ENVIRONMENTAL CHECKLIST FORM

A. PROJECT INFORMATION:

Project Title: Lompoc Community Health Center	**Project No:** DR17-02, GP17-02, ZC 17-02, LOM 609
Lead Agency Name and Address: City of Lompoc 100 Civic Center Plaza, Lompoc, CA 93436	**Contact Person and Phone Number**: Greg Stones (805) 875-8273 g_stones@ci.lompoc.ca.us

PROJECT DESCRIPTION / LOCATION:

Project Location

The project would involve development of the southern three acres of a 5.18-acre vacant site located at 1220 & 1300 West Ocean Avenue/State Route (SR) 246 (Assessor's Parcel Numbers 091-110-035 & 091-110-034). The remainder of the site would be reserved for retail commercial pads and associated parking. Although the development of the remainder of the site is not proposed as this time, the retail component was analyzed as part of this environmental evaluation. The regional location of the project is shown in Figure 1. The proposed site plan for the project is shown in Figure 2.

Project Description

The project would be a 28,000 square-foot Health Center consisting of medical offices. The proposed medical offices would be housed in a single-story building with a maximum height of 28 feet. The building would be developed in the southern portion of the site along the rear alleyway between West Cypress Avenue and West Ocean Avenue. Access, utility, and other site improvements would also be constructed within the project site. The primary entrance would open into a large galleria area that includes patient waiting areas. The building would include 49 exam rooms, doctor's offices, a blood draw area, laboratory, imaging room, restrooms, pharmacy, and employee lounge. The developed area for the project, including parking lots and driveways, would be approximately 130,800 square feet.

The project proposes a General Plan Amendment from Medium Density Residential to General Commercial, a Zone Change from Medium Density Residential Planned Development (R2PD) to Planned Commercial Development (PCD), and a Lot Line Adjustment to change the lot line orientation to run east to west, configuring the project site into Parcel A (northern lot) and Parcel B (southern lot). The project site is currently vacant and the project would be considered infill redevelopment.

Timing

Project construction is planned to begin in May 2018, and is estimated to require approximately 12 months. The project is anticipated to begin operation starting May 2019.

Access & Parking
Primary access to the project site would be via a central driveway off South U Street. Secondary access to the project site would be provided from the alley on the south side of the site, extending between South U Street and South R Street. Upon future retail commercial development of Parcel A, additional access to the project site would include a driveway on West Ocean Avenue. Fire truck and emergency access to the site would be from West Ocean Avenue/SR 246 and South U Street and the alley to the south of the project site, as well as on-site driveways. In addition, 179 parking spaces on both the west and east sides of the building are proposed to serve the health center.

Employees
The project would accommodate approximately 76 employees.

Disturbance
Approximately 5,000 cubic yards would be relocated as a result of the project, including spoils for footings and utilities. The project and associated grading plan has been designed to minimize the amount of grading and match existing conditions. This analysis assumes that spoil would be redistributed on the project site.

Sustainability Features
The project would comply with the most recent Title 24, Part 11 requirements of the 2016 California Green Building Standards Code (CalGreen). CalGreen requirements and standards relate to water and energy efficiency measures, including the maximum flow and flush rate for various water fixture types; heating, ventilation, and air conditioning (HVAC) performance; pollutant control and indoor air quality; and construction and building material used. Additionally, the project would involve the installation of underground stormwater holding chambers sized to accommodate the 85th percentile storm event.

Future Development
The project proponent proposes a lot line adjustment to reorient the two existing parcels located at 1220 & 1300 West Ocean Avenue to be a 3-acre southern lot (Parcel B) and a 2.18-acre northern lot (Parcel A). Although no specific proposal for future development of Parcel A is being made at this time; a conceptual layout for retail commercial pads is shown in Figure 2. The proposed General Plan Amendment (GPA) would change the General Plan and zoning designations on the reserved portion of the site. Therefore, this IS-MND evaluates the GPA and rezone, and the conceptual layout for future retail commercial development on Parcel A. Architectural review and approval of these retail pads will be required separately by the Planning Commission.

The proposed site plan shown in Figure 2 shows two building footprints, one with 13,150 square feet, and the other with 6,600 square feet, for a total of 19,750 square feet. The potential to add access to the site from Ocean Avenue/SR 246 is also shown but would not be built until a future retail commercial project is constructed. This driveway has been located to align with the street intersection to the north of North T Street and West Ocean Avenue/SR 246. Because future development of Parcel A would involve access from SR 246, the development of this parcel would require an encroachment permit from the California Department of Transportation (Caltrans).

Discretionary Actions

The development of the project site includes the following discretionary actions:

1. **Preliminary Development Plan**. The project would require the approval of a Development Plan by the Planning Commission.
2. **General Plan Amendment.** The project would require approval of a General Plan Amendment from Medium Density Residential to General Commercial by the City Council.
3. **Zone Change.** The project would require approval of a Zone Change from Medium Density Residential Planned Development (R2PD) to Planned Commercial Development (PCD) by the City Council.
4. **Lot Line Adjustment.** The project would require the approval of a lot line adjustment to change the lot line orientation to run east to west reconfiguring the project site into Parcel A (northern lot) and Parcel B (southern lot) by the Planning Commission.

Public Agencies with Approval Authority (Including permits, funding, or participation agreements)**:**
City of Lompoc

Project Applicant, Name and Address:	**Project Consultant:**
Community Health Centers of the Central Coast, Inc. Linda Costa 150 Tejas Place P.O. Box 430 Nipomo, CA 93444	Rincon Consultants, Inc. 1530 Monterey Street San Luis Obispo, CA 93401
General Plan Designation: Medium Density Residential (Current), General Commercial (Proposed)	**Zoning Designation:** Medium Density Residential Planned Development (R2PD) (Current), Planned Commercial Development (PCD) (Proposed)

Surrounding Land Use Designation:	**Surrounding Land Uses:**
North – High & Medium Density Residential	North – Multi-Family Residential
South – High Density Residential	South – Multi-Family Residential
East – General Commercial	East – Retail Commercial
West – High Density Residential	West – Multi-Family Residential

Environmental Setting:

The project site is presently vacant and undeveloped. The bulk of the project site is covered with mowed grass with mature street trees around the perimeter.

Have California Native American tribe traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

The City prepared and sent letters to tribes who have requested AB 52 consultation via Certified Mail on October 19, 2017. No tribes have provided comments on the project but one phone call from tribal representative Fred Romero was received.

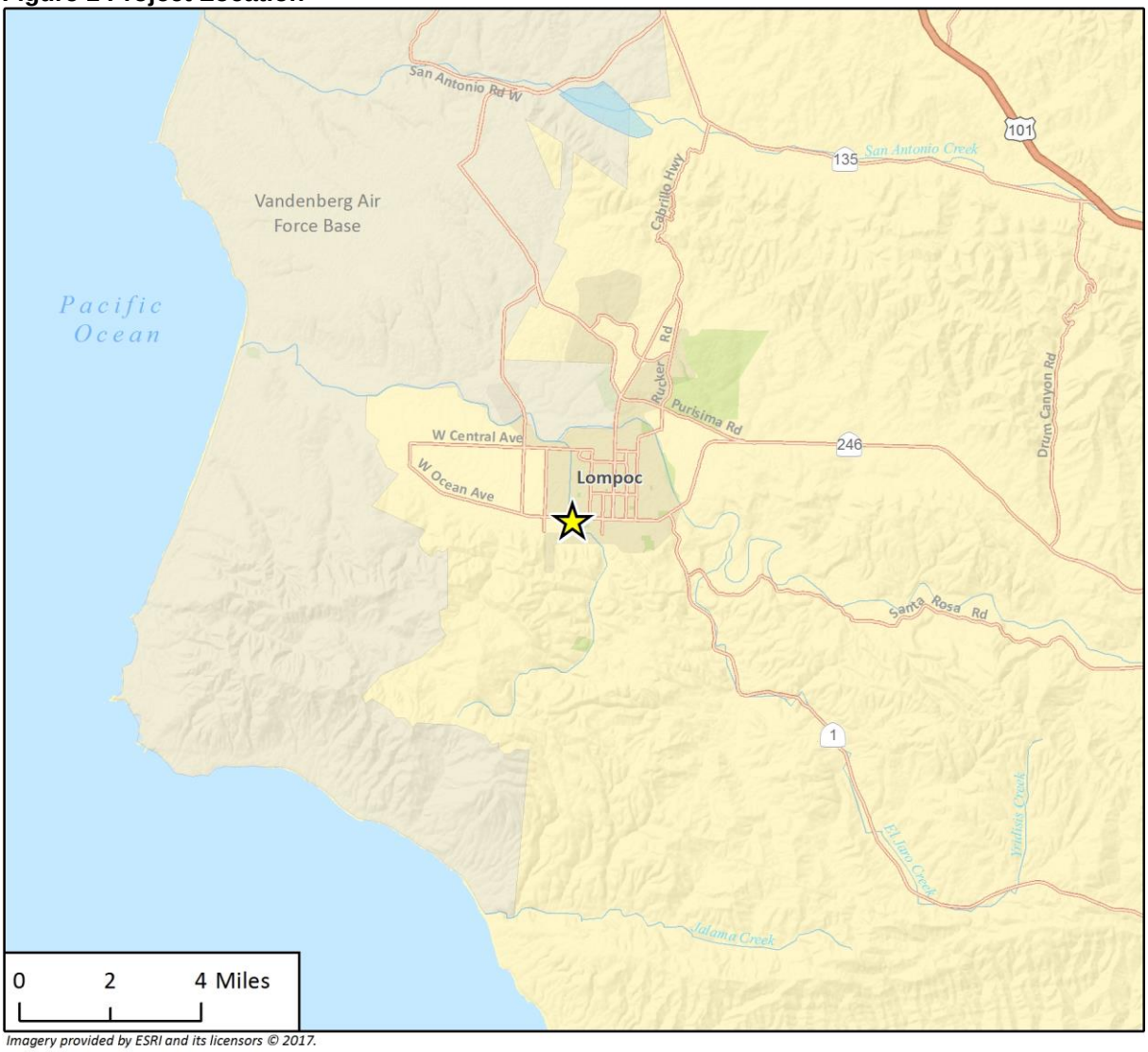
NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office Historic Preservation. Please also note the Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

[ ] Aesthetics	[ ] Agriculture Resources	[ ] Air Quality
[X] Biological Resources	[ ] Cultural Resources	[ ] Geology / Soils
[ ] Greenhouse Gas Emissions	[ ] Hazards & Hazardous Materials	[ ] Hydrology / Water
[ ] Land Use / Planning	[ ] Mineral Resources	[X] Noise
[ ] Population / Housing	[ ] Public Services	[ ] Recreation
[ ] Transportation / Traffic	[ ] Tribal Cultural Resources	[ ] Utilities / Service Systems
[ ] Mandatory Findings		

Figure 1 Project Location



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Project Location

N

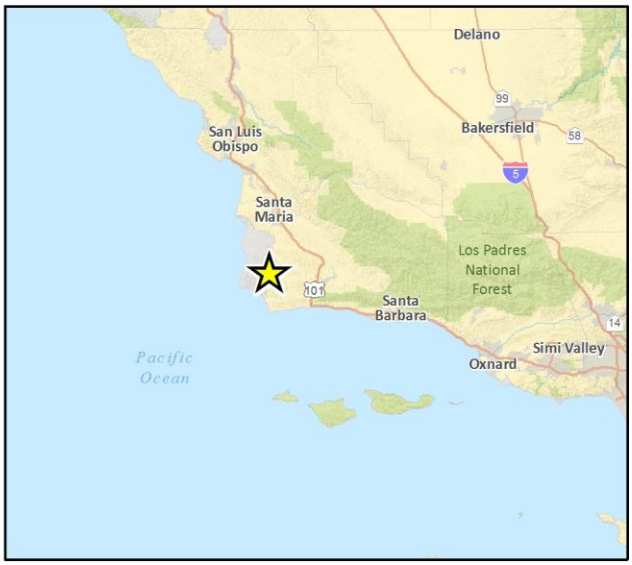
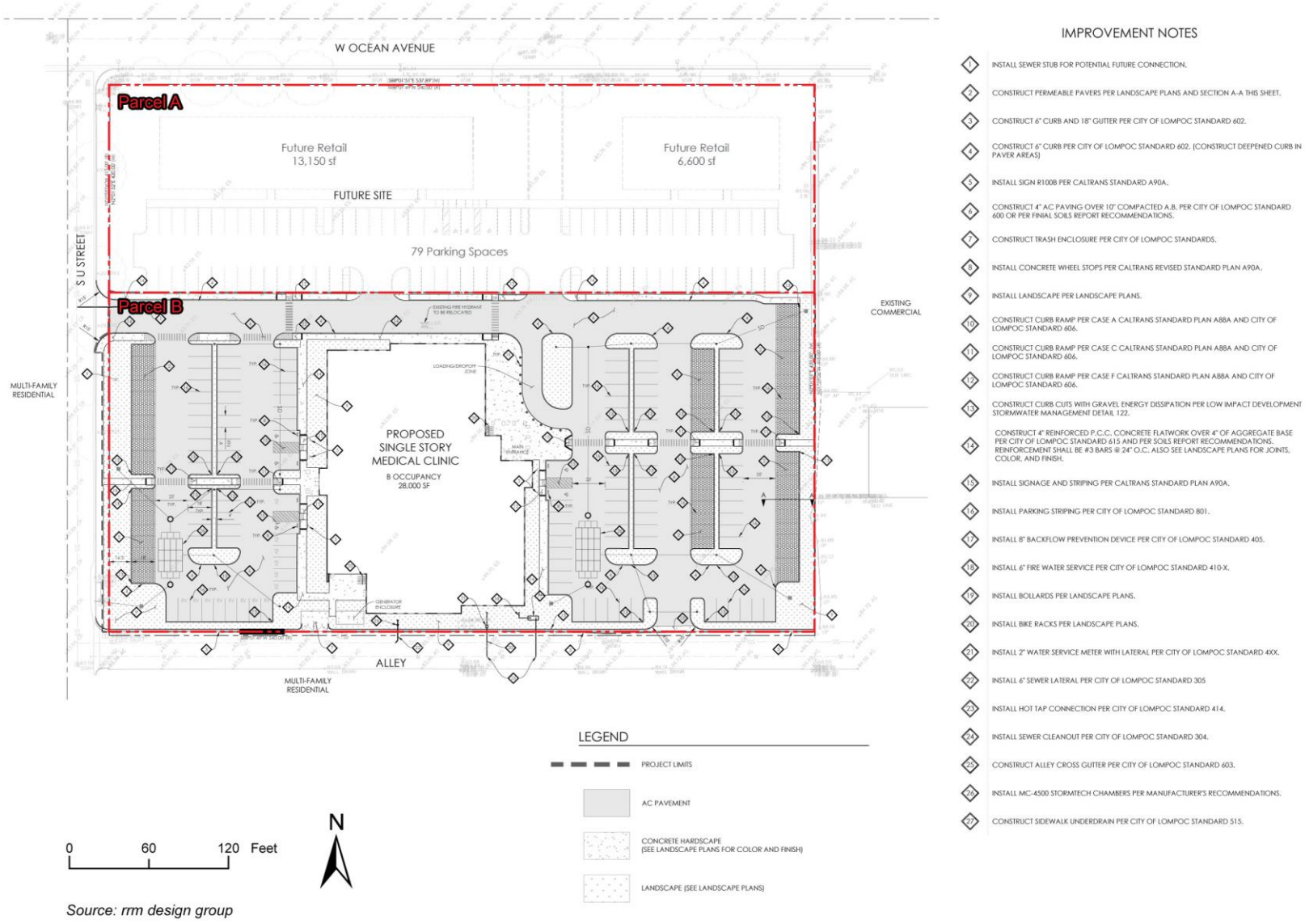


Fig 1 Regional Location

Figure 2 Project Site Plan



Source: rrm design group

B. TECHNICAL STUDIES

The following Technical Studies were prepared for this document:

Title	Prepared by/Date	Attached to EIS	Available for Review
CalEEMod and emissions calculations	Rincon Consultants, Inc. October 2017	Appendix A	X
Preliminary Geotechnical Report	Gorian Associates June 2017	Appendix B	X
Traffic Study	Associated Transportation Engineers, October 2017 (Revised December 1, 2017).	Appendix C	X
Phase II Environmental Site Assessment	SECOR International, Inc. May 2005.	Appendix D	X
Noise Measurement and traffic noise calculations	Rincon Consultants, Inc. November 2017	Appendix E	X

C. ENVIRONMENTAL IMPACTS:

Identify the potential for significant adverse impacts below. Note mitigation measures, if available, for significant adverse impacts.

I. AESTHETICS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

Comments:

a) Have a substantial adverse effect on a scenic vista?

The project site is located within a scenic vista identified in the Urban Design Element of the City of Lompoc General Plan. The vantage point for this vista is approximately 0.8 mile south of the project site, on the hillsides south of the City. The project site is in an urbanized area and is proposed for General Commercial uses, which would be adjacent to existing General Commercial land uses. The project would develop the site with a community health center with a maximum height of 28 feet, and would not obstruct views from the vista identified to the south of the project site. Based on the proposed structure height and distance from scenic vista vantage points delineated in the Urban Design Element, neither the project nor future development of Parcel A would have a substantial adverse effect on a scenic vista. This impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is located within an urbanized area in the western portion of the City of Lompoc adjacent to West Ocean Avenue/SR 246, which is not a designated state scenic highway. Neither the project nor future development of Parcel A would be visible from any other highways. No impact would occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The project site is located in an urbanized area in the western portion of the City and is currently a vacant lot covered by mowed grass. The project site is in an urbanized area and is currently proposed for General Commercial uses, which would be adjacent to existing General Commercial land uses. The Planning Commission review and subsequent approval of the proposed architecture – including architecture for future retail development of Parcel A – would ensure compliance with established City *Architectural Review Guidelines*. Therefore, the development of the project site would not substantially degrade the existing visual character or quality of the site and surrounding area. This impact would be less than significant.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Proposed site lighting includes exterior pole lighting to provide for public safety and security within parking areas and wall-mounted lighting on the building. Project-related light sources would be subject to lighting-related requirements contained in the Lompoc Municipal Code to ensure that no substantial light and/or glare would adversely affect day or nighttime views in the area. These requirements include such measures as shielding of light sources and directing sources toward the ground which would be included as a condition of approval on the project approval. The project will be conditioned to provide a Photometrics plan in order to demonstrate and to ensure no light spillage offsite. Therefore, the project's impacts associated with light and glare would be less than significant. Similarly, future retail development of Parcel A would be subject to the Lompoc Municipal Code requirements, and would result in less than significant impacts related to light and glare.

II. AGRICULTURAL AND FORESTRY RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning or, of forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Public Resources Code section 51104(g))				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

Comments:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

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?

The project site is currently designated as "Urban and Built-Up Land" according to the 2014 Farmland Mapping and Monitoring Program (FMMP). The site is zoned Medium Density Residential Planned development (RPD), and is not subject to a Williamson Act contract. Therefore, neither the project nor future development of Parcel A would conflict with existing zoning for agricultural use; conflict with a Williamson Act contract; or convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural uses. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Public Resources Code section 51104(g))

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The existing General Plan designation for the project site is Medium Density Residential and the current zoning designation is Medium Density Residential Planned Development. The project site is currently designated as "Urban and Built-Up Land" as mapped by the DOC's 2014 FMMP, and does not include forest land or timberland resources. No impact would occur.

III. AIR QUALITY 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?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
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)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?				X

Setting:

Air Quality Standards and Attainment

The project site is located in the South Central Coast Air Basin (SCCAB), which is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD). SBCAPCD is one of 15 local air quality management agencies established by the California Air Resources Board (CARB). As the local air quality management agency, SBCAPCD is required to monitor air pollutant levels to ensure that applicable state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the SCCAB is classified as being in "attainment" or "nonattainment." The health effects associated with criteria pollutants upon which attainment of state and federal air quality standards are measured are described in Table 1.

Table 1 Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: pulmonary function decrements and localized lung edema in humans and animals, risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) Aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO_2)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[a]
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.[1]

[1]More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, Particulate Matter Health Effects and Standard Recommendations, www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may, May 9, 2002; and EPA, Air Quality Criteria for Particulate Matter, October 2004.

Source: United States Environmental Protection Agency (USEPA) 2015

The SCCAB has a nonattainment-transitional status for the state standard of PM_{10} (SBCAPCD 2017) and nonattainment-transitional status for the state standard of ozone (CARB 2017a). Thus, the SCCAB is required to implement strategies to reduce PM_{10} and ozone levels to recognized acceptable standards (SBCAPCD 2011).

Air Quality Management

The 2001 Clean Air Plan (CAP) was the first plan prepared by SBCAPCD that established specific planning requirements to maintain the 1-hour ozone standard. In 2006, the CARB revised the state standards and made it more stringent by adding an 8-hour average to the ozone standard, which previously only included a 1-hour average. Both components of the standard must now be met before the CARB can designate that an area is in attainment. The most recent 2016 Ozone Plan was adopted by SBCAPCD in October 2016, and is the fifth update to the 2001 CAP. The 2016 Ozone Plan only addresses SBCAPCD's progress toward attaining the state ozone standard. The SBCAPCD was recently designated nonattainment-transitional for ozone under the California Clean Air Act and, as a result, the 2016 Ozone Plan's control measure implementation schedule was revised.

