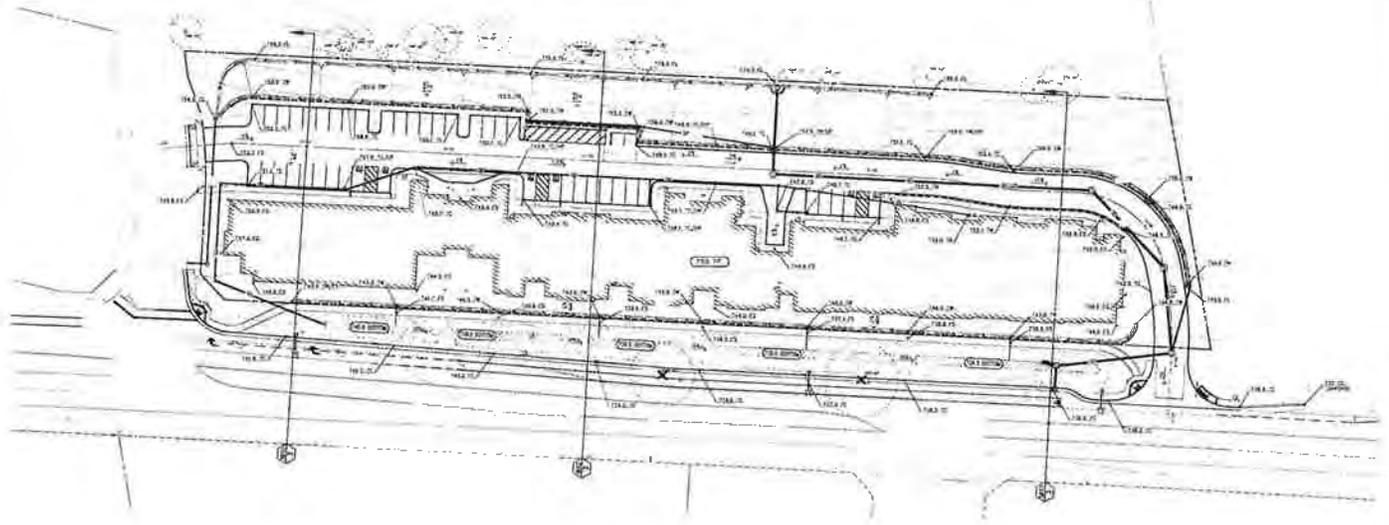


85th Percentile
Rainfall



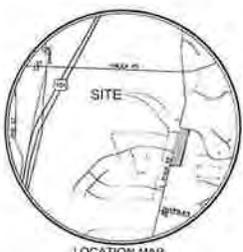
95th Percentile
Rainfall

Appendix D: Conceptual Plans (for reference)



GRADING AND DRAINAGE / UTILITY LEGEND

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SHEET INDEX

- 1. PRELIMINARY GRADING & DRAINAGE
- 2. PRELIMINARY UNDERGROUND UTILITY
- 3. SITE LIGHT FIXTURES

**THE OAKS
PRELIMINARY GRADING &
DRAINAGE
APN 009-815-007**



Appendix E: Watershed Exhibit / Drainage Management Areas (DMAs)