Air Emissions Thresholds

In June 2017, the SBCAPCD published the most recent update to its *Scope and Content of Air Quality Sections in Environmental Documents* (Guidelines). The Guidelines establish criteria for determining the level of significance for project-specific impacts within its jurisdiction in accordance with the above CEQA checklist thresholds. Based on criteria applied in or adapted from the SBCAPCD Guidelines, impacts related to emission of criteria air pollutants would be significant if a project would:

- During construction, cause a violation of PM_{10} state standard at nearby or upwind of sensitive receptors, based on whether the project would:
    - Emit greater than 25 tons per year of ROC; or
    - Emit greater than 25 tons per year of NO_X.
- During operations:
    - Generate (from all project sources, both stationary and mobile) greater than 240 pounds per day of ROC;
    - Generate (from all project sources, both stationary and mobile) greater than 240 pounds per day of NO_X;
    - Generate (from all project sources, both stationary and mobile) greater than 80 pounds per day of PM_{10};
    - Generate greater than 25 pounds per day of ROC from motor vehicle trips only;
    - Generate greater than 25 pounds per day of NO_X from motor vehicle trips only;
    - Cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
    - Exceed the APCD health risk public notification threshold adopted by the APCD (*10 excess cancer cases in a million for cancer risk and a Hazard Index of more than one [1.0] for non-cancer risk*); or
    - Be inconsistent with the latest adopted federal and state air quality plans for Santa Barbara County.

The Guidelines state that due to the relatively low background ambient Carbon Monoxide (CO) levels in Santa Barbara County, localized CO impacts associated with congested intersections are not expected to exceed the CO health-related air quality standards. As such, CO "hotspot" analyses are no longer required.

Comments:

a) Conflict with or obstruct implementation of the applicable air quality plan?

The SBCAPCD Guidelines state that a project is consistent with the CAP if its direct and indirect emissions have been accounted for in the CAP's emissions growth assumptions. Therefore, the project as a whole will be considered to be inconsistent if the project's direct and indirect emissions have not been accounted for in the CAP's emissions growth assumptions. The CAP's direct and indirect emissions inventory for the County as a whole are reliant on population projections provided by the Santa Barbara County Association of Governments (SBCAG). SBCAG generates population projection based on the population projections contained in City General Plans. In this case, SBCAG has utilized population projections contained in the City of Lompoc's General Plan. Because the project, including the GPA and zone change, would not result in any new residential uses, the project would not contribute to an increase in population, and would be consistent with the population projections on which the CAP is based. As a result, no impact would occur.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

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)?

Construction Emissions
Construction of the project would result in temporary increases in air pollutant emissions associated with site grading, building construction, and paving activities. The SBCAPCD has not quantified thresholds of significance for short-term construction emissions but informally uses a threshold of 25 tons per year for ROGs, NO_X, and $PM_{2.5}$ and PM_{10}. For this analysis, SBCAPCD's 25 tons per year threshold has been converted into a daily emissions threshold of 192 pounds per day.

Construction emissions have been estimated using the California Emissions Estimator Model (CalEEMod version 2016.3.1) and are shown in

Table 2. Default model inputs were modified to reflect construction details provided by the project applicant, such as the construction schedule (May 2018 through May 2019) and grading information (5,000 cubic yards of excavation). Details pertaining to construction of future retail development on Parcel A are unknown at this time; however, an approximate construction start date of February 2020 and duration of approximately 12 months has been estimated for the purpose of this analysis. Where information was not available, model default assumptions were used.

Table 2 Project Construction Emissions (Pounds/Day)

Pollutant	Maximum Daily Emissions		Significance Threshold	Significant Impact?
	Community Health Center	Future Retail Development		
ROG	6.4	4.4	192	No
NO_X	60.9	18.4	192	No
CO	21.7	14.0	-	N/A
SO_X	0.1	<0.1	-	N/A
PM_{10}	9.9	6.7	192	No
$PM_{2.5}$	5.2	3.7	192	No

See Appendix A for CalEEMod worksheets.

As shown in

Table 2, the project would not generate emissions in excess of SBCAPCD thresholds during construction activities. The City of Lompoc General Plan includes a PM_{10} abatement program required for all construction projects, as well as measures to reduce ozone precursor emissions (ROG and NO_X), to the greatest extent feasible. Because Santa Barbara County does not meet

state standards for PM_{10}, SBCAPCD considers dust control measures required for projects involving earthmoving activities of any size or duration sufficient to reduce fugitive dust emissions to a less than significant level, especially for smaller projects. As such, SBCAPCD permitting requirements for dust control would be required for the project even though emissions would not exceed the SBCAPCD construction emission significance thresholds. Implementation of these SBCAPCD permitting requirements would ensure that the PM_{10} emissions generated by construction activities would be reduced to the greatest degree possible. With these dust control measures included, emissions generated during construction would be less than significant. Therefore, construction impacts resulting from the proposed GPA and zone change would be less than significant.

Operational Emissions

Air pollutant emissions generated during project operation would result primarily from automobile exhaust. Examples of additional on-site pollutant sources, or area sources, include stoves and water heaters that burn natural gas, lawnmowers, and painting activities. SBCAPCD has set thresholds of significance with regard to operational air quality impacts. A project would have a significant impact if it were to emit, from all sources, more than 240 pounds per day of ROG and NO_X and more than 80 pounds per day of PM_{10}. Additionally, a significant impact would occur if the project would emit more than 25 pounds per day of ROG and NO_X from motor vehicle trips only.

Operational emissions were calculated using CalEEMod (version 2016.3.1). The combined calculated operational emissions for both the community health center and the future retail development are shown below in Table 3.

Table 3 Daily Operational Emissions

Pollutant	On-Site (Area & Energy Sources)	Off-Site (Mobile Sources)	Total Emissions	Significance Threshold	Significant Impact?
ROG	1.4	2.9	4.3	240	No
NO_X	0.1	7.4	7.5	240	No
CO	0.1	29.8	30.0	-	N/A
SO_X	<0.1	<0.1	<0.1	-	N/A
PM_{10}	<0.1	2.2	2.2	80	No
$PM_{2.5}$	<0.1	0.6	0.7	80	No

See Appendix A for CalEEMod worksheets.

As shown in Table 3, the combined operation of the community health center and future retail development would not generate emissions in excess of adopted thresholds. Impacts related to operational emissions associated with the project would be less than significant. SBCAPCD permitting requirements that would apply would involve wetting down unpaved areas with high construction vehicle traffic, speed reductions, covering unused fill material, and other dust control measures. Therefore, operational impacts resulting from the proposed GPA and zone change would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality conditions because infants, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. The project would not introduce any new sensitive receptors to the project site. Similarly, future retail development of Parcel A would allow retail uses under the proposed GPA and zoning, which would not introduce any new sensitive receptors to the project site. In the vicinity of the project site, sensitive receptors include residential areas located to the north, south, and west of the project site, as well as the project itself. As shown in Table 3, the project would not generate air pollutant emissions in exceedance of SBCAPCD thresholds during construction activities and project operation. The majority of project emissions would be from mobile sources that would contribute to regional emissions, but would not contribute substantially to localized elevated criteria pollutant levels. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Land uses typically associated with significant objectionable odors include agriculture, wastewater treatment, food processing, chemical plants, refineries, landfills, and dairies. The project would not include any of these uses, or any other use that would typically be expected to result in substantial odors. As such, significant objectionable odors are not anticipated during project construction or operation. No impact would occur.

IV. BIOLOGICAL RESOURCES Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
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?				X
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?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
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?				X

Comments:

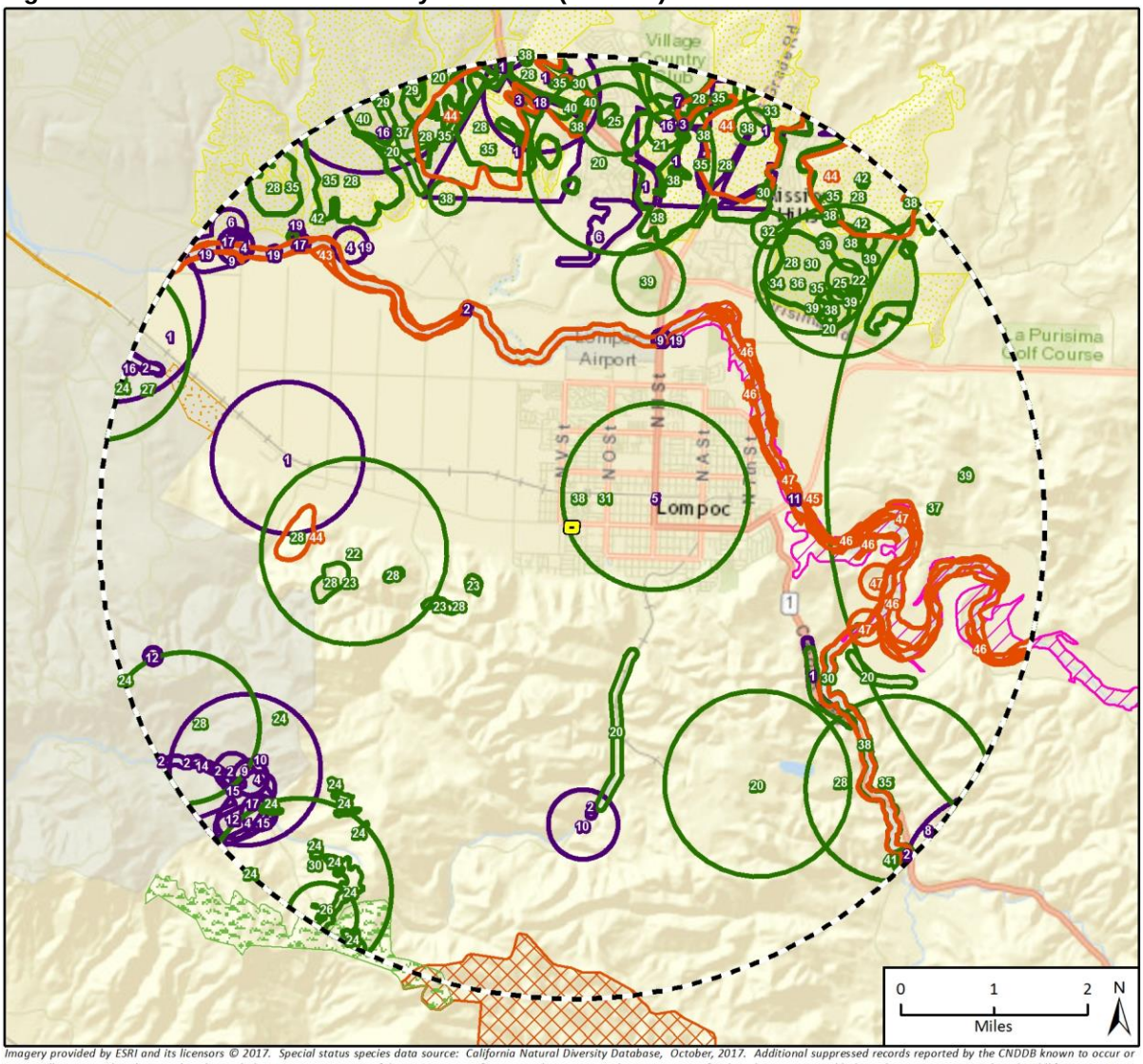
a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

The project site is disturbed and dominated by non-native vegetation, and surrounded by urban land uses. According to a California Natural Diversity Database (CNDDB) search conducted by Rincon Consultants, Inc. (Rincon) in October, 2017 (refer to Figure 3), the project site is located within an area identified as potential habitat for Miles' milk-vetch and Seaside bird's-beak; however, these are not identified as candidate, sensitive, or special status species. No critical habitats for any plant or wildlife species identified as a candidate, sensitive, or special status species are located on the project site. Therefore, impacts to special status species from the project as well as the potential future development of Parcel A would be less than significant.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

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?*

Figure 3 California Natural Diversity Database (CNDDB) Search Results



Imagery provided by ESRI and its licensors © 2017. Special status species data source: California Natural Diversity Database, October, 2017. Additional suppressed records reported by the CNDDB known to occur or potentially occur within this search radius include: American peregrine falcon. For more information please contact the Department of Fish and Game. Critical habitat data source: U.S. Fish and Wildlife Service, June, 2017. Final critical habitat acquired via the USFWS Critical Habitat Portal. It is only a general representation of the data and does not include all designated critical habitat. Contact USFWS for more specific data.

Project Location
5-Mile Buffer

CNDDB

Animals
Plants
Natural Communities

Critical Habitat

California red-legged frog
Gaviota Tarplant
La Graciosa thistle
Southwestern willow flycatcher
Vandenberg monkeyflower

1 - American badger
2 - California red-legged frog
3 - coast horned lizard
4 - hoary bat
5 - Lompoc grasshopper
6 - monarch - California overwintering population
7 - northern California legless lizard
8 - obscure bumble bee
9 - pallid bat
10 - silver-haired bat
11 - steelhead - southern California DPS
12 - Townsend's big-eared bat
13 - two-striped gartersnake
14 - unarmored threespine stickleback
15 - western mastiff bat
16 - western pond turtle
17 - western red bat
18 - western spadefoot
19 - Yuma myotis
20 - black-flowered figwort
21 - chaparral ragwort
22 - dune larkspur
23 - Eastwood's brittle-leaf manzanita
24 - Gaviota tarplant
25 - Hoover's bent grass
26 - Kellogg's horkelia
27 - La Graciosa thistle
28 - La Purisima manzanita
29 - Lompoc yerba santa
30 - mesa horkelia
31 - Miles' milk-vetch
32 - pale-yellow layia
33 - Refugio manzanita
34 - Robinson's pepper-grass
35 - sand mesa manzanita
36 - Santa Barbara honeysuckle
37 - Santa Ynez groundstar
38 - seaside bird's-beak
39 - southern curly-leaved monardella
40 - straight-awned spineflower
41 - umbrella larkspur
42 - Vandenberg monkeyflower
43 - Central Coast Arroyo Willow Riparian Forest
44 - Central Maritime Chaparral
45 - Southern California Steelhead Stream
46 - Southern Cottonwood Willow Riparian Forest
47 - Southern Willow Scrub

According to the CNDDB search conducted by Rincon, the project site is located on the southeastern-most portion of an area observed to contain plant species such as Miles' milk-vetch and Seaside bird's-beak. However, the project site is not located in an area observed to contain any critical habitat as identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

California Department of Fish and Wildlife jurisdiction includes ephemeral, intermittent, and perennial watercourses, and is often extended to the limit of riparian habitats that are located contiguous to the watercourse and that function as part of the watercourse system. There are no channels or streams present within the development boundary of the project. Therefore, the project site is not jurisdictional under the California Department of Fish and Wildlife definition of streambeds. There would be no impact to riparian habitats or federally protected wetlands.

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The project site is approximately five acres, and is surrounded by urbanized and developed land uses. There are no channels or streams present within the proposed development boundary. The project site does not contain a wildlife corridor or provide for the movement of native resident or migratory fish or wildlife species. No native wildlife nursery sites exist on or near the project site. Therefore, implementation of the proposed project would not result in any impacts to wildlife movement. However, mature trees currently exist around the perimeter of the project site. Mature trees currently exist around the perimeter of the project site, along South U Street and West Ocean Avenue. Therefore, the project may indirectly impact nesting birds and their habitat within existing trees on or adjacent to the project site. Removal of existing trees has the potential to impact nesting birds protected under the Migratory Bird Treaty Act. Because project construction would require the removal of existing trees, the project has the potential to impact migratory birds, and would require mitigation.

Mitigation Measures:

B-1 ***Native/Breeding Bird Protection***
To avoid impacts to nesting birds, including birds protected under the Migratory Bird Treaty Act, all initial ground disturbing activities including tree removal should be limited to the time period between August 16 and January 31 (i.e., outside the nesting season) if feasible. If initial site disturbance, grading, and vegetation removal cannot be conducted during this time period, a pre-construction survey for active nests within the project site shall be conducted by a qualified biologist at the site no more than two weeks prior to any construction activities. If an active bird nest is located, the nest site shall be fenced at a distance commensurate with the particular species and in consultation with the California Department of Fish and Wildlife (CDFW) until juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The project applicant or contractor shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to protection of native birds.

B-2 ***Tree Protection and Replacement***
Existing trees with a diameter greater than six inches measured at four feet above the ground on and adjacent to the project site shall be avoided through setbacks and installation of protective fencing to the extent feasible during demolition and construction. Trees that cannot be avoided and must be removed due to the proposed project shall be replaced at a rate of one native tree planted for every one mature tree removed.

Replacement trees shall be installed on-site or at a City-approved off-site location under the direction of a certified arborist. A restoration and monitoring program shall be developed and implemented for a minimum of seven years or until stasis has been determined by certified arborist.

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?

Neither the project nor the potential future development of Parcel A would conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plan. As a result, no impact would occur.

V. CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

Setting:

Rincon conducted a cultural resources assessment consisting of Native American scoping and a cultural resources records search to identify potential impacts to historical, archaeological, and paleontological resources. Rincon contacted the Native American Heritage Commission (NAHC) on October 11, 2017, to request a review of the Sacred Lands File (SLF). The NAHC emailed a response on October 18, 2017, and indicated that the SLF search was negative. Rincon requested a search of the California Historical Resources Information System (CHRIS) on October 11, 2017, from the Central Coast Information Center (CCIC), located at University of California, Santa Barbara. The search was completed to identify previously conducted cultural resource studies as well as previously recorded cultural resources in the project site and within a 0.25-mile radius of the project site. The CCIC records search identified eleven previously conducted reports within a 0.25-mile radius of the project site, four of which are mapped within the boundaries of the project site. No resources were identified within the project site. One historic resource was identified within the 0.25-mile radius (P-42-040942).

In addition to Rincon's Native American scoping and cultural resources records search, the City of Lompoc adopted a Cultural Resources Study, prepared by Laurence W. Spanne, M.A., in October 1988. The City's Cultural Resources Study involved a literature search, interviews with local historical authorities, a field reconnaissance of the study area, and a selection of measures to protect significant cultural resources. The City's Cultural Resources Study discovered 23 recorded and unrecorded historic and prehistoric archaeological sites (Spanne 1988). None of the identified historical or archaeological resources were identified on the project site.

Comments:

a) *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

d) *Disturb any human remains, including those interred outside of formal cemeteries?*

Based on the Native American scoping and cultural resources records search conducted for the project, no historical and/or archaeological resources have been identified on the project site. The project site additionally has not been identified by the City's Cultural Resources Study (1988) as having a historical or archaeological resource. Moreover, the project site has not been identified on the Archaeological Sensitivity Zones map in the City of Lompoc General Plan Resource Management Element, adopted in October 1997. The entire project site, which includes both

Parcel A and Parcel B, has been previously disturbed from agriculture activities, making the discovery of unknown archaeological or paleontological resources unlikely. Although it is not anticipated that the project would unearth significant undiscovered cultural resources, City-required Conditions of Approval would ensure consistency with relevant General Plan policies; if construction activites associated with the project or future development of Parcel A uncover previously undiscovered paleontological resources, the procedures set forth in the Guidelines for Implementation of California Environmental Quality Act (Title 14, Sections 15000 et. Seq. of the California Code of Regulations [CCR]) shall be followed for identification, documentation and preservation of the resource. Therefore, impacts to historical, archaeological, and paleontological resources would be less than significant.

The project site has previously been used for agricultural activity. Therefore, it is unlikely that human remains would be discovered during project construction activities. However, the discovery of human remains is an unlikely possibility during ground disturbing activities. If human remains are found during construction activities associated with the project or future development of Parcel A, the State of California Health and Safety Code Section 7050.5 states that no further disturbance may occur until the county coroner has made a determination of origin and disposition pursuant to the Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner must notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD must complete the inspection of the site within 48 hours of notification and may recommend a scientific removal of the burial and any items associated with Native American burials. Compliance with these existing state regulations would ensure that potential impacts to undiscovered human remains would be less than significant.

VI. GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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-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.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Comments:

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-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The project site is generally flat, and would not be subject to a substantial risk from landslides. According to Figure S-4, *Liquefaction Hazards*, in the City of Lompoc General Plan Safety Element (2014), the project site is located on soils designated as "Severity Class = 3 (High)." In addition, Figure S-3 in the Lompoc General Plan Safety Element identifies the Santa Ynez River Fault on either side of the project site, approximately 1,200 feet to the southeast and approximately 1,750 feet west of the project site. However, the City of Lompoc is not identified as a city affected by earthquake fault zones as mapped by the California Geological Survey (2007). Furthermore, the project site, and the City of Lompoc, is not identified by the California Department of Conservation (DOC) as an area requiring further investigation as defined under the Alquist-Priolo Earthquake Fault Zoning Act.

The geotechnical report prepared by Gorian & Associates, Inc. (Appendix B) (2017) for the project identified moderately expansive soils on the site and found that liquefaction could occur on the site during a significant seismic event, but concluded that the project site would be suitable for the project with compliance with applicable California Building Code (CBC) requirements, and implementation of all recommendations included in the report, which include footing depths, soil recompaction, scarification, fill placement, maintenance of positive drainage, landscaping requirements, and foundation design recommendations. The geotechnical report recommendations would be included by the City in the required Conditions of Approval for the project, as well as any future development on Parcel A. Therefore, impacts relating to liquefaction and subsidence would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

The project site is located in a relatively flat area and is identified as having zero to two percent slopes, as surveyed by the United States Department of Agriculture Natural Resources Conservation Service (NRCS). The project would involve grading, which would cut approximately 5,000 cubic yards, including spoils for footings and utilities. However, the project would not contribute to or result in substantial soil erosion. Therefore, this impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The project would not require the use of septic tanks or alternative wastewater disposal systems as the project would use City-provided utility services, such as sewer and wastewater disposal services. As a result, no impact would occur.

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

Setting:

Project implementation would generate greenhouse gas (GHG) emissions through the burning of fossil fuels or other emissions of GHGs, thus potentially contributing to cumulative impacts related to climate change. In response to an increase in man-made GHG concentrations over the past 150 years, California has implemented AB 32, the "California Global Warming Solutions Act of 2006." AB 32 codifies the Statewide goal of reducing emissions to 1990 levels by 2020 (essentially a 15% reduction below 2005 emission levels) and the adoption of regulations to require reporting and verification of statewide GHG emissions. Furthermore, on September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, which requires the State to further reduce GHGs to 40 percent below 1990 levels by 2030. SB 32 extends AB 32, directing the California Air Resources Board (ARB) to ensure that GHGs are reduced to 40 percent below the 1990 level by 2030.

While the State has adopted the AB 32 Scoping Plan and multiple regulations to achieve the AB 32 year 2020 target, there is no currently adopted State plan to meet post-2020 GHG reduction goals. ARB is currently working to update the Scoping Plan to provide a framework for achieving the 2030 target set forth by SB 32 (ARB 2015). Achieving these long-term GHG reduction policies will require State and federal plans and policies for achieving post-2020 reduction goals.

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG emissions from the project.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, the SBCAPCD has not yet adopted thresholds of significance for GHG emissions from area sources (such as land development projects). However, Santa Barbara County recommends the use of the San Luis Obispo Air Pollution Control District (SLOAPCD) GHG thresholds for area sources.

SBCAPCD
On April 30, 2015 the Santa Barbara County Air District adopted an AB 32 Consistency threshold for stationary sources that require a Permit to Operate from the District. They have updated their Environmental Review Guidelines to incorporate this new threshold. A proposed stationary source project would not have a significant GHG impact if operation of the project meets any of the following criteria:

- Emit less than 10,000 metric tons per year of Carbon Dioxide equivalent (CO_2e); or
- Show compliance with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions (sources subject to the AB 32 Cap-and-Trade requirements pursuant to Title 17, Article 5 [California Cap on Greenhouse Gas Emissions and Market-based Compliance Mechanisms] would pass the screening criteria); or
- Be consistent with the AB 32 Scoping Plan GHG emission reduction goals by failing to reduce project emissions 15.3 percent below Business As Usual (BAU).

SLOAPCD
In March 2012, SLOAPCD adopted CEQA thresholds for GHG emissions in order to achieve goals outlined in the County's EnergyWise Plan. There are three thresholds that can be used to evaluate the level of significance of GHG emissions impacts for residential and commercial projects. The three thresholds are described below:

- *Qualified GHG Reductions Strategies. A project would have a significant impact if it is not consistent with a qualified GHG reduction strategy that meets the requirements of the State CEQA Guidelines. If a project is consistent with a qualified GHG reduction strategy, it would not have a significant impact; or*
- *Bright-Line Threshold. A project would have a significant impact if it exceeds the "bright-line threshold" of 1,150 metric tons CO_2e/year; or*
- *Efficiency Threshold. A project would have a significant impact if the efficiency threshold exceeds 4.9 metric tons of CO_2e/service population/year. The service population is defined as the number of residents plus employees for a given project.*

Because climate change is a cumulative impact by nature, the project's emissions contribution would be cumulatively considerable if it were to exceed any APCD-stated threshold. Therefore, the project's contribution to cumulative impacts related to GHG emissions and climate change would be cumulatively considerable if the project's emissions would exceed all three of the SBCAPCD-stated thresholds or the SLOAPCD-stated bright-line threshold.

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for the analysis. However, because the project is a commercial development, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their GWP in terms of CO_2-equivalents (CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total calculated CO_2e amounts. Calculations are based on the methodologies discussed in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper (CAPCOA 2008) and included the use of the California Climate Action Registry (CCAR) General Reporting Protocol (CCAR 2009).

GHG emissions associated with the project were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1 (see Appendix A for calculations).

Comments:

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

*A*lthough construction activity is addressed in this analysis, CAPCOA does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity" (CAPCOA 2008). Nevertheless, air districts such as the SLOAPCD have recommended amortizing construction-related emissions over a 50-year period in conjunction with the project's operational emissions.

Construction of the project would generate temporary GHG emissions primarily as a result of operation of construction equipment on-site, as well as from vehicles transporting construction workers to and from the project site and heavy trucks to export earth materials off-site. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling. CalEEMod provides an estimate of emissions associated with construction of the project, based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment used during construction. Although average GHG emissions per year is the standard measurement for CO_2e, construction of the project would take place over a 12 month period, from May 2018 through May 2019. Details pertaining construction of future retail development on Parcel A are unknown at this time; however, an approximate construction start date of February 2020 and duration of approximately 12 months has been estimated for the purpose of this analysis. As shown in Table 4, construction of the community health center is estimated to generate 377.6 MT CO_2e. Construction of the future retail development is estimated to generate 237.4 MT CO_2e. Amortized over the project's anticipated lifetime of 50 years, the project's total construction GHG emissions would generate a total of 12.3 MT CO_2e per year.

Table 4 Estimated Construction GHG Emissions

Year	Project Emissions (MT/yr CO_2e)
Community Health Center	
2018	275.2
2019	102.4
Community Health Center Total	377.6
Total Amortized over 50 Years	7.6
Future Retail Development	
2020	231.9
2021	5.5
Future Retail Total	237.4
Total Amortized over 50 years	4.7

See Appendix A for CalEEMod worksheets.

CalEEMod provides operational emissions of CO_2, N_2O, and CH_4. Emissions from energy use include electricity and natural gas use. The emissions factors for natural gas combustion are based on EPA's AP-42, (*Compilation of Air Pollutant Emissions Factors*) and CCAR. Electricity emissions

are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, U.S. EPA, and emission factor values provided by the local air district (CAPCOA 2017).

Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California.

For mobile sources, CO_2 and CH_4 emissions were quantified in CalEEMod. Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the California Climate Action Registry General Reporting Protocol (CAPCOA 2009) direct emissions factors for mobile combustion (see Appendix A for calculations). The estimate of total daily trips associated with the project was based on the traffic study for this project (Appendix C) and was calculated and extrapolated to derive total annual mileage in CalEEMod. Because average trip distances within the community of Lompoc are typically shorter than the regional average due to the City's geography and remote location, the average trip distance used in CalEEMod were adjusted to reflect a 2.4-mile distance between the project site and the furthest point along the City's urban edge. Emission rates for N_2O emissions were based on the vehicle mix output generated by CalEEMod and the emission factors found in the California Climate Action Registry General Reporting Protocol.

Table 5 shows the project's combined operational and annualized construction GHG emissions.

Table 5 Combined Annual GHG Emissions

Emission Source	Annual Emissions (MT CO_2e)	
	Community Health Center	**Future Retail Development**
Construction	7.6	4.7
Operational		
Area	<0.1	<0.1
Energy	192.1	73.8
Solid Waste	140.6	9.6
Water	8.4	4.1
Mobile		
CO_2 and CH_4	279.1	196.8
N_2O	13.1	9.0
Subotal	**633.5**	**301.1**
Total	**934.6 MT CO_2e**	

See Appendix A for CalEEMod worksheets and N_2O calculations.

As shown above in Table 5, the project would generate approximately 935 MT CO_2e per year, including mobile sources and construction emissions amortized over the 50-year lifetime of the project. As such, the project would not generate GHG emissions in exceedance of the SBCAPCD-stated threshold for all sources of 10,000 MT/yr of CO_2e or the SLOAPCD-stated bright-line threshold for area sources of 1,150 MT/yr of CO_2e. Therefore, the project's GHG emissions would result in a less than significant impact.

b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City of Lompoc has not adopted a Climate Action Plan. The County of Santa Barbara Planning Commission adopted the energy and Climate Action Plan (ECAP) for the County of Santa Barbara in May 2015 (County of Santa Barbara 2015). However, this plan applies to unincorporated areas of Santa Barbara County and not incorporated cities such as Lompoc. SBCAG has incorporated a sustainable community strategy into its Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) plan, which is designed to help the region achieve its SB 375 GHG emissions reduction target. The SBCAG 2040 RTP/SCS demonstrates that the SBCAG region would achieve its regional emissions reduction targets for the 2020 and 2035 target years. The RTP/SCS includes an objective to improve the jobs-housing ratio in the County by encouraging more housing development on the South Coast and more job-producing development in the North County, including the City of Lompoc. As such, the project would be consistent with the RTP/SCS by creating job opportunities in Lompoc. In addition, the project would be required to comply with existing State regulations, which include increased energy conservation measures and other action adopted to achieve the overall GHG emissions reduction goals identified in AB 32 and SB 32. Therefore, no impact would occur.

VIII. HAZARDS AND HAZARDOUS MATERIALS Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?			X	
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?				X
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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?				X

Setting:

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances and waste, as well as the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act

- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

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

California regulates hazardous materials, waste and substances under the authority of the California Health and Safety Code and is authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters and Title 27 Environmental Protection.

Comments:

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The project would include general medical uses. Medical waste would be generated from examination rooms while radiological waste would be generated from imaging rooms. All medical equipment would be placed in sterilization rooms. Because the project would be a "Medical Waste Generator," project operation would be required to comply with all standards set forth by the California Department of Public Health in the January 2015 edition of the Medical Waste Management Act (California Health and Safety Code Sections 117600-118360).

In addition, the project proponent would be required to prepare a Medical Waste Management Plan pursuant to Sections 117935 or 117960 of the California Health and Safety Code. The preparation of the Medical Waste Management Plan would ensure that potential impacts associated with hazardous waste would remain less than significant.

The project would also involve the transport, use, storage, and disposal of hazardous materials due to the nature of the future use. However, the project proponent would be required to comply with the U.S. Environmental Protection Agency (EPA) Hazardous Materials Transportation Act, Title 42, Section 11022 of the U.S. Code and Chapter 6.95 of the California Health and Safety Code which requires the reporting of hazardous materials when used or stored in certain quantities. Furthermore, the project proponent would be required to file a Hazardous Materials Management Plan with the Fire Chief for the County of Santa Barbara. Additionally, the project proponent would be required to handle infectious medical waste in accordance with applicable provisions of CCR Title 22, as amended, and Article V of Chapter 18 of the Santa Barbara County Code, along with the applicable provisions of Chapter 13 of the Lompoc Municipal Code. Compliance with these federal and State laws and local regulations would ensure that this impact would remain less than significant.

Future retail development on Parcel A resulting from the GPA and zone change would not be expected to require the use or transport of hazardous materials, and would be required to comply with all applicable City, State, and federal requirements for the handling of hazardous materials. Therefore, this impact would be less than significant.

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

The project site is not located within one-quarter mile of an existing school. The nearest school would be the Miguelito Elementary School, approximately 1,430 feet (0.27 mile) southwest of the project site. The project, including future retail development of Parcel A, would be required to adhere to the standards outlined in the California Health and Safety Code. Therefore, this impact would be less than significant.

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?

According to the EPA's Envirofacts Database, the project site is not identified as a hazardous materials site. However, the adjacent property to the east of the project site, Robinson's Drycleaners located at 1202 West Ocean Avenue, is listed on the Database. The previous use on the same property, Jim's One Hour Cleaners, is also listed on the Envirofacts Database as a "Small Quantity Generator" (EPA 2017). The Phase I Environmental Site Assessment (ESA) (Appendix D) prepared in 2005 determined that the project site was used for agriculture purposes from at least 1928 to 1967. A former Exxon Mobile gas station was located adjacent to the site's northern and western property lines, and Robinson's Drycleaners is located adjacent to the site's eastern property line. Due to these past and present land uses, a Phase II ESA was conducted (Appendix D). The Phase II subsurface soil and vapor investigation concluded that contamination concentrations are below reporting limits or constitute minor contamination levels that do not require further assessment. As a result, this impact would be less than significant.

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?

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?

The project site is located approximately 1.8 miles south of the Lompoc Airport. According to the Airport Influence Area: Lompoc Airport map produced by the Santa Barbara County Association of Governments (SBCAG) in April 2012, the project site is within the Lompoc Airport area of influence. However, the project would be surrounded by existing structures and would not exceed 28 feet in height, which is consistent with City zoning requirements for structures within the area of influence. Therefore, the project would not result in a safety hazard for people residing or working in the project area. In addition, the project site is not located within two miles of a private helipad or airstrip. Therefore, no impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

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?

Neither the project, nor the potential future retain development on Parcel A, would not involve the installation of permanent barriers to travel. As a result, the project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. In addition, the project site is located in the urbanized area of the City of Lompoc, and would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. As a result, no impact would occur.

IX. HYDROLOGY AND WATER QUALITY Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
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., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
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?			X	
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.			X	
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?			X	
f) Otherwise substantially degrade water quality?			X	
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?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
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?			X	
j) Inundation by seiche, tsunami, or mudflow?				X

Comments:

a) Violate any water quality standards or waste discharge requirements?

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., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

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?

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.

Construction of the project would disturb more than one acre of soil and thus would be required to obtain coverage under a Construction General Permit. Pursuant to the permit, construction of the project would require the development and implementation of a stormwater pollution prevention plan (SWPPP). The SWPPP would include best management practices (BMP) designed to prevent erosion and sedimentation. The SWPPP would also include BMPs for cleanup of equipment fluid spills to prevent contamination of water. Post-construction drainage from the project site would flow into the City of Lompoc's storm drain system. The project would be required to comply with the Municipal Regulation of Storm Water Discharges (Municipal Code Chapter 13.32).

The City periodically updates its Groundwater Management Plan (GWMP) and considers new groundwater management techniques to be incorporated into the GWMP based on changing groundwater conditions, institutional framework, or the development of new groundwater management objectives. Moreover, according to the City's GWMP (2013), the Lompoc Groundwater Basin is not currently in overdraft conditions. Therefore, the project would not substantially deplete groundwater supplies or interfere with ground water recharge.

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?

f) Otherwise substantially degrade water quality?

Development of the project site would pave over previously undeveloped land; therefore, a drainage plan would be required to maintain adequate drainage on the site. Filters to remove sediments, oil, and grease would be required as a condition of approval to ensure that all water draining from on-site pavement is properly filtered before entering the City's stormwater drainage system. The project would also require the implementation of standard storm water conditions for development require infiltration under post-construction requirements (PCR), which would minimize impacts associated with water quality degradation, stormwater capacity exceedance, and polluted runoff. In general, these requirements include the following:

- Roof drains and gutters shall be directed to landscaping;
- A Storm Water Control Plan shall be completed and submitted to the City;
- The project shall comply with storm water requirement for five (5) percent or less of Effective Impervious Area;
- The project shall verify the adequate size and design of bio-swales and infiltration areas;
- The project shall install filters to remove trash, sediment, oil and grease prior to discharge into City streets, storm drains, infiltration storm water control measures (SCM), landscaped areas, biologically sensitive areas, or the Santa Ynez River and its tributaries;
- The City Planning Division shall be notified prior to installation of underground SCMs;
- Storm drain inlets shall be stenciled or marked "No Dumping, Drains to the River" and storm infiltration inlets shall be stenciled "No Dumping, Drains to Groundwater;"
- The property owner shall maintain SCMs free from trash, litter, and odor;
- Each SCM shall be inspected a minimum of once a year;
- The project engineer shall prepare a memo listing short and long-term maintenance requirements;
- The property owner shall sign a statement accepting responsibility for the operation and maintenance of SCMs;
- The designing engineer shall inspect any privately owned LID features and facilities and on-site treatment structures and controls; and
- No pollutants shall be discharged from private property into the City's storm drain system, streets, storm channels, or waterways.

The project would not otherwise substantially degrade water quality. There are no rivers or creeks within the project area. In addition, the geotechnical report (Appendix B) for the project site contains recommendations with which the project would be required to comply with, including positive draining away from structures during and after construction per the grading plan or applicable building codes or not allowing water to gather or pond against foundations. As a result, impacts to water quality and stormwater runoff would be less than significant.

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?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The project site is located in Zone X of Community Panel No. 06083C0738G, revised December 2012, outside the 100-year flood hazard area as mapped on the Federal Emergency Management Administration (FEMA) National Flood Hazard Zones Map. The project would not introduce any new housing. No impact would occur.

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?

Of the nine major dams in the County, there is the greatest concern over failure of Bradbury Dam because floodwaters from the rupture of this dam could affect Cachuma Village, Solvang, Buellton, Lompoc City, Lompoc Valley and south Vandenberg AFB. The Dam Location and Inundation Map included in the Multi-Jurisdictional Hazard Mitigation Plan (Santa Barbara County 2011) identifies dam inundation perimeters within Santa Barbara County, including the City of Lompoc. As identified therein, much of the City of Lompoc, including the project site, is located within a dam inundation area.

The Bradbury Dam has been constructed to withstand the maximum credible earthquake, based upon extensive geological and geotechnical studies. The dam is inspected regularly and is certified safe by the U.S. Department of Interior, Bureau of Reclamation. The project would not affect the potential for a failure of the Bradbury Dam. Nevertheless, the increased levels of human activity within the potential inundation area would expose additional people to this potential hazard.

Neither the project nor the future retail of Parcel A would result in new residents on the project site that could be exposed to dam inundation hazards. In addition, the City of Lompoc has installed a reverse 911 system and designated evacuation routes as part of the Multi-Jurisdictional Hazard Mitigation Plan, in which the City of Lompoc is a participating jurisdiction (Santa Barbara County 2011). Compliance with this Hazard Mitigation Plan would ensure that impacts related to the potential for dam inundation remain less than significant.

j) Inundation by seiche, tsunami, or mudflow?

The project site is located approximately eight miles from the Pacific Ocean, and is not located near a body of water, a significant slope, or a volcano. Therefore, the project would not create a substantial threat of inundation by seiche, tsunami, or mudflow. No impacts would result.

X. LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
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?			X	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Comments:

a) Physically divide an established community?

The project site is located within the existing City limits in an established area and development of the site would not physically divide an established community. No impact would occur.

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?

The proposed GPA and Zone Change would change the land use designation from Medium Density Residential (MDR) to General Commercial and the zoning designation from Medium Density Residential Planned Development (R2PD) to Planned Commercial Development, which would be consistent with the proposed community health center on Parcel B and future retail development on Parcel A. Furthermore, the City Planning Commission would review the plans to ensure conformance with the City's General Plan and Zoning Ordinance. Therefore, the project would not conflict with any applicable land use plan, policy or regulation.

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

The project site is not within any established habitat conservation plan or natural community conservation plan. No impact would occur.

XI. MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X

Comments:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Development of the project site would not result in a loss of availability of a locally-important or known mineral resource, as mapped by the California Geologic Survey's Updated Mineral Land Classification Map (2011). No impact would occur.

XII. NOISE Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No 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 applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
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?				X
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?				X

Setting:

Noise is defined as unwanted sound. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of three (3) dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a three (3) dBA change in the ambient noise level is noticeable, while one to two dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while areas adjacent to arterial streets are typically in the 50-60+ dBA range. Normal conversational levels are usually in the 60-65 dBA range and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at about three (3) dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source can reduces noise levels by about five (5) dBA, while a solid wall or berm can reduce noise levels by five (5) to 10 dBA (Federal Transit Administration [FTA] 2006). The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (FTA 2006).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measurement period, and Lmin is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using the Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a five (5) dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a 10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m.. The Ldn and CNEL typically do not differ by more than one (1) dBA. In practice, CNEL and Ldn are often used interchangeably.

Some land uses are more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. For example, residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, museums, cultural facilities, parks, and outdoor recreation areas are more sensitive to noise than commercial and industrial land uses. The closest sensitive receptor(s) to the project site would be the residences to the west and south, approximately 50 feet from the project site boundary.

The Noise Element contained in the City's General Plan contains noise guidelines and policies that establish acceptable noise levels for different land uses. The General Plan states that the maximum exterior sound level acceptable in residential areas is 60 dBA Community Noise Equivalent Level (CNEL). Interior noise levels for residential uses are acceptable at levels that remain below 45 dBA CNEL.

Standards identified in the EIR prepared for the City's General Plan limits noise-generating construction activities within 500 feet of a residential area to the hours of 7:30 a.m. to 5:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays. No construction activities are allowed to take place on Sundays. Minor modifications to the hours of construction may be granted by the Community Development Director. The Noise Element of the City's General Plan includes the City's noise exposure land use compatibility standards in terms of Ldn. These standards are illustrated in Table 6.

Table 6 Exterior Noise Standards

Categories	Uses	Exterior Noise Standard (Ldn)
Residential	Single Family, Duplex, Multi-Family, Mobile Home	60
Commercial & Industrial	Hotel/Motel	60
	Professional Offices, Movie Theater, Auditorium	65
	Retail, Restaurant	65
	Manufacturing, Utilities, Warehousing, Agriculture	75
Community Facility	Hospital, School, Nursing Home, Church, Library, Civic Offices, Parks	65
Open Space	Passive Outdoor Recreation	60

Source: Lompoc, City of. 2014c. *City of Lompoc 2030 General Plan Noise Element*. Available at: http://www1.cityoflompoc.com/departments/comdev/PDF/GeneralPlan2030/Adopted/Noise.pdf. Accessed October 24, 2017.

Existing noise conditions on the project site are typical of an urban environment. Mobile sources, in the form of roadway noise, are the primary noise source in the project area.

Two sound level measurements were taken on the project site on Tuesday, October 25, 2017 between 4:13 PM and 4:50 PM. The measured noise levels are shown in Table 7.

Table 7 Noise Measurements

Measurement Location	Average Sound Level (Leq)	Maximum Sound Level (Lmax)
Approximately 500 feet from Ocean Ave. centerline	50.7	69.4
Approximately 50 feet from Ocean Ave. centerline	70.0	86.6

Source: Measurements collected with an ANSI Type-II Sound Level Meter on Tuesday, October 25, 2017 between 4:13 PM and 4:50 PM. Sound Level Measurement data is included in Appendix E.

Comments:

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?*

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Roadway noise is typically the primary source of ambient noise in most areas. No other substantial sources of noise are located near the project site. Roadway noise scenarios were modeled to determine this project's operational noise impacts. Table 8 illustrates the existing, existing plus project, cumulative, and cumulative plus project roadway noise levels at the project site, 150 feet from Ocean Avenue and 100 feet from U Street, estimated using the Department of Housing and Urban Development Day-Night Noise Level (HUD DNL) tool.

Table 8 On-Site Roadway Noise Levels

Scenario	Roadway Noise Levels (Ldn)
Existing	61.2
Existing + Project	61.6
Cumulative	61.3
Cumulative + Project	61.6

See Appendix E for HUD DNL model results.

As shown in Table 8, traffic along Ocean Avenue and U Street currently generates noise levels of approximately 61.2 Ldn at the project site. Implementation of the project would generate additional traffic on U Street and Ocean Avenue that would increase on-site traffic noise to 61.6 Ldn. When taking into consideration other projects that are currently under planning or construction in the City of Lompoc, the project would increase ambient noise levels produced by Ocean Avenue and U Street from 61.3 Ldn to 61.6 Ldn. Therefore, the project would not be exposed to exterior ambient noise levels in excess of the applicable 65 Ldn standard for community facilities (including hospitals and medical facilities).

Table 9 shows existing average daily traffic volumes along area roadways, and the estimated increase in traffic volumes resulting from the project, based on the traffic study (Appendix C). As shown in Table 9, project-added traffic would not increase traffic along any local roadway by more than approximately 14%. Typically a doubling of traffic would result in a 3 dBA increase in the traffic noise level, which is the minimum increase that would be perceptible. Therefore, the project would not result in an increase in local or regional traffic noise levels that would impact existing off-site sensitive noise receptors. Neither the proposed community health center nor future retail development on Parcel A would introduce new sensitive receptors. Therefore, operational impacts resulting from the project would be less than significant.

Table 9 Existing Average Daily Traffic and Projected Project-Generated Traffic Increase

	Existing ADT[1]	Project-Added Trips[2]	% increase
Ocean Avenue from R Street to O Street	7,635	660	9%
Ocean Avenue from V Street to R Street	6,590	660	10%
U Street	880	94	11%
V Street	5,015	189	4%
T Street	960	94	10%
R Street	2,790	377	14%
O Street	5,625	289	5%

1. Estimated based on AM and PM peak hour turning movements in the traffic study, and assuming that peak hour traffic constitutes approximately 10% of total daily traffic volume.

2. Estimated based on daily trip generation and trip distribution in the traffic study.

Source: Traffic Study prepared for the project by Associated Transportation Engineers, dated October 9, 2017. Included in this report as Appendix C.

b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Groundborne vibration or noise levels are typically associated with the development of large, multi-story buildings that require the use of high-impact pile driving and other vibration-generating

construction techniques. Pile driving would not be required for the construction of the project. Future development would be required to comply with all applicable City Municipal Code noise ordinance requirements. Therefore, groundborne vibration impacts would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction on the project site would involve site grading, and infrastructure and building construction. These activities typically involve the use of heavy equipment such as graders, tractors, loaders, and pavers. As noted by the Federal Transit Administration (FTA 2006), noise levels associated with this type of equipment typically range from 80 to 85 dBA at a distance of 50 feet. The closest sensitive receptor(s) to the project site would be the residential uses to the west and south, approximately 50 feet from the project site boundary. At 50 feet, construction activities would temporarily and periodically increase the ambient noise level beyond the land use compatibility noise standard for residential uses of 60 Ldn. Although construction activities would be limited to daytime hours and would comply with all City rules and regulations, mitigation is required to reduce noise impacts to a less-than-significant level. Construction noise impacts of the project would be less than significant with mitigation incorporated.

Mitigation Measures:

N-1 ***Noise Complaint Reporting and Investigation***

The project construction contractor shall establish a telephone hotline for use by the public to report any significant adverse noise conditions associated with the construction of the project. If the telephone is not staffed 24 hours per day, the contractor shall be required to include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hotline telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been considered commissioned and ready for operation.

Throughout the construction of the project, the contractor shall be required to document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The contractor or its authorized agent shall be required to:

- Use a Noise Complaint Resolution Form to document and respond to each noise complaint;
- Contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to attempt to determine the source of noise related to the complaint; and
- Take all reasonable measures to reduce the noise at its source.

N-2 ***Construction Noise Limitations***

Typical field techniques for reducing noise from construction activities shall be implemented to reduce construction noise levels at the nearest noise-sensitive receptors:

- To the extent practical and unless safety provisions require otherwise, adjust all audible back-up alarms downward in sound level, reflecting locations that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness and complying with applicable OSHA safety requirements. Where feasible, use signal persons and strobe lights, or alternative safety equipment and/or processes consistent with OSHA safety requirements, for reducing reliance on high-amplitude sonic alarms.
- Place stationary noise sources, such as generators and air compressors, on the project site away from affected noise-sensitive receptors. Place non-noise-producing mobile equipment such as trailers in the direct sound pathways between suspected major noise-producing sources and sensitive receptors.

- Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Line or cover hoppers, storage bins, and chutes with sound deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Provide upgraded mufflers, acoustical lining, or acoustical paneling for other noisy equipment, including internal combustion engines.
- Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration.
- Use construction equipment manufacturers or modified to reduce noise and vibration emissions, such as:
    - Electric instead of diesel-powered equipment,
    - Hydraulic tools instead of pneumatic tools, or
    - Electric saws instead of air- or gasoline-driven saws.

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?

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?

The project site is located approximately 1.8 miles south of the Lompoc Airport. According to the Airport Influence Area: Lompoc Airport map produced by the Santa Barbara County Association of Governments (SBCAG) in April 2012, the project site is within the Lompoc Airport area of influence. However, according to the SBCAG Noise Compatibility Policy Map (2012) for the Lompoc Airport, the project site is not located within the 60 dBA or greater noise contours. In addition, the project site is not within the vicinity of a private airstrip. As such, no impact would occur.

XIII. POPULATION AND HOUSING Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 and other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Comments

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 and other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Neither the project nor future retail development on Parcel A would not add residential units to the area or displace existing housing, necessitating the construction of replacement housing elsewhere. The project site is an infill location in an already developed area that has been intended for development in the City's General Plan. The project would not expand the availability of electrical, water, or wastewater services beyond the existing service area. As a result, no impact would occur.

XIV. PUBLIC SERVICES Would the project result in:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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:				X
i) Fire Protection?				X
ii) Police protection?				X
iii) Schools?				X
iv) Parks?				X
v) Other public facilities?				X

Comments:

a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire Protection?
ii) Police protection?
iii) Schools?
iv) Parks?
v) Other public facilities?

The project site is located within an urbanized area which is served by City services. Neither the project nor the future retail development of Parcel A would introduce additional residents which would require the addition of City services. As a result, no impact would occur.

XV. RECREATION Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X

Comments:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Neither the project nor future retail development on Parcel A would introduce new housing or residents to the area or induce population growth which could result in the increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The project would not include new recreational facilities, and would not require the construction or new recreational facilities or expansion of existing recreational facilities which might have an adverse physical effect on the environment. As a result, no impact would occur.

XVI. TRANSPORTATION/CIRCULATION Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant component of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
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?			X	
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?				X
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?				X
e) Result in inadequate emergency access?				X
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?				X

Setting:

The following is based on the Traffic Study prepared for the project by Associated Transportation Engineers, dated October 9, 2017 (Appendix C). The project site is currently served by a circulation system comprised of arterial, collector, and local streets; including Ocean Avenue, V Street, U Street, T Street, R Street, and O Street. Ocean Avenue (SR 246), located along the northern frontage of the project site, is an east-west street that is classified as a Major Arterial in the City's General Plan Circulation Element. V Street, located west of the project site, is a north-south street that is classified as a Minor Arterial street north of Ocean Avenue and a Collector street south of Ocean Avenue. U Street, located along the western frontage of the project site, is a north-south local street. T Street, located north of the project site, is a local residential street that extends north of Ocean Avenue. R Street, located east of the project site, is a north-south street that is classified as a Collector street north and south of Ocean Avenue. O Street, located east of the project site, is a north-south street that is classified as a Minor Arterial street north of Ocean Avenue and a Collector street south of Ocean Avenue. Caltrans (2016) estimates that in 2015, annual ADT along Ocean Avenue/SR 246 was approximately 4,050. **Table 10** illustrates the existing levels of service for the intersections analyzed.

Table 10 Existing Levels of Service

Intersection	Control	AM Peak Hour LOS	PM Peak Hour LOS
Ocean Avenue/V Street	4-Way Stop	LOS C	LOS B
Ocean Avenue/U Street	1-Way Stop	LOS B	LOS B
Ocean Avenue/T Street	1-Way stop	LOS B	LOS B
Ocean Avenue/R Street	Traffic Signals	LOS B	LOS B
Ocean Avenue/O Street	Traffic Signals	LOS B	LOS B

Source: Traffic Study prepared for the project by Associated Transportation Engineers, dated October 9, 2017. Included in this report as Appendix C.

Comments:

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

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?*

The project traffic study (Appendix C) used the Institute of Transportation Engineers (ITE) trip generation rate for Medical-Dental Office Building (Land Us #720) for the proposed health clinic. The proposed community health center is forecast to generate 1,012 average daily trips (ADT), with 67 trips occurring during the AM peak hour and 100 trips occurring during the PM peak hour. Future retail development of Parcel A is forecast to generate 875 ADT, with 26 occurring during the AM peak hour and 54 trips occurring during the PM peak hour. In addition, 37% of project-generated generated traffic would use Ocean Avenue/SR 246, introducing approximately 700 ADT to the busiest nearby roadway. The introduction of approximately 700 ADT along the portion of Ocean Avenue/SR 246 in the project site vicinity would result in an approximate total of 4,750 ADT along this facility. The City of Lompoc's traffic standards are based on intersection Level of Service (LOS). Based on the project's estimated trip generation, the project traffic study found that all of the study-area intersections are forecast to operate at LOS C or better during the AM and PM peak hour periods under Existing + Project and Cumulative + Project conditions, which meets the City's and Caltrans' LOS C operating standard for intersections.

SBCAG is the Congestion Management Agency for the County, and is responsible for administration of the Congestion Management Program (CMP). SBCAG has developed a set of LOS impact guidelines to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities within the County CMP roadway system. These guidelines were developed to determine the significance of project-generated traffic impacts. The traffic study analyzed project traffic impacts using these guidelines and concluded that the project would not impact the CMP network according to the adopted thresholds. Therefore, impacts would be less than significant.

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?*

Neither the project nor future retail development of Parcel A would cause an increase in air traffic or a change in air traffic patterns. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

e) Result in inadequate emergency access?

Primary access to the project site would be via a central driveway off South U Street. Secondary access to the project site would be provided from the alley on the south side of the site, extending between South U Street and South R Street. However, future retail development of Parcel A would require additional access to the site via Ocean Avenue/SR 246. Fire truck and emergency access to the site would be from the alley to the south of the project site and the adjacent streets of West Ocean Avenue and South U Street, as well as on-site driveways. Because future development of Parcel A would involve access from SR 246, the development of this parcel would require an encroachment permit from the California Department of Transportation (Caltrans). Project site ingress/egress locations are subject to the City Public Works and Fire Departments' approval to ensure that the project would provide adequate access for emergency vehicles. As a result, no impact would occur.

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?

The project site is located along existing City of Lompoc Transit (COLT) bus route 2 and the closest bus stop is nearby the intersection of R Street and Ocean Avenue. The project would not conflict with adopted policies, plans, or programs supporting alternative transportation. No impact would occur.

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

Setting:

Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: 1) included or determined to be eligible for inclusion in the California Register of Historic Resources (CRHR) or 2) included in a local register of historical resources. Tribal cultural resources are also resources determined by the lead agency (i.e., City of Lompoc), in its discretion and supported by substantial evidence, to be significant. In making this determination, the lead agency is required to consider the significance of the resource to a California Native American tribe.

The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP). Pursuant to Public Resources Code, Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Demolition, replacement, substantial alteration, and relocation of historic properties are actions that would change the significance of an historic resource (California Code of Regulations [CCR], Title 14, 15064.5).

Comments:

a) *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Recourses Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or project with cultural value to a California Native American tribe, and that is:*
    i) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or*
    ii) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

The City prepared and sent letters to tribes who have requested AB 52 consultation via Certified Mail on October 19, 2017. No tribes have inquired about or provided comments on the project. Staff received a call from the tribal representative Fred Romero, however, no concerns or comments where provided. As discussed in Section V, *Cultural Resources*, no historical and/or archaeological resources have been identified on the project site. The site has been previously disturbed from agriculture activities, making the discovery of unknown archaeological resources unlikely. As a result, this impact would be less than significant.

XVIII. UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the Central Coast Region of the Regional Water Quality Control Board?			X	
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?			X	
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?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Comments:

a) Exceed wastewater treatment requirements of the Central Coast Region of the Regional Water Quality Control Board?

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?

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Lompoc Regional Wastewater Reclamation Plant (LRWRP) treats wastewater from the City of Lompoc, Vandenberg Village Community Services District, and Vandenberg Air Force Base. An upgrade of the LRWRP was completed in November 2009. The Average Dry Weather Flow (ADWF) design capacity of the upgraded facility is 5.5 million gallons per day (MGD), with a Peak Dry Weather Flow (PDWF) of 9.5 MGD. The peak wet weather capacity is 15 MGD. Maximum flow through the disinfection units is 5.5 MGD (City of Lompoc 2016).

The daily average flow rate to the plant for 2015 was approximately 3.0 MGD, or approximately 3,300 acre feet per year (AFY). The City anticipates the daily average flow rate will continue to increase by the annual growth rate identified in the City's Urban Water Management Plan (UWMP), which takes into account the land use patterns identified in the City's General Plan. Table 11 shows the City of Lompoc's projected wastewater flow.

Table 11 Wastewater Flow Projections (AFY)

	2010	2015	2020	2025	2030	2035
Wastewater collected & treated in service area	3,585	3,338	3,372	3,448	3,562	3,725

Source: Lompoc, City of. 2016. *2015 Urban Water Management Plan for the City of Lompoc*. Available at: http://www1.cityoflompoc.com/utilities/water/UWMP2015.pdf. Accessed October 24, 2017.

The project includes healthcare facilities, as well as a GPA and zone change that would allow future retail development on Parcel A, the operation of which would generate wastewater. The anticipated water use for the proposed healthcare facilities, estimated using CalEEMod, would be approximately 5.0 million gallons per year for indoor consumption and approximately 1.6 million gallons per year for outdoor consumption (landscaping). This totals to approximately 6.6 million gallons per year, or approximately 20 AFY. Therefore, potential wastewater generation resulting from the project would be within wastewater flow projections for the City, and the LRWRP would have sufficient wastewater capacity to serve the project.

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?*

The project would involve the installation of drainage swales, inlets, and underground stormwater holding chambers that would connect with existing City-operated and maintained stormwater drains and drainage facilities. The underground stormwater holding chambers would be designed to accommodate the 85th percentile storm event. Development of the project site would not require the installation of any new City stormwater drain facility or the expansion of existing City facilities. As such, no impact would occur.

d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

The City's sole source of existing and planned water supply through 2035 is groundwater. The City's water system, which is operated by the Water Division of the Utilities Department, is composed of a well field, water treatment plant, storage reservoirs, a pump station, and distribution lines. Water from the groundwater basin (Lompoc Plain) is pumped from ten wells located in the east-northeast part of the City. The combined capacity of the ten wells is 11.8 MGD if operated simultaneously. Water from the wells is conveyed to the Lompoc Water Treatment Plant (LWTP), which employs a lime-caustic soda softening process to treat the water for hardness and to reduce total dissolved solids. From the LWTP, water is piped to the distribution system and to four distribution reservoirs. The four reservoirs have a total usable storage capacity of 10 to 11 million gallons (City of Lompoc 2016).

The City's UWMP estimates the normal year water demands through 2035 based on the per capita water use targets and population growth forecasts throughout the UWMP. The projected normal year water supply and demand projections are shown in Table 12.

Table 12 Projected Water Supply and Demand – Normal Year (AFY)

	2020	2025	2030	2035
Supply Totals	8,225	8,225	8,225	8,225
Demand Totals	5,504	5,696	5,757	5,887
Difference	2,721	2,596	2,468	2,338
Difference as % of Supply	33%	32%	30%	28%
Difference as % of Demand	49%	46%	43%	40%

Source: Lompoc, City of. 2016. *2015 Urban Water Management Plan for the City of Lompoc*. Available at: http://www1.cityoflompoc.com/utilities/water/UWMP2015.pdf. Accessed October 24, 2017.

The project would have a water demand of approximately 20 AFY, or approximately 18,000 gallons per day, which is within the supply and demand forecasts provided by the City's UWMP. As such, sufficient water supplies would be available to serve the project from existing entitlements and resources. No new or expanded entitlements would be needed to serve the project. The project would not result in a substantial physical deterioration of public water facilities.

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

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

The City of Lompoc provides garbage and recycling collection services in the City and owns and operates the City of Lompoc Sanitary Landfill, which is a Class III (non-hazardous) landfill (City of Lompoc 2014d).

As shown in Table 13, the project would produce an estimated 350 tons of construction waste debris and 36.4 annual tons of solid waste. Consistent with Assembly Bill 939, local jurisdictions are required to divert 50% of solid waste generated away from landfill destinations. Therefore, this analysis assumes that the project would generate up to 299 tons of construction waste and 31 tons of operational solid waste per year.

Table 13 Waste Generated by the Project

Waste Generation Phase	Generation Rate	Square Footage	Total Waste (tons)	Non-Recyclable Waste (tons)
Community Health Center				
Construction	25lbs/SF	28,000	350.0	175.0
Operational (Annual)	1.3 tons/ 1,000SF/year	28,000	36.4	18.2
Future Retail Development				
Construction	25lbs/SF	19,750	246.9	123.4
Operational (Annual)	1.3 tons/ 1,000SF/year	19,750	25.7	12.8

SF = Square Feet

Note: In order to remain compliant with Assembly Bill 939, 50% of the waste generated above would be diverted from landfill destinations.

Source: Santa Barbara County. 2008, revised 2015. *Environmental Thresholds and Guidelines Manual*. Available at: http://www.sbcountyplanning.org/permitting/ldpp/auth_reg/documents/Environmental%20Thresholds%20October%202008%20(Amended%20July%202015).pdf. Accessed October 24, 2017.

According to the California Department of Resources Recycling and Recovery (CalRecycle), the City of Lompoc Sanitary Landfill has approximately 2,100,000 cubic yards of remaining capacity as of 2006 (CalRecycle 2017). Therefore, the project would not generate waste that would significantly deplete the remaining capacity of the City of Lompoc Sanitary Landfill.

XVIIII. MANDATORY FINDINGS OF SIGNIFICANCE Does the project:	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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 periods of California history or prehistory?			X	
b) 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)?			X	
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Comments:

a) *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 periods of California history or prehistory?*

Based on the information and analysis provided throughout this Initial Study, implementation of the project would not substantially degrade the quality of the environment and would not 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 rare or endangered plants or animals, or eliminate important examples of California history or prehistory. The project's impacts would be less than significant.

b) 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)?

Current, planned or proposed developments in the City of Lompoc include commercial and office development and residential development, including the 60-unit Mosaic Walk project and the potential future development on Parcel A on the project site. As described in the discussion of environmental checklist Sections I through XVIII, all environmental issues considered in this Initial Study were found to have either no impact, a less than significant impact, or a less than significant impact with mitigation incorporated. Cumulative impacts of several resource areas have been addressed in the individual resource sections, including Section III, *Air Quality*, Section VII, *Greenhouse Gas Emissions*, Section XII, *Noise*, Section XVI, *Transportation/Circulation*, and Section XVIII, *Utilities and Service Systems* (CEQA Guidelines Section 15064(h)(3).). These impacts would be less than significant or less than significant with mitigation at the project level and cumulatively. Other resource areas were determined to have no impact in comparison to existing conditions and therefore would not contribute to cumulative impacts, such as Population and Housing, Public Services, Recreation, Mineral Resources, and Agricultural Resources. Therefore, the project would not contribute to cumulative impacts related to these issues. Other issues (e.g., Geology/Soils, Hazards and Hazardous Materials) are by their nature project-specific and impacts at one location do not add to impacts at other locations or create additive impacts. Therefore, implementation of the project would result in less than significant environmental impacts.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Effects to human beings are generally associated with air quality, noise, traffic safety, geology/soils and hazards/hazardous materials. As discussed in this Initial Study, the project would result in less than significant impacts to traffic, safety, geology/soils, and hazards/hazardous materials. Construction and operation of the project would not result, either directly or indirectly, in significant adverse effects related to air quality or noise with mitigation incorporated. Criteria pollutant emissions associated with the construction and operation of the project would not exceed applicable SBCAPCD threshold levels. However, because Santa Barbara County does not meet state standards for PM_{10}, SBCAPCD considers the City-required dust control measures sufficient to reduce fugitive dust emissions to a less than significant level, especially for smaller projects. Construction noise would noticeably increase at sensitive receptors during certain construction activities. At 50 feet, where the closest sensitive receptor is located, construction activities would temporarily and periodically increase the ambient noise level beyond the land use compatibility noise standard for residential uses of 60 Ldn. Although construction activities would be limited to daytime hours and would comply with all City rules and regulations, mitigation is required to reduce noise impacts to a less-than-significant level. With implementation of Mitigation Measures N-1 and N-2, the project would not cause substantial adverse effects on human beings, either directly or indirectly.

DETERMINATION: On the basis of this initial evaluation:	
	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	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 to 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.

Planner Date

D. MITIGATION AND MONITORING PLAN:

The following Mitigation Measures shall be Conditions of Approval for

Biological Resources

B-1 ***Native/Breeding Bird Protection***

To avoid impacts to nesting birds, including birds protected under the Migratory Bird Treaty Act, all initial ground disturbing activities including tree removal should be limited to the time period between August 16 and January 31 (i.e., outside the nesting season) if feasible. If initial site disturbance, grading, and vegetation removal cannot be conducted during this time period, a pre-construction survey for active nests within the project site shall be conducted by a qualified biologist at the site no more than two weeks prior to any construction activities. If an active bird nest is located, the nest site shall be fenced at a distance commensurate with the particular species and in consultation with the California Department of Fish and Wildlife (CDFW) until juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The project applicant or contractor shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to protection of native birds.

B-2 ***Tree Protection and Replacement***

Existing trees with a diameter greater than six inches measured at four feet above the ground on and adjacent to the project site shall be avoided through setbacks and installation of protective fencing to the extent feasible during demolition and construction. Trees that cannot be avoided and must be removed due to the proposed project shall be replaced at a rate of one native tree planted for every one mature tree removed. Replacement trees shall be installed on-site or at a City-approved off-site location under the direction of a certified arborist. A restoration and monitoring program shall be developed and implemented for a minimum of seven years or until stasis has been determined by certified arborist.

Noise

N-1 ***Noise Complaint Reporting and Investigation***

The project construction contractor shall establish a telephone hotline for use by the public to report any significant adverse noise conditions associated with the construction of the project. If the telephone is not staffed 24 hours per day, the contractor shall be required to include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hotline telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been considered commissioned and ready for operation.

Throughout the construction of the project, the contractor shall be required to document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The contractor or its authorized agent shall be required to:

- Use a Noise Complaint Resolution Form to document and respond to each noise complaint;
- Contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to attempt to determine the source of noise related to the complaint; and
- Take all reasonable measures to reduce the noise at its source.

N-2 ***Construction Noise Limitations***

Typical field techniques for reducing noise from construction activities shall be implemented to reduce construction noise levels at the nearest noise-sensitive receptors:

- To the extent practical and unless safety provisions require otherwise, adjust all audible back-up alarms downward in sound level, reflecting locations that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness and complying with applicable OSHA safety requirements. Where feasible, use signal persons and strobe lights, or alternative safety equipment and/or processes consistent with OSHA safety requirements, for reducing reliance on high-amplitude sonic alarms.
- Place stationary noise sources, such as generators and air compressors, on the project site away from affected noise-sensitive receptors. Place non-noise-producing mobile equipment such as trailers in the direct sound pathways between suspected major noise-producing sources and sensitive receptors.
- Use concrete crushers or pavement saws rather than impact devices such as jackhammers, pavement breakers, and hoe rams for tasks such as concrete or asphalt demolition and removal.
- Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Provide impact noise producing equipment (i.e., jackhammers and pavement breaker[s]) with noise attenuating shields, shrouds or portable barriers or enclosures, to reduce operating noise.
- Line or cover hoppers, storage bins, and chutes with sound deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Provide upgraded mufflers, acoustical lining, or acoustical paneling for other noisy equipment, including internal combustion engines.
- Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration.
- Use construction equipment manufacturers or modified to reduce noise and vibration emissions, such as:
    - Electric instead of diesel-powered equipment,
    - Hydraulic tools instead of pneumatic tools, or
    - Electric saws instead of air- or gasoline-driven saws.

I hereby confirm that the project description is correct and that the mitigation and monitoring measures set out in the Mitigation and Monitoring Plan are acceptable.

(Project Applicant) Date

N-2 ***Construction Noise Limitations***

Typical field techniques for reducing noise from construction activities shall be implemented to reduce construction noise levels at the nearest noise-sensitive receptors:

- To the extent practical and unless safety provisions require otherwise, adjust all audible back-up alarms downward in sound level, reflecting locations that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness and complying with applicable OSHA safety requirements. Where feasible, use signal persons and strobe lights, or alternative safety equipment and/or processes consistent with OSHA safety requirements, for reducing reliance on high-amplitude sonic alarms.
- Place stationary noise sources, such as generators and air compressors, on the project site away from affected noise-sensitive receptors. Place non-noise-producing mobile equipment such as trailers in the direct sound pathways between suspected major noise-producing sources and sensitive receptors.
- Use concrete crushers or pavement saws rather than impact devices such as jackhammers, pavement breakers, and hoe rams for tasks such as concrete or asphalt demolition and removal.
- Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.
- Provide impact noise producing equipment (i.e., jackhammers and pavement breaker[s]) with noise attenuating shields, shrouds or portable barriers or enclosures, to reduce operating noise.
- Line or cover hoppers, storage bins, and chutes with sound deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Provide upgraded mufflers, acoustical lining, or acoustical paneling for other noisy equipment, including internal combustion engines.
- Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration.
- Use construction equipment manufacturers or modified to reduce noise and vibration emissions, such as:
  - Electric instead of diesel-powered equipment,
  - Hydraulic tools instead of pneumatic tools, or
  - Electric saws instead of air- or gasoline-driven saws.

I hereby confirm that the project description is correct and that the mitigation and monitoring measures set out in the Mitigation and Monitoring Plan are acceptable.

(Project Applicant) Date 1-11-18

ARISTON JULIAN
AUTHORIZED AGENT
FACILITY DIRECTOR

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Lompoc Community Health Center

Santa Barbara-North of Santa Ynez County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	28.00	1000sqft	0.64	28,000.00	0
Parking Lot	179.00	Space	1.61	71,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Precipitation Freq (Days)**	37
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - .

Land Use -

Construction Phase - Ajusted construction schedule to reflect a start date of May 1, 2018 with completion in May 7, 2019.

Grading - 5,000 cubic yards anticipated to be moved via grading activities

Vehicle Trips - As presented by the Associated Transportation Engineers Traffic Study (2017), the Average Daily Trip generation rate would be 36.13.

Energy Use -

Lompoc Community Health Center - Santa Barbara-North of Santa Ynez County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	112.00
tblConstructionPhase	PhaseEndDate	10/10/2019	5/7/2019
tblConstructionPhase	PhaseStartDate	5/8/2019	12/1/2018
tblGrading	MaterialExported	0.00	5,000.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	1.55	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.7188	60.6359	21.1534	0.1049	7.5133	1.4286	8.9261	3.6417	1.3752	4.9505	0.0000	11,376.0475	11,376.0475	1.4159	0.0000	11,411.4450
2019	9.3026	22.7921	19.0092	0.0346	0.3916	1.2358	1.6274	0.1060	1.1898	1.2958	0.0000	3,286.7234	3,286.7234	0.5706	0.0000	3,300.3766
Maximum	**9.7188**	**60.6359**	**21.1534**	**0.1049**	**7.5133**	**1.4286**	**8.9261**	**3.6417**	**1.3752**	**4.9505**	**0.0000**	**11,376.0475**	**11,376.0475**	**1.4159**	**0.0000**	**11,411.4450**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.7188	60.6359	21.1534	0.1049	7.5133	1.4286	8.9261	3.6417	1.3752	4.9505	0.0000	11,376.0475	11,376.0475	1.4159	0.0000	11,411.4450
2019	9.3026	22.7921	19.0092	0.0346	0.3916	1.2358	1.6274	0.1060	1.1898	1.2958	0.0000	3,286.7234	3,286.7234	0.5706	0.0000	3,300.3766
Maximum	**9.7188**	**60.6359**	**21.1534**	**0.1049**	**7.5133**	**1.4286**	**8.9261**	**3.6417**	**1.3752**	**4.9505**	**0.0000**	**11,376.0475**	**11,376.0475**	**1.4159**	**0.0000**	**11,411.4450**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Energy	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Mobile	1.8854	5.9640	16.7404	0.0374	3.1856	0.0449	3.2305	0.8544	0.0422	0.8967		3,779.2614	3,779.2614	0.2070		3,784.4374
Total	**2.7169**	**6.0879**	**16.8656**	**0.0381**	**3.1856**	**0.0544**	**3.2400**	**0.8544**	**0.0517**	**0.9061**		**3,927.7677**	**3,927.7677**	**0.2100**	**2.7200e-003**	**3,933.8289**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Energy	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Mobile	1.8854	5.9640	16.7404	0.0374	3.1856	0.0449	3.2305	0.8544	0.0422	0.8967		3,779.2614	3,779.2614	0.2070		3,784.4374
Total	**2.7169**	**6.0879**	**16.8656**	**0.0381**	**3.1856**	**0.0544**	**3.2400**	**0.8544**	**0.0517**	**0.9061**		**3,927.7677**	**3,927.7677**	**0.2100**	**2.7200e-003**	**3,933.8289**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2018	5/31/2018	5	3	
2	Grading	Grading	6/1/2018	7/6/2018	5	6	
3	Building Construction	Building Construction	7/7/2018	3/18/2019	5	220	
4	Paving	Paving	3/19/2019	5/7/2019	5	10	
5	Architectural Coating	Architectural Coating	12/1/2018	5/7/2019	5	112	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 42,000; Non-Residential Outdoor: 14,000; Striped Parking Area: 4,296 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	625.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	39.00	16.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.4131	2,468.4131	0.7685		2,487.6244
Total	**1.8995**	**23.6201**	**12.7461**	**0.0245**	**1.5908**	**0.9540**	**2.5448**	**0.1718**	**0.8777**	**1.0494**		**2,468.4131**	**2,468.4131**	**0.7685**		**2,487.6244**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0252	0.2397	4.9000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		48.3292	48.3292	2.0100e-003		48.3795
Total	**0.0305**	**0.0252**	**0.2397**	**4.9000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**48.3292**	**48.3292**	**2.0100e-003**		**48.3795**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.4131	2,468.4131	0.7685		2,487.6244
Total	**1.8995**	**23.6201**	**12.7461**	**0.0245**	**1.5908**	**0.9540**	**2.5448**	**0.1718**	**0.8777**	**1.0494**	**0.0000**	**2,468.4131**	**2,468.4131**	**0.7685**		**2,487.6244**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0252	0.2397	4.9000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		48.3292	48.3292	2.0100e-003		48.3795
Total	**0.0305**	**0.0252**	**0.2397**	**4.9000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**48.3292**	**48.3292**	**2.0100e-003**		**48.3795**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6995	0.0000	6.6995	3.3898	0.0000	3.3898			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
Total	**2.1515**	**24.2895**	**10.3804**	**0.0206**	**6.6995**	**1.1683**	**7.8678**	**3.3898**	**1.0748**	**4.4646**		**2,077.4666**	**2,077.4666**	**0.6467**		**2,093.6352**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1336	36.3149	10.4734	0.0837	0.7507	0.2441	0.9947	0.2352	0.2335	0.4687		9,238.1694	9,238.1694	0.7666		9,257.3355
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0381	0.0315	0.2996	6.1000e-004	0.0632	4.3000e-004	0.0636	0.0168	4.0000e-004	0.0172		60.4115	60.4115	2.5200e-003		60.4744
Total	**1.1717**	**36.3464**	**10.7730**	**0.0843**	**0.8138**	**0.2445**	**1.0583**	**0.2520**	**0.2339**	**0.4859**		**9,298.5809**	**9,298.5809**	**0.7692**		**9,317.8099**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6995	0.0000	6.6995	3.3898	0.0000	3.3898			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352
Total	**2.1515**	**24.2895**	**10.3804**	**0.0206**	**6.6995**	**1.1683**	**7.8678**	**3.3898**	**1.0748**	**4.4646**	**0.0000**	**2,077.4666**	**2,077.4666**	**0.6467**		**2,093.6352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1336	36.3149	10.4734	0.0837	0.7507	0.2441	0.9947	0.2352	0.2335	0.4687		9,238.1694	9,238.1694	0.7666		9,257.3355
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0381	0.0315	0.2996	6.1000e-004	0.0632	4.3000e-004	0.0636	0.0168	4.0000e-004	0.0172		60.4115	60.4115	2.5200e-003		60.4744
Total	**1.1717**	**36.3464**	**10.7730**	**0.0843**	**0.8138**	**0.2445**	**1.0583**	**0.2520**	**0.2339**	**0.4859**		**9,298.5809**	**9,298.5809**	**0.7692**		**9,317.8099**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	**2.9127**	**20.7077**	**15.7183**	**0.0250**		**1.2575**	**1.2575**		**1.2051**	**1.2051**		**2,329.7759**	**2,329.7759**	**0.5019**		**2,342.3232**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0900	2.0292	0.7462	3.8900e-003	0.0948	0.0185	0.1133	0.0273	0.0177	0.0450		420.1699	420.1699	0.0311		420.9470
Worker	0.1487	0.1228	1.1685	2.3700e-003	0.2463	1.6800e-003	0.2480	0.0653	1.5500e-003	0.0669		235.6048	235.6048	9.8200e-003		235.8501
Total	**0.2387**	**2.1520**	**1.9148**	**6.2600e-003**	**0.3411**	**0.0202**	**0.3612**	**0.0926**	**0.0192**	**0.1119**		**655.7746**	**655.7746**	**0.0409**		**656.7972**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	**2.9127**	**20.7077**	**15.7183**	**0.0250**		**1.2575**	**1.2575**		**1.2051**	**1.2051**	**0.0000**	**2,329.7759**	**2,329.7759**	**0.5019**		**2,342.3232**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0900	2.0292	0.7462	3.8900e-003	0.0948	0.0185	0.1133	0.0273	0.0177	0.0450		420.1699	420.1699	0.0311		420.9470
Worker	0.1487	0.1228	1.1685	2.3700e-003	0.2463	1.6800e-003	0.2480	0.0653	1.5500e-003	0.0669		235.6048	235.6048	9.8200e-003		235.8501
Total	**0.2387**	**2.1520**	**1.9148**	**6.2600e-003**	**0.3411**	**0.0202**	**0.3612**	**0.0926**	**0.0192**	**0.1119**		**655.7746**	**655.7746**	**0.0409**		**656.7972**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0783	1.9169	0.6691	3.8500e-003	0.0948	0.0150	0.1097	0.0273	0.0143	0.0416		417.4851	417.4851	0.0310		418.2597
Worker	0.1340	0.1075	1.0325	2.3000e-003	0.2463	1.6200e-003	0.2479	0.0653	1.5000e-003	0.0668		228.7265	228.7265	8.6100e-003		228.9417
Total	**0.2124**	**2.0244**	**1.7016**	**6.1500e-003**	**0.3411**	**0.0166**	**0.3576**	**0.0926**	**0.0158**	**0.1084**		**646.2116**	**646.2116**	**0.0396**		**647.2014**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0783	1.9169	0.6691	3.8500e-003	0.0948	0.0150	0.1097	0.0273	0.0143	0.0416		417.4851	417.4851	0.0310		418.2597
Worker	0.1340	0.1075	1.0325	2.3000e-003	0.2463	1.6200e-003	0.2479	0.0653	1.5000e-003	0.0668		228.7265	228.7265	8.6100e-003		228.9417
Total	**0.2124**	**2.0244**	**1.7016**	**6.1500e-003**	**0.3411**	**0.0166**	**0.3576**	**0.0926**	**0.0158**	**0.1084**		**646.2116**	**646.2116**	**0.0396**		**647.2014**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.4218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6671**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0516	0.0413	0.3971	8.8000e-004	0.0947	6.2000e-004	0.0954	0.0251	5.8000e-004	0.0257		87.9717	87.9717	3.3100e-003		88.0545
Total	**0.0516**	**0.0413**	**0.3971**	**8.8000e-004**	**0.0947**	**6.2000e-004**	**0.0954**	**0.0251**	**5.8000e-004**	**0.0257**		**87.9717**	**87.9717**	**3.3100e-003**		**88.0545**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.4218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6671**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0516	0.0413	0.3971	8.8000e-004	0.0947	6.2000e-004	0.0954	0.0251	5.8000e-004	0.0257		87.9717	87.9717	3.3100e-003		88.0545
Total	**0.0516**	**0.0413**	**0.3971**	**8.8000e-004**	**0.0947**	**6.2000e-004**	**0.0954**	**0.0251**	**5.8000e-004**	**0.0257**		**87.9717**	**87.9717**	**3.3100e-003**		**88.0545**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**6.5368**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0252	0.2397	4.9000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		48.3292	48.3292	2.0100e-003		48.3795
Total	**0.0305**	**0.0252**	**0.2397**	**4.9000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**48.3292**	**48.3292**	**2.0100e-003**		**48.3795**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**6.5368**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0252	0.2397	4.9000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		48.3292	48.3292	2.0100e-003		48.3795
Total	**0.0305**	**0.0252**	**0.2397**	**4.9000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**48.3292**	**48.3292**	**2.0100e-003**		**48.3795**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**6.5047**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0275	0.0221	0.2118	4.7000e-004	0.0505	3.3000e-004	0.0509	0.0134	3.1000e-004	0.0137		46.9183	46.9183	1.7700e-003		46.9624
Total	**0.0275**	**0.0221**	**0.2118**	**4.7000e-004**	**0.0505**	**3.3000e-004**	**0.0509**	**0.0134**	**3.1000e-004**	**0.0137**		**46.9183**	**46.9183**	**1.7700e-003**		**46.9624**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**6.5047**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0275	0.0221	0.2118	4.7000e-004	0.0505	3.3000e-004	0.0509	0.0134	3.1000e-004	0.0137		46.9183	46.9183	1.7700e-003		46.9624
Total	**0.0275**	**0.0221**	**0.2118**	**4.7000e-004**	**0.0505**	**3.3000e-004**	**0.0509**	**0.0134**	**3.1000e-004**	**0.0137**		**46.9183**	**46.9183**	**1.7700e-003**		**46.9624**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8854	5.9640	16.7404	0.0374	3.1856	0.0449	3.2305	0.8544	0.0422	0.8967		3,779.2614	3,779.2614	0.2070		3,784.4374
Unmitigated	1.8854	5.9640	16.7404	0.0374	3.1856	0.0449	3.2305	0.8544	0.0422	0.8967		3,779.2614	3,779.2614	0.2070		3,784.4374

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Medical Office Building	1,011.64	0.00	0.00	1,067,284	1,067,284
Parking Lot	0.00	0.00	0.00		
Total	1,011.64	0.00	0.00	1,067,284	1,067,284

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Medical Office Building	6.60	5.50	6.40	29.60	51.40	19.00	60	30	10
Parking Lot	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Medical Office Building	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156
Parking Lot	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
NaturalGas Unmitigated	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	1261.92	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0136**	**0.1237**	**0.1039**	**7.4000e-004**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**		**148.4609**	**148.4609**	**2.8500e-003**	**2.7200e-003**	**149.3432**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	1.26192	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0136**	**0.1237**	**0.1039**	**7.4000e-004**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**		**148.4609**	**148.4609**	**2.8500e-003**	**2.7200e-003**	**149.3432**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Unmitigated	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6246					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Total	**0.8180**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0483**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6246					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Total	**0.8180**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0483**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Lompoc Community Health Center

Santa Barbara-North of Santa Ynez County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	28.00	1000sqft	0.64	28,000.00	0
Parking Lot	179.00	Space	1.61	71,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Precipitation Freq (Days)**	37
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - .

Land Use -

Construction Phase - Ajusted construction schedule to reflect a start date of May 1, 2018 with completion in May 7, 2019.

Grading - 5,000 cubic yards anticipated to be moved via grading activities

Vehicle Trips - As presented by the Associated Transportation Engineers Traffic Study (2017), the Average Daily Trip generation rate would be 36.13.

Energy Use -

Lompoc Community Health Center - Santa Barbara-North of Santa Ynez County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	112.00
tblConstructionPhase	PhaseEndDate	10/10/2019	5/7/2019
tblConstructionPhase	PhaseStartDate	5/8/2019	12/1/2018
tblGrading	MaterialExported	0.00	5,000.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	1.55	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.7462	60.9213	21.7018	0.1038	7.5133	1.4290	8.9309	3.6417	1.3756	4.9551	0.0000	11,257.8894	11,257.8894	1.4335	0.0000	11,293.7267
2019	9.3272	22.8082	19.1281	0.0345	0.3916	1.2362	1.6278	0.1060	1.1902	1.2962	0.0000	3,270.9054	3,270.9054	0.5707	0.0000	3,284.5983
Maximum	**9.7462**	**60.9213**	**21.7018**	**0.1038**	**7.5133**	**1.4290**	**8.9309**	**3.6417**	**1.3756**	**4.9551**	**0.0000**	**11,257.8894**	**11,257.8894**	**1.4335**	**0.0000**	**11,293.7267**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	9.7462	60.9213	21.7018	0.1038	7.5133	1.4290	8.9309	3.6417	1.3756	4.9551	0.0000	11,257.8894	11,257.8894	1.4335	0.0000	11,293.7267
2019	9.3272	22.8082	19.1281	0.0345	0.3916	1.2362	1.6278	0.1060	1.1902	1.2962	0.0000	3,270.9054	3,270.9054	0.5707	0.0000	3,284.5983
Maximum	**9.7462**	**60.9213**	**21.7018**	**0.1038**	**7.5133**	**1.4290**	**8.9309**	**3.6417**	**1.3756**	**4.9551**	**0.0000**	**11,257.8894**	**11,257.8894**	**1.4335**	**0.0000**	**11,293.7267**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Energy	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Mobile	1.8645	6.1771	18.3091	0.0366	3.1856	0.0455	3.2311	0.8544	0.0428	0.8973		3,693.5315	3,693.5315	0.2157		3,698.9230
Total	**2.6961**	**6.3010**	**18.4343**	**0.0373**	**3.1856**	**0.0550**	**3.2406**	**0.8544**	**0.0523**	**0.9068**		**3,842.0377**	**3,842.0377**	**0.2186**	**2.7200e-003**	**3,848.3144**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Energy	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Mobile	1.8645	6.1771	18.3091	0.0366	3.1856	0.0455	3.2311	0.8544	0.0428	0.8973		3,693.5315	3,693.5315	0.2157		3,698.9230
Total	**2.6961**	**6.3010**	**18.4343**	**0.0373**	**3.1856**	**0.0550**	**3.2406**	**0.8544**	**0.0523**	**0.9068**		**3,842.0377**	**3,842.0377**	**0.2186**	**2.7200e-003**	**3,848.3144**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2018	5/31/2018	5	3	
2	Grading	Grading	6/1/2018	7/6/2018	5	6	
3	Building Construction	Building Construction	7/7/2018	3/18/2019	5	220	
4	Paving	Paving	3/19/2019	5/7/2019	5	10	
5	Architectural Coating	Architectural Coating	12/1/2018	5/7/2019	5	112	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 42,000; Non-Residential Outdoor: 14,000; Striped Parking Area: 4,296 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	625.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	39.00	16.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777		2,468.4131	2,468.4131	0.7685		2,487.6244
Total	**1.8995**	**23.6201**	**12.7461**	**0.0245**	**1.5908**	**0.9540**	**2.5448**	**0.1718**	**0.8777**	**1.0494**		**2,468.4131**	**2,468.4131**	**0.7685**		**2,487.6244**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0288	0.2510	4.8000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		47.2142	47.2142	2.0400e-003		47.2652
Total	**0.0344**	**0.0288**	**0.2510**	**4.8000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**47.2142**	**47.2142**	**2.0400e-003**		**47.2652**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.8995	23.6201	12.7461	0.0245		0.9540	0.9540		0.8777	0.8777	0.0000	2,468.4131	2,468.4131	0.7685		2,487.6244
Total	**1.8995**	**23.6201**	**12.7461**	**0.0245**	**1.5908**	**0.9540**	**2.5448**	**0.1718**	**0.8777**	**1.0494**	**0.0000**	**2,468.4131**	**2,468.4131**	**0.7685**		**2,487.6244**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0288	0.2510	4.8000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		47.2142	47.2142	2.0400e-003		47.2652
Total	**0.0344**	**0.0288**	**0.2510**	**4.8000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**47.2142**	**47.2142**	**2.0400e-003**		**47.2652**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6995	0.0000	6.6995	3.3898	0.0000	3.3898			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748		2,077.4666	2,077.4666	0.6467		2,093.6352
Total	**2.1515**	**24.2895**	**10.3804**	**0.0206**	**6.6995**	**1.1683**	**7.8678**	**3.3898**	**1.0748**	**4.4646**		**2,077.4666**	**2,077.4666**	**0.6467**		**2,093.6352**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1641	36.5959	11.0076	0.0826	0.7507	0.2489	0.9995	0.2352	0.2381	0.4733		9,121.4051	9,121.4051	0.7842		9,141.0101
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0430	0.0360	0.3138	5.9000e-004	0.0632	4.3000e-004	0.0636	0.0168	4.0000e-004	0.0172		59.0177	59.0177	2.5500e-003		59.0815
Total	**1.2072**	**36.6319**	**11.3214**	**0.0832**	**0.8138**	**0.2493**	**1.0631**	**0.2520**	**0.2385**	**0.4905**		**9,180.4228**	**9,180.4228**	**0.7868**		**9,200.0916**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6995	0.0000	6.6995	3.3898	0.0000	3.3898			0.0000			0.0000
Off-Road	2.1515	24.2895	10.3804	0.0206		1.1683	1.1683		1.0748	1.0748	0.0000	2,077.4666	2,077.4666	0.6467		2,093.6352
Total	**2.1515**	**24.2895**	**10.3804**	**0.0206**	**6.6995**	**1.1683**	**7.8678**	**3.3898**	**1.0748**	**4.4646**	**0.0000**	**2,077.4666**	**2,077.4666**	**0.6467**		**2,093.6352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1641	36.5959	11.0076	0.0826	0.7507	0.2489	0.9995	0.2352	0.2381	0.4733		9,121.4051	9,121.4051	0.7842		9,141.0101
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0430	0.0360	0.3138	5.9000e-004	0.0632	4.3000e-004	0.0636	0.0168	4.0000e-004	0.0172		59.0177	59.0177	2.5500e-003		59.0815
Total	**1.2072**	**36.6319**	**11.3214**	**0.0832**	**0.8138**	**0.2493**	**1.0631**	**0.2520**	**0.2385**	**0.4905**		**9,180.4228**	**9,180.4228**	**0.7868**		**9,200.0916**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051		2,329.7759	2,329.7759	0.5019		2,342.3232
Total	**2.9127**	**20.7077**	**15.7183**	**0.0250**		**1.2575**	**1.2575**		**1.2051**	**1.2051**		**2,329.7759**	**2,329.7759**	**0.5019**		**2,342.3232**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0945	2.0283	0.8187	3.8100e-003	0.0948	0.0189	0.1137	0.0273	0.0181	0.0454		410.8655	410.8655	0.0326		411.6805
Worker	0.1678	0.1404	1.2237	2.3200e-003	0.2463	1.6800e-003	0.2480	0.0653	1.5500e-003	0.0669		230.1692	230.1692	9.9400e-003		230.4177
Total	**0.2623**	**2.1687**	**2.0424**	**6.1300e-003**	**0.3411**	**0.0206**	**0.3617**	**0.0926**	**0.0196**	**0.1123**		**641.0347**	**641.0347**	**0.0425**		**642.0982**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9127	20.7077	15.7183	0.0250		1.2575	1.2575		1.2051	1.2051	0.0000	2,329.7759	2,329.7759	0.5019		2,342.3232
Total	**2.9127**	**20.7077**	**15.7183**	**0.0250**		**1.2575**	**1.2575**		**1.2051**	**1.2051**	**0.0000**	**2,329.7759**	**2,329.7759**	**0.5019**		**2,342.3232**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0945	2.0283	0.8187	3.8100e-003	0.0948	0.0189	0.1137	0.0273	0.0181	0.0454		410.8655	410.8655	0.0326		411.6805
Worker	0.1678	0.1404	1.2237	2.3200e-003	0.2463	1.6800e-003	0.2480	0.0653	1.5500e-003	0.0669		230.1692	230.1692	9.9400e-003		230.4177
Total	**0.2623**	**2.1687**	**2.0424**	**6.1300e-003**	**0.3411**	**0.0206**	**0.3617**	**0.0926**	**0.0196**	**0.1123**		**641.0347**	**641.0347**	**0.0425**		**642.0982**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449		2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**		**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0823	1.9144	0.7347	3.7700e-003	0.0948	0.0153	0.1101	0.0273	0.0147	0.0419		408.0364	408.0364	0.0325		408.8480
Worker	0.1512	0.1230	1.0767	2.2500e-003	0.2463	1.6200e-003	0.2479	0.0653	1.5000e-003	0.0668		223.4414	223.4414	8.7000e-003		223.6588
Total	**0.2334**	**2.0373**	**1.8114**	**6.0200e-003**	**0.3411**	**0.0170**	**0.3580**	**0.0926**	**0.0162**	**0.1088**		**631.4778**	**631.4778**	**0.0412**		**632.5068**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5581	18.9103	15.2545	0.0250		1.0901	1.0901		1.0449	1.0449	0.0000	2,312.1454	2,312.1454	0.4810		2,324.1705
Total	**2.5581**	**18.9103**	**15.2545**	**0.0250**		**1.0901**	**1.0901**		**1.0449**	**1.0449**	**0.0000**	**2,312.1454**	**2,312.1454**	**0.4810**		**2,324.1705**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0823	1.9144	0.7347	3.7700e-003	0.0948	0.0153	0.1101	0.0273	0.0147	0.0419		408.0364	408.0364	0.0325		408.8480
Worker	0.1512	0.1230	1.0767	2.2500e-003	0.2463	1.6200e-003	0.2479	0.0653	1.5000e-003	0.0668		223.4414	223.4414	8.7000e-003		223.6588
Total	**0.2334**	**2.0373**	**1.8114**	**6.0200e-003**	**0.3411**	**0.0170**	**0.3580**	**0.0926**	**0.0162**	**0.1088**		**631.4778**	**631.4778**	**0.0412**		**632.5068**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728		1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.4218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6671**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**		**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0473	0.4141	8.6000e-004	0.0947	6.2000e-004	0.0954	0.0251	5.8000e-004	0.0257		85.9390	85.9390	3.3500e-003		86.0226
Total	**0.0581**	**0.0473**	**0.4141**	**8.6000e-004**	**0.0947**	**6.2000e-004**	**0.0954**	**0.0251**	**5.8000e-004**	**0.0257**		**85.9390**	**85.9390**	**3.3500e-003**		**86.0226**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2453	12.5685	11.8507	0.0178		0.7301	0.7301		0.6728	0.6728	0.0000	1,746.2432	1,746.2432	0.5418		1,759.7870
Paving	0.4218					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6671**	**12.5685**	**11.8507**	**0.0178**		**0.7301**	**0.7301**		**0.6728**	**0.6728**	**0.0000**	**1,746.2432**	**1,746.2432**	**0.5418**		**1,759.7870**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0473	0.4141	8.6000e-004	0.0947	6.2000e-004	0.0954	0.0251	5.8000e-004	0.0257		85.9390	85.9390	3.3500e-003		86.0226
Total	**0.0581**	**0.0473**	**0.4141**	**8.6000e-004**	**0.0947**	**6.2000e-004**	**0.0954**	**0.0251**	**5.8000e-004**	**0.0257**		**85.9390**	**85.9390**	**3.3500e-003**		**86.0226**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**6.5368**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0288	0.2510	4.8000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		47.2142	47.2142	2.0400e-003		47.2652
Total	**0.0344**	**0.0288**	**0.2510**	**4.8000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**47.2142**	**47.2142**	**2.0400e-003**		**47.2652**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**6.5368**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0344	0.0288	0.2510	4.8000e-004	0.0505	3.4000e-004	0.0509	0.0134	3.2000e-004	0.0137		47.2142	47.2142	2.0400e-003		47.2652
Total	**0.0344**	**0.0288**	**0.2510**	**4.8000e-004**	**0.0505**	**3.4000e-004**	**0.0509**	**0.0134**	**3.2000e-004**	**0.0137**		**47.2142**	**47.2142**	**2.0400e-003**		**47.2652**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**6.5047**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0252	0.2209	4.6000e-004	0.0505	3.3000e-004	0.0509	0.0134	3.1000e-004	0.0137		45.8341	45.8341	1.7800e-003		45.8787
Total	**0.0310**	**0.0252**	**0.2209**	**4.6000e-004**	**0.0505**	**3.3000e-004**	**0.0509**	**0.0134**	**3.1000e-004**	**0.0137**		**45.8341**	**45.8341**	**1.7800e-003**		**45.8787**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.2382					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**6.5047**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0310	0.0252	0.2209	4.6000e-004	0.0505	3.3000e-004	0.0509	0.0134	3.1000e-004	0.0137		45.8341	45.8341	1.7800e-003		45.8787
Total	**0.0310**	**0.0252**	**0.2209**	**4.6000e-004**	**0.0505**	**3.3000e-004**	**0.0509**	**0.0134**	**3.1000e-004**	**0.0137**		**45.8341**	**45.8341**	**1.7800e-003**		**45.8787**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8645	6.1771	18.3091	0.0366	3.1856	0.0455	3.2311	0.8544	0.0428	0.8973		3,693.5315	3,693.5315	0.2157		3,698.9230
Unmitigated	1.8645	6.1771	18.3091	0.0366	3.1856	0.0455	3.2311	0.8544	0.0428	0.8973		3,693.5315	3,693.5315	0.2157		3,698.9230

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Medical Office Building	1,011.64	0.00	0.00	1,067,284	1,067,284
Parking Lot	0.00	0.00	0.00		
Total	1,011.64	0.00	0.00	1,067,284	1,067,284

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Medical Office Building	6.60	5.50	6.40	29.60	51.40	19.00	60	30	10
Parking Lot	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Medical Office Building	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156
Parking Lot	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
NaturalGas Unmitigated	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	1261.92	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0136**	**0.1237**	**0.1039**	**7.4000e-004**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**		**148.4609**	**148.4609**	**2.8500e-003**	**2.7200e-003**	**149.3432**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	1.26192	0.0136	0.1237	0.1039	7.4000e-004		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003		148.4609	148.4609	2.8500e-003	2.7200e-003	149.3432
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0136**	**0.1237**	**0.1039**	**7.4000e-004**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**		**148.4609**	**148.4609**	**2.8500e-003**	**2.7200e-003**	**149.3432**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Unmitigated	0.8180	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6246					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Total	**0.8180**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0483**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6246					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-003	2.0000e-004	0.0213	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0453	0.0453	1.2000e-004		0.0483
Total	**0.8180**	**2.0000e-004**	**0.0213**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0453**	**0.0453**	**1.2000e-004**		**0.0483**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Lompoc Community Health Center

Santa Barbara-North of Santa Ynez County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	28.00	1000sqft	0.64	28,000.00	0
Parking Lot	179.00	Space	1.61	71,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.1	**Precipitation Freq (Days)**	37
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - .

Land Use -

Construction Phase - Ajusted construction schedule to reflect a start date of May 1, 2018 with completion in May 7, 2019.

Grading - 5,000 cubic yards anticipated to be moved via grading activities

Vehicle Trips - As presented by the Associated Transportation Engineers Traffic Study (2017), the Average Daily Trip generation rate would be 36.13.

Energy Use -

Lompoc Community Health Center - Santa Barbara-North of Santa Ynez County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	112.00
tblConstructionPhase	PhaseEndDate	10/10/2019	5/7/2019
tblConstructionPhase	PhaseStartDate	5/8/2019	12/1/2018
tblGrading	MaterialExported	0.00	5,000.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	1.55	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3335	2.5360	1.5643	3.6500e-003	0.1380	0.1115	0.2494	0.0553	0.1059	0.1612	0.0000	333.0608	333.0608	0.0562	0.0000	334.4651
2019	0.4046	0.8885	0.7818	1.3500e-003	0.0131	0.0495	0.0626	3.5400e-003	0.0472	0.0507	0.0000	117.0126	117.0126	0.0230	0.0000	117.5865
Maximum	**0.4046**	**2.5360**	**1.5643**	**3.6500e-003**	**0.1380**	**0.1115**	**0.2494**	**0.0553**	**0.1059**	**0.1612**	**0.0000**	**333.0608**	**333.0608**	**0.0562**	**0.0000**	**334.4651**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3335	2.5360	1.5643	3.6500e-003	0.1380	0.1115	0.2494	0.0553	0.1059	0.1612	0.0000	333.0606	333.0606	0.0562	0.0000	334.4648
2019	0.4046	0.8885	0.7818	1.3500e-003	0.0131	0.0495	0.0626	3.5400e-003	0.0472	0.0507	0.0000	117.0124	117.0124	0.0230	0.0000	117.5864
Maximum	**0.4046**	**2.5360**	**1.5643**	**3.6500e-003**	**0.1380**	**0.1115**	**0.2494**	**0.0553**	**0.1059**	**0.1612**	**0.0000**	**333.0606**	**333.0606**	**0.0562**	**0.0000**	**334.4648**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2018	7-31-2018	1.3377	1.3377
2	8-1-2018	10-31-2018	0.8551	0.8551
3	11-1-2018	1-31-2019	1.0186	1.0186
4	2-1-2019	4-30-2019	0.8769	0.8769
5	5-1-2019	7-31-2019	0.0568	0.0568
		Highest	1.3377	1.3377

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1491	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003
Energy	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	191.3205	191.3205	8.0100e-003	2.0100e-003	192.1199
Mobile	0.2384	0.8047	2.2833	4.7700e-003	0.4052	5.8600e-003	0.4111	0.1089	5.5200e-003	0.1144	0.0000	437.0920	437.0920	0.0249	0.0000	437.7145
Waste						0.0000	0.0000		0.0000	0.0000	62.7974	0.0000	62.7974	3.1139	0.0000	140.6454
Water						0.0000	0.0000		0.0000	0.0000	1.2431	6.2120	7.4551	4.5600e-003	2.7600e-003	8.3920
Total	**0.3899**	**0.8273**	**2.3042**	**4.9100e-003**	**0.4052**	**7.5900e-003**	**0.4128**	**0.1089**	**7.2500e-003**	**0.1161**	**64.0405**	**634.6282**	**698.6687**	**3.1514**	**4.7700e-003**	**778.8757**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1491	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003
Energy	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	191.3205	191.3205	8.0100e-003	2.0100e-003	192.1199
Mobile	0.2384	0.8047	2.2833	4.7700e-003	0.4052	5.8600e-003	0.4111	0.1089	5.5200e-003	0.1144	0.0000	437.0920	437.0920	0.0249	0.0000	437.7145
Waste						0.0000	0.0000		0.0000	0.0000	62.7974	0.0000	62.7974	3.1139	0.0000	140.6454
Water						0.0000	0.0000		0.0000	0.0000	1.2431	6.2120	7.4551	4.5600e-003	2.7600e-003	8.3920
Total	**0.3899**	**0.8273**	**2.3042**	**4.9100e-003**	**0.4052**	**7.5900e-003**	**0.4128**	**0.1089**	**7.2500e-003**	**0.1161**	**64.0405**	**634.6282**	**698.6687**	**3.1514**	**4.7700e-003**	**778.8757**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Lompoc Community Health Center - Santa Barbara-North of Santa Ynez County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2018	5/31/2018	5	3	
2	Grading	Grading	6/1/2018	7/6/2018	5	6	
3	Building Construction	Building Construction	7/7/2018	3/18/2019	5	220	
4	Paving	Paving	3/19/2019	5/7/2019	5	10	
5	Architectural Coating	Architectural Coating	12/1/2018	5/7/2019	5	112	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 42,000; Non-Residential Outdoor: 14,000; Striped Parking Area: 4,296 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	625.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	39.00	16.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	8.30	6.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0183	0.0000	0.0183	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2716	0.1466	2.8000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	25.7520	25.7520	8.0200e-003	0.0000	25.9525
Total	**0.0218**	**0.2716**	**0.1466**	**2.8000e-004**	**0.0183**	**0.0110**	**0.0293**	**1.9800e-003**	**0.0101**	**0.0121**	**0.0000**	**25.7520**	**25.7520**	**8.0200e-003**	**0.0000**	**25.9525**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	3.2000e-004	2.8100e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4932	0.4932	2.0000e-005	0.0000	0.4938
Total	**3.6000e-004**	**3.2000e-004**	**2.8100e-003**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4932**	**0.4932**	**2.0000e-005**	**0.0000**	**0.4938**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0183	0.0000	0.0183	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0218	0.2716	0.1466	2.8000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	25.7520	25.7520	8.0200e-003	0.0000	25.9524
Total	**0.0218**	**0.2716**	**0.1466**	**2.8000e-004**	**0.0183**	**0.0110**	**0.0293**	**1.9800e-003**	**0.0101**	**0.0121**	**0.0000**	**25.7520**	**25.7520**	**8.0200e-003**	**0.0000**	**25.9524**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	3.2000e-004	2.8100e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4932	0.4932	2.0000e-005	0.0000	0.4938
Total	**3.6000e-004**	**3.2000e-004**	**2.8100e-003**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4932**	**0.4932**	**2.0000e-005**	**0.0000**	**0.4938**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0871	0.0000	0.0871	0.0441	0.0000	0.0441	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0280	0.3158	0.1350	2.7000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	24.5004	24.5004	7.6300e-003	0.0000	24.6911
Total	**0.0280**	**0.3158**	**0.1350**	**2.7000e-004**	**0.0871**	**0.0152**	**0.1023**	**0.0441**	**0.0140**	**0.0580**	**0.0000**	**24.5004**	**24.5004**	**7.6300e-003**	**0.0000**	**24.6911**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0149	0.4834	0.1393	1.0800e-003	9.6500e-003	3.2000e-003	0.0129	3.0300e-003	3.0600e-003	6.0900e-003	0.0000	108.3711	108.3711	9.1400e-003	0.0000	108.5995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	3.9700e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6970	0.6970	3.0000e-005	0.0000	0.6977
Total	**0.0154**	**0.4838**	**0.1433**	**1.0900e-003**	**0.0105**	**3.2100e-003**	**0.0137**	**3.2400e-003**	**3.0700e-003**	**6.3100e-003**	**0.0000**	**109.0681**	**109.0681**	**9.1700e-003**	**0.0000**	**109.2972**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0871	0.0000	0.0871	0.0441	0.0000	0.0441	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0280	0.3158	0.1350	2.7000e-004		0.0152	0.0152		0.0140	0.0140	0.0000	24.5004	24.5004	7.6300e-003	0.0000	24.6911
Total	**0.0280**	**0.3158**	**0.1350**	**2.7000e-004**	**0.0871**	**0.0152**	**0.1023**	**0.0441**	**0.0140**	**0.0580**	**0.0000**	**24.5004**	**24.5004**	**7.6300e-003**	**0.0000**	**24.6911**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0149	0.4834	0.1393	1.0800e-003	9.6500e-003	3.2000e-003	0.0129	3.0300e-003	3.0600e-003	6.0900e-003	0.0000	108.3711	108.3711	9.1400e-003	0.0000	108.5995
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	4.6000e-004	3.9700e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6970	0.6970	3.0000e-005	0.0000	0.6977
Total	**0.0154**	**0.4838**	**0.1433**	**1.0900e-003**	**0.0105**	**3.2100e-003**	**0.0137**	**3.2400e-003**	**3.0700e-003**	**6.3100e-003**	**0.0000**	**109.0681**	**109.0681**	**9.1700e-003**	**0.0000**	**109.2972**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1835	1.3046	0.9903	1.5800e-003		0.0792	0.0792		0.0759	0.0759	0.0000	133.1528	133.1528	0.0287	0.0000	133.8700
Total	**0.1835**	**1.3046**	**0.9903**	**1.5800e-003**		**0.0792**	**0.0792**		**0.0759**	**0.0759**	**0.0000**	**133.1528**	**133.1528**	**0.0287**	**0.0000**	**133.8700**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8000e-003	0.1298	0.0494	2.4000e-004	5.8600e-003	1.1800e-003	7.0400e-003	1.6900e-003	1.1300e-003	2.8200e-003	0.0000	23.7901	23.7901	1.8200e-003	0.0000	23.8356
Worker	9.6400e-003	8.6600e-003	0.0750	1.5000e-004	0.0152	1.1000e-004	0.0153	4.0300e-003	1.0000e-004	4.1300e-003	0.0000	13.1729	13.1729	5.6000e-004	0.0000	13.1869
Total	**0.0154**	**0.1385**	**0.1244**	**3.9000e-004**	**0.0210**	**1.2900e-003**	**0.0223**	**5.7200e-003**	**1.2300e-003**	**6.9500e-003**	**0.0000**	**36.9630**	**36.9630**	**2.3800e-003**	**0.0000**	**37.0225**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1835	1.3046	0.9903	1.5800e-003		0.0792	0.0792		0.0759	0.0759	0.0000	133.1527	133.1527	0.0287	0.0000	133.8698
Total	**0.1835**	**1.3046**	**0.9903**	**1.5800e-003**		**0.0792**	**0.0792**		**0.0759**	**0.0759**	**0.0000**	**133.1527**	**133.1527**	**0.0287**	**0.0000**	**133.8698**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8000e-003	0.1298	0.0494	2.4000e-004	5.8600e-003	1.1800e-003	7.0400e-003	1.6900e-003	1.1300e-003	2.8200e-003	0.0000	23.7901	23.7901	1.8200e-003	0.0000	23.8356
Worker	9.6400e-003	8.6600e-003	0.0750	1.5000e-004	0.0152	1.1000e-004	0.0153	4.0300e-003	1.0000e-004	4.1300e-003	0.0000	13.1729	13.1729	5.6000e-004	0.0000	13.1869
Total	**0.0154**	**0.1385**	**0.1244**	**3.9000e-004**	**0.0210**	**1.2900e-003**	**0.0223**	**5.7200e-003**	**1.2300e-003**	**6.9500e-003**	**0.0000**	**36.9630**	**36.9630**	**2.3800e-003**	**0.0000**	**37.0225**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0704	0.5200	0.4195	6.9000e-004		0.0300	0.0300		0.0287	0.0287	0.0000	57.6824	57.6824	0.0120	0.0000	57.9824
Total	**0.0704**	**0.5200**	**0.4195**	**6.9000e-004**		**0.0300**	**0.0300**		**0.0287**	**0.0287**	**0.0000**	**57.6824**	**57.6824**	**0.0120**	**0.0000**	**57.9824**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-003	0.0535	0.0193	1.1000e-004	2.5600e-003	4.2000e-004	2.9700e-003	7.4000e-004	4.0000e-004	1.1400e-003	0.0000	10.3161	10.3161	7.9000e-004	0.0000	10.3359
Worker	3.7900e-003	3.3100e-003	0.0288	6.0000e-005	6.6200e-003	4.0000e-005	6.6700e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.5820	5.5820	2.1000e-004	0.0000	5.5874
Total	**5.9900e-003**	**0.0568**	**0.0482**	**1.7000e-004**	**9.1800e-003**	**4.6000e-004**	**9.6400e-003**	**2.5000e-003**	**4.4000e-004**	**2.9400e-003**	**0.0000**	**15.8981**	**15.8981**	**1.0000e-003**	**0.0000**	**15.9232**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0704	0.5200	0.4195	6.9000e-004		0.0300	0.0300		0.0287	0.0287	0.0000	57.6824	57.6824	0.0120	0.0000	57.9824
Total	**0.0704**	**0.5200**	**0.4195**	**6.9000e-004**		**0.0300**	**0.0300**		**0.0287**	**0.0287**	**0.0000**	**57.6824**	**57.6824**	**0.0120**	**0.0000**	**57.9824**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-003	0.0535	0.0193	1.1000e-004	2.5600e-003	4.2000e-004	2.9700e-003	7.4000e-004	4.0000e-004	1.1400e-003	0.0000	10.3161	10.3161	7.9000e-004	0.0000	10.3359
Worker	3.7900e-003	3.3100e-003	0.0288	6.0000e-005	6.6200e-003	4.0000e-005	6.6700e-003	1.7600e-003	4.0000e-005	1.8000e-003	0.0000	5.5820	5.5820	2.1000e-004	0.0000	5.5874
Total	**5.9900e-003**	**0.0568**	**0.0482**	**1.7000e-004**	**9.1800e-003**	**4.6000e-004**	**9.6400e-003**	**2.5000e-003**	**4.4000e-004**	**2.9400e-003**	**0.0000**	**15.8981**	**15.8981**	**1.0000e-003**	**0.0000**	**15.9232**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2262	0.2133	3.2000e-004		0.0131	0.0131		0.0121	0.0121	0.0000	28.5150	28.5150	8.8500e-003	0.0000	28.7361
Paving	7.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0300**	**0.2262**	**0.2133**	**3.2000e-004**		**0.0131**	**0.0131**		**0.0121**	**0.0121**	**0.0000**	**28.5150**	**28.5150**	**8.8500e-003**	**0.0000**	**28.7361**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	8.3000e-004	7.2600e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4053	1.4053	5.0000e-005	0.0000	1.4066
Total	**9.5000e-004**	**8.3000e-004**	**7.2600e-003**	**2.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4053**	**1.4053**	**5.0000e-005**	**0.0000**	**1.4066**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2262	0.2133	3.2000e-004		0.0131	0.0131		0.0121	0.0121	0.0000	28.5149	28.5149	8.8500e-003	0.0000	28.7361
Paving	7.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0300**	**0.2262**	**0.2133**	**3.2000e-004**		**0.0131**	**0.0131**		**0.0121**	**0.0121**	**0.0000**	**28.5149**	**28.5149**	**8.8500e-003**	**0.0000**	**28.7361**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	8.3000e-004	7.2600e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4053	1.4053	5.0000e-005	0.0000	1.4066
Total	**9.5000e-004**	**8.3000e-004**	**7.2600e-003**	**2.0000e-005**	**1.6700e-003**	**1.0000e-005**	**1.6800e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4053**	**1.4053**	**5.0000e-005**	**0.0000**	**1.4066**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0655					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1400e-003	0.0211	0.0195	3.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	2.6809	2.6809	2.5000e-004	0.0000	2.6873
Total	**0.0686**	**0.0211**	**0.0195**	**3.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**2.6809**	**2.6809**	**2.5000e-004**	**0.0000**	**2.6873**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.0000e-004	2.5600e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4504	0.4504	2.0000e-005	0.0000	0.4508
Total	**3.3000e-004**	**3.0000e-004**	**2.5600e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4504**	**0.4504**	**2.0000e-005**	**0.0000**	**0.4508**

3.6 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0655					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1400e-003	0.0211	0.0195	3.0000e-005		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	2.6809	2.6809	2.5000e-004	0.0000	2.6873
Total	**0.0686**	**0.0211**	**0.0195**	**3.0000e-005**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**2.6809**	**2.6809**	**2.5000e-004**	**0.0000**	**2.6873**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.0000e-004	2.5600e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4504	0.4504	2.0000e-005	0.0000	0.4508
Total	**3.3000e-004**	**3.0000e-004**	**2.5600e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4504**	**0.4504**	**2.0000e-005**	**0.0000**	**0.4508**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0835	0.0838	1.4000e-004		5.8600e-003	5.8600e-003		5.8600e-003	5.8600e-003	0.0000	11.6173	11.6173	9.8000e-004	0.0000	11.6418
Total	**0.2960**	**0.0835**	**0.0838**	**1.4000e-004**		**5.8600e-003**	**5.8600e-003**		**5.8600e-003**	**5.8600e-003**	**0.0000**	**11.6173**	**11.6173**	**9.8000e-004**	**0.0000**	**11.6418**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.1200e-003	9.7900e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2600e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.8945	1.8945	7.0000e-005	0.0000	1.8963
Total	**1.2900e-003**	**1.1200e-003**	**9.7900e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2600e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.8945**	**1.8945**	**7.0000e-005**	**0.0000**	**1.8963**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0121	0.0835	0.0838	1.4000e-004		5.8600e-003	5.8600e-003		5.8600e-003	5.8600e-003	0.0000	11.6173	11.6173	9.8000e-004	0.0000	11.6418
Total	**0.2960**	**0.0835**	**0.0838**	**1.4000e-004**		**5.8600e-003**	**5.8600e-003**		**5.8600e-003**	**5.8600e-003**	**0.0000**	**11.6173**	**11.6173**	**9.8000e-004**	**0.0000**	**11.6418**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.1200e-003	9.7900e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2600e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.8945	1.8945	7.0000e-005	0.0000	1.8963
Total	**1.2900e-003**	**1.1200e-003**	**9.7900e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2600e-003**	**6.0000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.8945**	**1.8945**	**7.0000e-005**	**0.0000**	**1.8963**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2384	0.8047	2.2833	4.7700e-003	0.4052	5.8600e-003	0.4111	0.1089	5.5200e-003	0.1144	0.0000	437.0920	437.0920	0.0249	0.0000	437.7145
Unmitigated	0.2384	0.8047	2.2833	4.7700e-003	0.4052	5.8600e-003	0.4111	0.1089	5.5200e-003	0.1144	0.0000	437.0920	437.0920	0.0249	0.0000	437.7145

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Medical Office Building	1,011.64	0.00	0.00	1,067,284	1,067,284
Parking Lot	0.00	0.00	0.00		
Total	1,011.64	0.00	0.00	1,067,284	1,067,284

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Medical Office Building	6.60	5.50	6.40	29.60	51.40	19.00	60	30	10
Parking Lot	6.60	5.50	6.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Medical Office Building	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156
Parking Lot	0.553205	0.030828	0.204091	0.129951	0.023898	0.006086	0.017139	0.018453	0.002761	0.002481	0.007244	0.002707	0.001156

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	166.7411	166.7411	7.5400e-003	1.5600e-003	167.3945
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	166.7411	166.7411	7.5400e-003	1.5600e-003	167.3945
NaturalGas Mitigated	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.5794	24.5794	4.7000e-004	4.5000e-004	24.7254
NaturalGas Unmitigated	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.5794	24.5794	4.7000e-004	4.5000e-004	24.7254

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Medical Office Building	460600	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.5794	24.5794	4.7000e-004	4.5000e-004	24.7254
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.4800e-003**	**0.0226**	**0.0190**	**1.4000e-004**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**24.5794**	**24.5794**	**4.7000e-004**	**4.5000e-004**	**24.7254**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Medical Office Building	460600	2.4800e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.5794	24.5794	4.7000e-004	4.5000e-004	24.7254
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.4800e-003**	**0.0226**	**0.0190**	**1.4000e-004**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**24.5794**	**24.5794**	**4.7000e-004**	**4.5000e-004**	**24.7254**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Medical Office Building	510160	148.4114	6.7100e-003	1.3900e-003	148.9929
Parking Lot	63008	18.3298	8.3000e-004	1.7000e-004	18.4016
Total		**166.7411**	**7.5400e-003**	**1.5600e-003**	**167.3945**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Medical Office Building	510160	148.4114	6.7100e-003	1.3900e-003	148.9929
Parking Lot	63008	18.3298	8.3000e-004	1.7000e-004	18.4016
Total		**166.7411**	**7.5400e-003**	**1.5600e-003**	**167.3945**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1491	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003
Unmitigated	0.1491	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0349					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003
Total	**0.1491**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.7000e-003**	**3.7000e-003**	**1.0000e-005**	**0.0000**	**3.9500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0349					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1140					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.7000e-003	3.7000e-003	1.0000e-005	0.0000	3.9500e-003
Total	**0.1491**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.7000e-003**	**3.7000e-003**	**1.0000e-005**	**0.0000**	**3.9500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.4551	4.5600e-003	2.7600e-003	8.3920
Unmitigated	7.4551	4.5600e-003	2.7600e-003	8.3920

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Medical Office Building	3.51346 / 0.66923	7.4551	4.5600e-003	2.7600e-003	8.3920
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.4551**	**4.5600e-003**	**2.7600e-003**	**8.3920**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Medical Office Building	3.51346 / 0.66923	7.4551	4.5600e-003	2.7600e-003	8.3920
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**7.4551**	**4.5600e-003**	**2.7600e-003**	**8.3920**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.7974	3.1139	0.0000	140.6454
Unmitigated	62.7974	3.1139	0.0000	140.6454

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Medical Office Building	302.4	62.7974	3.1139	0.0000	140.6454
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.7974**	**3.1139**	**0.0000**	**140.6454**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Medical Office Building	302.4	62.7974	3.1139	0.0000	140.6454
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**62.7974**	**3.1139**	**0.0000**	**140.6454**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Greenhouse Gas Emission Worksheet

N_2O Mobile Emissions

Lompoc Community Health Center project

From CalEEMod v.2016.3.1 Vehicle Fleet Mix Output:

Annual VMT: 1,067,284

Vehicle Type	Percent Type	CH_4 Emission Factor (g/mile)*	CH_4 Emissions (g/mile)**	N_2O Emission Factor (g/mile)*	N_2O Emissions (g/mile)**
Light Auto	55.3%	0.04	0.02212	0.04	0.02212
Light Truck < 3750 lbs	3.0%	0.05	0.0015	0.06	0.0018
Light Truck 3751-5750 lbs	20.4%	0.05	0.0102	0.06	0.01224
Med Truck 5751-8500 lbs	13.0%	0.12	0.0156	0.2	0.026
Lite-Heavy Truck 8501-10,000 lbs	2.3%	0.12	0.00276	0.2	0.0046
Lite-Heavy Truck 10,001-14,000 lbs	1.0%	0.09	0.0009	0.125	0.00125
Med-Heavy Truck 14,001-33,000 lbs	1.7%	0.06	0.00102	0.05	0.00085
Heavy-Heavy Truck 33,001-60,000 lbs	1.8%	0.06	0.00108	0.05	0.0009
Other Bus	0.3%	0.06	0.00018	0.05	0.00015
Urban Bus	0.2%	0.06	0.00012	0.05	0.0001
Motorcycle	0.7%	0.09	0.00063	0.01	0.00007
School Bus	0.2%	0.06	0.00012	0.05	0.0001
Motor Home	0.1%	0.09	0.00009	0.125	0.000125
Total	**100.0%**		**0.05632**		**0.070305**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO_2e) Units based on Global Warming Potential (GWP)

CH_4	21	GWP
N_2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N_2O Emissions:	0.0750	metric tons N_2O	**23.26**	metric tons CO_2e
		Project Total:	***23.26***	***metric tons CO_2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** CalEEMod v.2016.3.1 results for mobile sources.

GEOTECHNICAL UPDATE,
PROPOSED MEDICAL BUILDING,
1212 WEST OCEAN AVENUE,
CITY OF LOMPOC, CALIFORNIA

Prepared for:
Community Health Centers of the Central Coast
2050 South Blosser
Santa Maria, California 93458

Work Order: 2655-H-0-100
June 22, 2017

GORIAN & ASSOCIATES, INC.

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Attachments:

Figure 1	Vicinity Map
Figure 2	Regional Geologic Map
Plate 1	Boring Location Map
Appendix A	Subsurface Logs from Gorian, 2005
Appendix B	Laboratory Testing Data from Gorian, 2005
Appendix C	Seismic Settlement/Liquefaction Analysis

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June 22, 2017

Community Health Centers of the Central Coast
2050 South Blosser
Santa Maria, California 93458

Work Order: 2655-H-0-100

Subject: Geotechnical Update, Proposed Medical Building, 1212 West Ocean Avenue, (Hwy 246) City of Lompoc, California

Reference: Gorian and Associates, Inc., May 10, 2005, *Preliminary Geotechnical Investigation, 1212 & 1038 West Ocean Avenue (HWY 246), City of Lompoc, California*. Work Order: 2655-0-0-10; Log Number: 23817.

INTRODUCTION

Presented herein is our geotechnical update for the proposed medical building located at 1212 West Ocean Avenue in the City of Lompoc. The site is located on the southeast corner of W. Ocean Avenue and South U Street.

The subject site was previously evaluated by this firm in 2005. That investigation covered two separate vacant lots along W. Ocean Avenue; this subject lot and another to the east. The previous investigation included archival research, subsurface exploration consisting of seven exploratory geotechnical borings (5 on the subject lot, see Plate 1), a program of laboratory testing, and geologic/geotechnical engineering analyses.

This update addresses the 30-scale Preliminary Grading and Drainage plan prepared by RRM Design Group dated June 16, 2017. It is based wholly on the information contained in the referenced report and a recent site visit by a representative of this office. The site visit was performed to visually evaluate changes in the surface condition of the lot subsequent to the referenced report (Gorian, 2005).

PROPOSED DEVELOPMENT

The proposed development includes a single story medical building and adjacent parking lot. The overall building is proposed to be 27,650 square feet, with the parking lot proposed to be 80,140 square feet. Access to the development is proposed to be from the west (South U Street) and south (a currently existing alley). The medical building is proposed to be located in the center of the southern half of the lot, with parking lots to the east and west of the building and landscape areas adjacent to the building and scattered throughout the parking lot. The eastern parking lot is proposed to extend into the northern half of the lot, with the rest of the northern section of the lot to remain undeveloped at this time.

SITE DESCRIPTION

The site is located on the southern side of West Ocean Avenue in the City of Lompoc, see Figure 1. To the north, south, and west of the site are residential neighborhoods with a small shopping center immediately to the east of the site. A small paved drive extends along the southern side of the site. The lot is relatively flat with trees along the north and west property boundaries. The site is covered in light vegetation growth, mainly grasses and weeds, as well as dead grass and straw. An existing water line runs east-west in the approximate center of the parcel with a fire hydrant located near the middle of the line. An additional fire hydrant is located in the far northwest corner of the site.

The previously observed storm drain line and manhole were not apparent at the time of our site visit. Additionally, it appears that a 5-foot by 6-foot concrete slab located near the center of the parcel is no longer present.

Much of the lot has burrows from ground squirrels, leaving the upper sections of the ground to be relatively soft as a result.

SITE GEOLOGY AND SOIL CONDITIONS

Quaternary-Aged Alluvial Deposits (Qa) underlie the site (Diblee, 1988) to the maximum depth explored of 61' below existing grade. A layer of topsoil/fill ranging from 1 to 3 feet thick mantles the alluvium throughout the lot. A portion of the Geologic Map of the Lompoc and Surf Quadrangles (Dibblee, 1988) showing the subject site and surrounding areas is attached as Figure 2.

The topsoil/fill consists of dark brown to black silty clay and clayey silt with common roots/rootlets in a soft and damp to moist condition.

The underlying Alluvium generally consists of sandy silts, silty sands and sands in loose to medium dense condition. Occasional clayey silt layers were encountered within the mostly granular soils encountered. Gray diatomaceous clay in a soft to medium stiff and wet condition was encountered in boring B-2 at an approximate depth of 46½ feet and extended to the explored depth of 61 feet. Groundwater was encountered in boring B-2 at an approximately 40 feet below the existing ground surface.

SEISMIC HAZARDS

The subject property is in the seismically active Transverse Ranges Geomorphic Province. The destructive power of earthquakes can be grouped into fault-rupture, ground shaking (strong motion), and secondary effects of ground shaking (such as tsunami, liquefaction, settlement, landslides, etc.) The hazard of fault rupture is generally thought to be associated with a relatively narrow zone along well-defined pre-existing active or potentially active faults. No doubt there are and will be exceptions to this, because it is not possible to predict the precise location of a new fault where none existed before (CDMG, 1975).

No active or potentially active faults are known to cross the property. The site is not currently within an Alquist-Priolo Earthquake Fault Zone as defined by the State Geologist (Hart and Bryant, 2007). The nearest significant regionally active fault is the San Andreas Fault, located approximately 57 miles northeast of the site. Based on Jennings and Bryant, 2010 the surface traces of the "potentially active" Santa Ynez River Fault, Lions Head Fault, and Pacifico Fault are within approximately ½, 6¼, and 8½ miles south, northeast, and south of the site, respectively[1]. As such, the potential for ground rupture on site due to faulting during the life expectancy of the project is considered remote.

[1] It should be noted that a portion of the Los Alamos Fault has been designated to be active in the Zaca 7½ Minute Topographic Quadrangle approximately 16-17 miles northeast of the subject site. This portion of the fault is included in an Alquist-Priolo Earthquake Fault Zone (1986) but does not directly affect the subject site.

However, it can be expected that the project site, like any other site in the central coast area, may experienced strong ground motion from earthquakes generated on local or regional active faults within the life span of the proposed development.

Based on the latest U.S. Geological Survey (USGS) interactive web application, *Unified Hazard Tool* <https://earthquake.usgs.gov/hazards/interactive/> probabilistic seismic hazard analyses (PSHA) predict the Design Basis Earthquake (475-year return period) peak horizontal ground acceleration will be on the order of 0.36g for the alluvial soil conditions of the Site D (assumed V_S=259 m/sec). The mean magnitude from this PSHA is 6.61(Mw) with a mean distance of 18.92 km from the property. Utilizing a 2% probability of exceedance in 50 years (2,475-year return period) the peak ground acceleration is estimated to be 0.73g based on a seismic event with a mean magnitude of 6.7(Mw) at a mean distance of 10.69 km.

Liquefaction and Seismic Settlement

Liquefaction is a seismic phenomenon in which saturated cohesionless soils (sands) lose strength when severely shaken and develop excess pore pressures. As stated in the CDMG (1997) report, "In order to be susceptible to liquefaction, potentially liquefiable soils should be saturated or nearly saturated. In general, liquefaction hazards are most severe in the upper 50 feet of the surface…"

The Site falls within an area designated as being susceptible to liquefaction (County of Santa Barbara, 2015). Seismically induced settlement was evaluated using data obtained from boring B-2. The computer program GeoSuite by GeoAdvanced™ was used for the liquefaction and dry sand settlement analyses. For liquefaction/seismic settlement evaluations the 2016 CBC / ASCE 7-10 designates a ground motion with a 2% chance of being exceeded in 50 years (2475 return period) be utilized. The mean magnitude from this PSHA is 6.7 (Mw). The peak ground acceleration in accordance with Section 11.8.3 of ASCE 7 to be used is PGA_M = 0.466g. These parameters were utilized in our seismically induced settlement analyses and yielded seismically induced settlement of on the order of ½ to ¾ inch in the boring (B-2), see Appendix C. Differential seismic settlement is typically anticipated to be one-half of the total seismic settlement. Based on the estimated seismic settlement, the estimated differential seismic settlement will be on the order of ½ inch.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

The proposed development was evaluated from a geotechnical standpoint and is considered feasible provided the following geotechnical recommendations are incorporated into the design and construction of the project.

GEOTECHNICAL SEISMIC DESIGN

The site may experience strong ground shaking from seismic events generated on regionally active faults. Structures within the site may be designed using a simplified code based approach and ground motion procedures for seismic design using the procedures in the California Building Code (CBC). Seismic ground motion values based on ASCE/SEI 7-10 are initially determined on site class B (rock) conditions. The values are adjusted to obtain the maximum considered earthquake (MCE) spectral acceleration values for the site based on its site class of D. The seismic design parameters for the site's coordinates (latitude 34.638293° North and longitude 120.473387° West) were obtained from the USGS web based spectral acceleration response maps and calculator: <http://earthquake.usgs.gov/designmaps/us/application.php>.

The purpose of the building code earthquake provisions is primarily to safeguard against major structural failures and loss of life, not to limit damage nor maintain function. Therefore, values provided in the building code should be considered minimum design values and should be used with the understanding

site acceleration could be higher than addressed by code based parameters. Cracking of walls and possible structural damage should be anticipated in a significant seismic event.

CHAPTER 16 TABLE/FIGURE NO.	SEISMIC PARAMETER	VALUE PER CA BUILDING CODE
Figure 1613.5 (3)	Short Period Mapped Acceleration (S_s)	1.11
Figure 1613.5 (4)	Long Period Mapped Acceleration (S_1)	0.40
Table 1613.5.2	Site Class Definition	D
Table 1613.5.3 (1)	Site Coefficient (F_a)	1.05
Table 1613.5.3 (2)	Site Coefficient (F_v)	1.60
Equation 16-37	Adjusted Short Period Acceleration ($S_{MS}=S_s x F_a$)	1.18
Equation 16-38	Adjusted Long Period Acceleration ($S_{M1}=S_1 x F_v$)	0.64
Equation 16-39	Design Short Period Acceleration ($S_{DS}=2/3 S_{MS}$)	0.78
Equation 16-40	Design Long Period Acceleration ($S_{D1}=2/3 S_{M1}$)	0.43

SITE PREPARATION AND GRADING

General

The following site preparation and grading recommendations are for the preparation of the development area for construction of the proposed structures and other site improvements. All aspects of grading including site preparation, grading, and fill placement should be per the applicable Building Code.

Soil Removals/ Undercutting

Removals in the area of proposed structure should extend at least three feet below the deepest footing elevation, five feet below existing ground surface (bgs), or to the bottom of any artificial fill, whichever is deeper. Due to possible variations in the subsurface materials, deeper removals may be necessary. For example, it appears that in the area of boring B-2 firm soils were encountered at a depth of 7½ feet.

Removal in the pavement areas should extend to three feet bgs, three feet below proposed grade, or to the bottom of any artificial fill, whichever is deeper.

After removals are completed as addressed above, the excavation bottoms should be proof-rolled under the observation of a representative of the geotechnical consultant prior to placing engineered compacted fill. The exposed ground surface should be observed and tested by this field representative to confirm that it is suitable for placement of certified fill. No fill soils may be placed until completion of the geotechnical observation.

It should be noted that, at the time of exploration the upper soils that will be removed and recompacted generally had an in-situ moisture content more than twice the optimum moisture content. These soils may need to be dried out prior to recompaction.

In-Place Soil Processing

Following removals, the underlying 8 to 12 inches should be scarified; moisture conditioned to slightly above the optimum moisture content and recompacted to at least 90% of the maximum dry density as determined by ASTM D 1557.

Fill Placement

On-site materials obtained from the proposed excavations may be used as fill material provided the soil is free of all deleterious materials including trash, debris, organic matter, and rocks larger than 8 inches. Fill soil should be placed in thin uniform lifts (maximum 8 inches thick loose), brought to slightly above

the optimum moisture content, and compacted to at least 90% of the maximum dry density (ASTM D 1557). Imported fill soil, if required, should be similar in composition and expansion potential to the on-site soil. The project geotechnical consultant should approve sources of import fill.

Utility Trenches
Onsite soils may be used as backfill for the utility trenches provided the soils are free of materials larger than 6 inches. Backfill of all utility trenches should be compacted to a minimum of 90% relative compaction. Soil excavated from the utility trenches should not be spread over any construction area unless properly compacted.

SOIL EXPANSIVENESS

Past testing of the site soils indicates the onsite soils have a medium expansion potential (Expansion Index range 51-90). The soil expansiveness should be verified at the end of rough grading by performing expansion tests on finish grade materials. Expansive soils contain clay minerals that change in volume (shrink or swell) due to changes in the soil moisture content. The volume change is caused by the attraction of water to the clay minerals. The amount of volume change depends upon the soil swell potential, availability of water, and soil restraining pressure.

The swelling occurs when the clay soils become wet due to excessive water. Excessive water can be caused by poor surface drainage, over irrigation of lawns and planters, sprinkler or plumbing leaks, and numerous other causes.

Construction on expansive soil has an inherent risk that must be acknowledged and understood by the property owner. The recommendations herein are not intended to eliminate the effects of expansive soils. Additional recommendations can be provided to further reduce the potential for expansive soil action and inherent risk. The following should be maintained within the site.

a) Positive drainage should be continuously maintained away from structures and slopes. Ponding or trapping of water in localized areas near the foundations can cause differential moisture levels in subsurface soils. Plumbing leaks should be immediately repaired so that the subgrade soils underlying the structure do not become saturated.

b) Trees and large shrubbery should not be planted where roots can grow under foundations and flatwork when they mature.

c) Landscape watering should be held to a minimum; however, landscaped areas should be maintained in a uniformly moist condition and not allowed to dry-out. During extreme hot and dry periods, adequate watering should be provided to keep soil from separating or pulling back from the foundations.

SOIL CORROSIVITY

During rough grading site soils should be subjected to soil chemistry analyses. For preliminary planning purposes, soils on the site were found to have negligible exposure for sulfates and chlorides and to be very corrosive to ferrous metals and corrosive to copper piping.

PRELIMINARY FOUNDATION DESIGN

Geotechnical recommendations for conventional foundation systems are presented below based on soils with a medium expansion potential (51-90 expansion index range). An expansion index test should be completed after rough grading. Preliminary geotechnical recommendations are presented below and should be reviewed and confirmed after site grading.

Conventional Foundation Design
The proposed medical building may be supported on continuous and isolated footings a minimum of 12 and 24 inches wide, respectively. The footings may be designed to impose an allowable soil bearing pressure of 2,000 psf provided they are a minimum of 27 inches below the lowest adjacent grade. This bearing value may be increased by one third for short term loads such as wind or seismic. The depth of interior footings may be measured from finish slab grade. The above net allowable bearing capacity may be increased by one-third for short-term wind and seismic loads.

All footings should be reinforced with a minimum of two #4 bars in the top and bottom (4 bars total) or per the structural engineer's recommendations. Also, the footings and slabs should be tied together with vertical #3 bars at 24 inches on center that are bent and continued into the slab.

Conventional Slab Design
Concrete slabs-on-grade within the building interior should be at least 5 inches thick. The slabs should be reinforced with a minimum of #3 bars at a maximum spacing of 18 inches in each direction, or as recommended by the structural engineer. The slab reinforcement should be extended into the footings. Additional slab reinforcement may be warranted at corners where concrete shrinkage slab cracks typically propagate.

Concrete slabs-on-grade should be provided with tooled crack control joints at 10-15 foot centers or as specified by the structural engineer. Concrete shrinkage cracks could become excessive if water is added to the concrete above the allowable limit and proper finishing and curing practices are not followed. Concrete mixing, placement, finishing, and curing should be performed per the American Concrete Institute (ACI 302-1).

Under-Slab Treatment
Where moisture sensitive floor coverings may be used, an appropriate moisture vapor retarder layer should be installed and maintained below the concrete slabs to reduce moisture vapor transmission through the slab. Ten-mil plastic sheeting is commonly used as a moisture vapor retarder layer.

In Section 4.505 of the 2010 California Green Building Standards Code a vapor barrier in direct contact with the concrete slab and underlain by a minimum 4 inch thick base of ½ inch or larger clean aggregate is recommended.

Perforations through the moisture vapor retarder such as at pipes, conduits, columns, grade beams, and wall footing penetrations should be sealed per the manufacturer’s specifications or ASTM E1643-98(2005) Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs. Proper construction practices should be followed during construction of the slab on-grade. Repair and seal tears or punctures in the moisture barrier that may result from the construction process prior to concrete placement.

The concrete contractor should be made aware of the moisture vapor retarder and required to protect the layer. Perforations made in the layer by the concrete contractor should be properly sealed prior to concrete placement. In addition, if the concrete is placed directly on top of the layer the concrete contractor should make the necessary changes in the concrete placement and curing. Placing the concrete directly on top of the moisture vapor retarder layer allows the layer to be observed for damage directly prior to concrete placement.

The slabs should be tested for moisture content prior to the selection of the flooring and adhesives. Moisture in the slabs should not exceed the flooring manufacturer's specifications. The concrete surface

should be sealed per the manufacturer's specifications if the moisture readings are excessive. It may be necessary to select floor coverings that are applicable to high moisture conditions.

Tile Flooring
Tile flooring can crack, reflecting any cracks in the concrete slab below the tile. Therefore, the slab designer should consider additional concrete thickness and additional steel reinforcement of concrete slabs-on-grade where tile will be placed. The tile installer should consider installation methods that reduce possible cracking of the tile. A vinyl crack isolation membrane (approved by the Tile Council of America/Ceramic Tile Institute) is recommended between tile and concrete slabs-on-grade.

Settlement
Estimates of settlement due to structural loading should be made based upon actual loading conditions and should be evaluated when foundation plans are available. However, based upon a lightly loaded structure, and assuming the recommended remedial grading is performed the anticipated settlement is expected to be on the order of ½. It is anticipated that after the proposed over-excavation and recompaction, seismically induced settlement will be on the order of ¾ inch.

Differential settlements may be taken as approximately one-half the total settlement across a distance of approximately 30 feet. This should be confirmed when the actual foundation configurations and loads are known.

Minor wall cracking could occur within the structure associated with expansion and contraction of the structural wood members due to thermal or moisture changes. In addition, minor wall or slab cracking may be associated with settlement or expansive soil movement. All structures settle during construction and some minor settlement of the structures can occur after construction during the life of the project. In addition, settlement or soil movement could occur if the soil becomes saturated due to excessive water infiltration generally caused by excessive irrigation, poor drainage, etc.

Lateral Resistance
Lateral forces may be resisted by passive soil resistance and friction. Passive earth pressure in compacted fill may be taken as an equivalent fluid pressure equal to 250 pcf for level ground (maximum passive pressure should not exceed 2,000 psf). The coefficient of friction between the bottom of the footings and firm soil may be taken as 0.3. The above values are allowable and have a minimum factor of safety of 1.5. The friction and passive resistance may be assuming passive resistance is reduced by one-half.

Pre-Moistening
The subgrade soils should be moistened to a minimum of 3% over the optimum moisture content to a minimum depth of 24 inches. The moisture should be obtained and maintained at least a suggested 2 days prior to casting the concrete. The subgrade soil premoistening should be observed by this office prior to placing concrete. Soils silted into the footing excavations during the premoistening operations should be removed prior to casting the concrete.

Footing Excavations
All footings should be cut square and level and cleansed of all loose slough prior to casting concrete. Soil excavated from the footing trenches should not be spread over any areas of construction unless it is properly compacted. The footing excavations should be observed by the project geotechnical consultant prior to placing reinforcing steel. The footings should be cast as soon as possible to avoid deterioration of the footing subsoil. All cavities around footings and columns should be backfilled with soil compacted to 90% of the maximum dry soil density or concrete.

EXTERIOR SLABS AND WALKWAYS

All exterior concrete slabs-on-grade and walkways should be a minimum of 4 inches thick. The slabs should be reinforced with a minimum of #3 bars on 24 inch centers each way.

Concrete slabs on grade should be provided with tooled crack control joints at suggested 10-15 foot centers. Concrete shrinkage cracks will become excessive if excess water is added to the concrete, and proper finishing and curing practices are not followed. Finishing and curing should be performed per the Portland Cement Association Guidelines.

SITE DRAINAGE

Positive drainage should be provided away from structures during and after construction per the grading plan or applicable building codes. Water should not be allowed to gather or pond against foundations. In addition, planters near a structure should be constructed so that irrigation water will not saturate footing and slab subgrade soils.

PLAN REVIEW

As detailed grading and foundation plans become available they should be reviewed by the project geotechnical consultant prior to finalizing the plans.

CLOSURE

This report was prepared under the direction of State registered Geotechnical Engineer and certified Engineering Geologist. No warranty, express or implied, is made as to conclusions and professional advice included in this report. Gorian and Associates, Inc. disclaim responsibility and liability for problems that may occur if the recommendations presented in this report are not followed.

The report was prepared for Community Health Centers of the Central Coast, Inc. and their design consultants solely for design and construction of the project as described herein. It may not contain sufficient information for other uses or the purposes of other parties. These recommendations should not be extrapolated to other areas or used for other facilities without consulting Gorian and Associates, Inc.

Services of Gorian and Associates, Inc. or this report should not be construed to relieve the owner or any construction contractor from their responsibility or liabilities, or for maintaining a safe jobsite. Neither the professional activities of Gorian and Associates, Inc. nor the presence of our employees shall be construed to imply Gorian and Associates, Inc. has any responsibility for methods of work performance, superintendence, sequencing of construction, or safety in, on, or about the jobsite.

The recommendations are based on interpretations of the subsurface conditions concluded from information gained from subsurface explorations and a surficial site reconnaissance. The interpretations may differ from actual subsurface conditions, which can vary horizontally and vertically across the site. Due to possible subsurface variations, this office should observe all aspects of field construction addressed in this report. Any persons using this report for bidding or construction purposes should perform such independent investigations, as they deem necessary.

Grading and foundation work at the site should be performed per the current City of Lompoc Building Code. Due to possible subsurface variations, all aspects of field construction addressed in this report should be observed by the project geotechnical consultant. Services of the geotechnical consultant should not be construed to relieve the owner of contractors of their responsibilities or liabilities.

oOo

Please call if you have any questions regarding this report or require additional information.

Respectfully,

GORIAN AND ASSOCIATES, INC.

Sheryl N. Shatz, GE 2288
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William F. Cavan, Jr., CEG 1161
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ADDITIONAL REFERENCES

California Division of Mines and Geology (CDMG) [now California Geological Survey (CGS)], 1975, *Guidelines For Evaluating The Hazard Of Surface Rupture*. Note Number 49.

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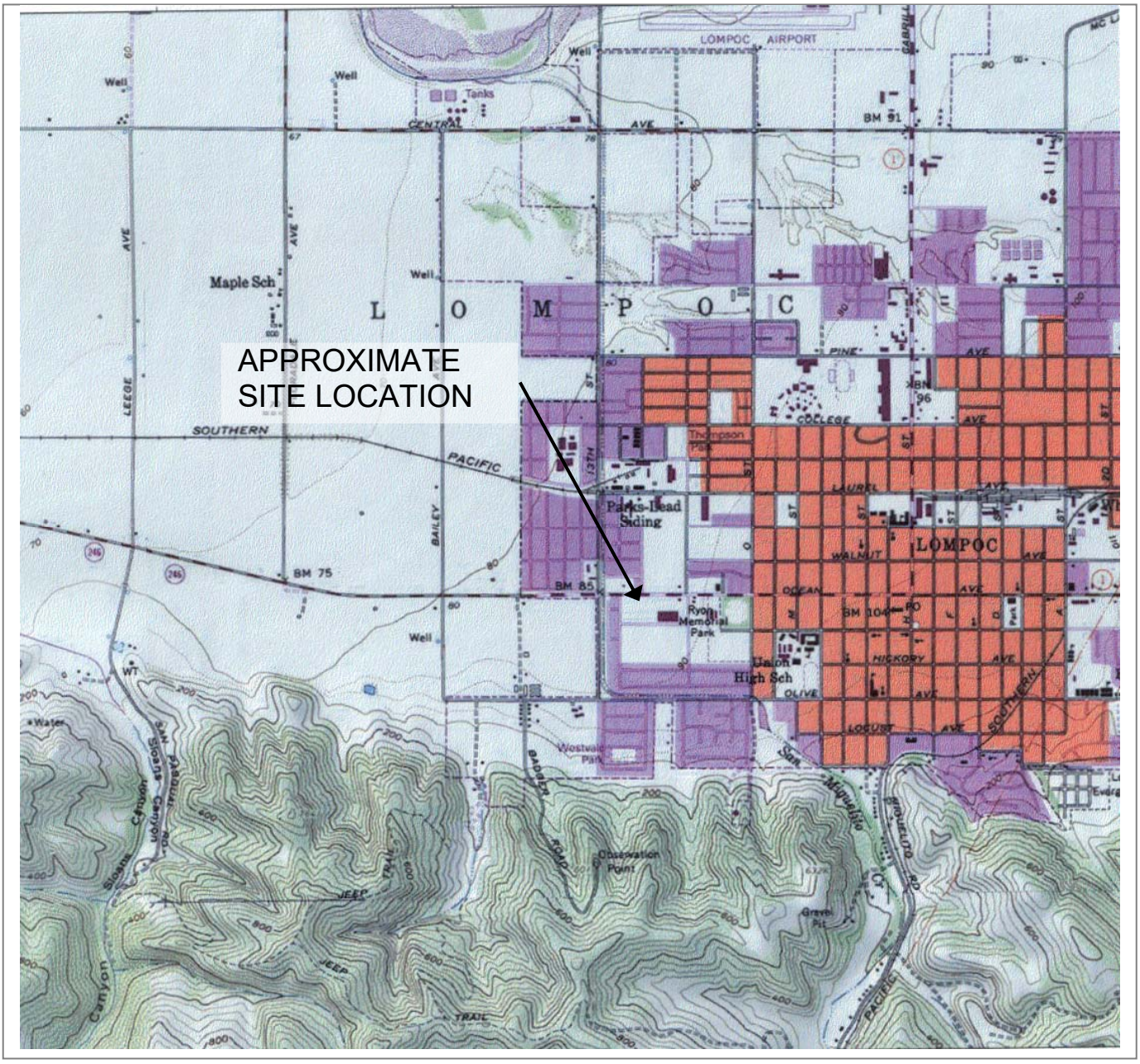
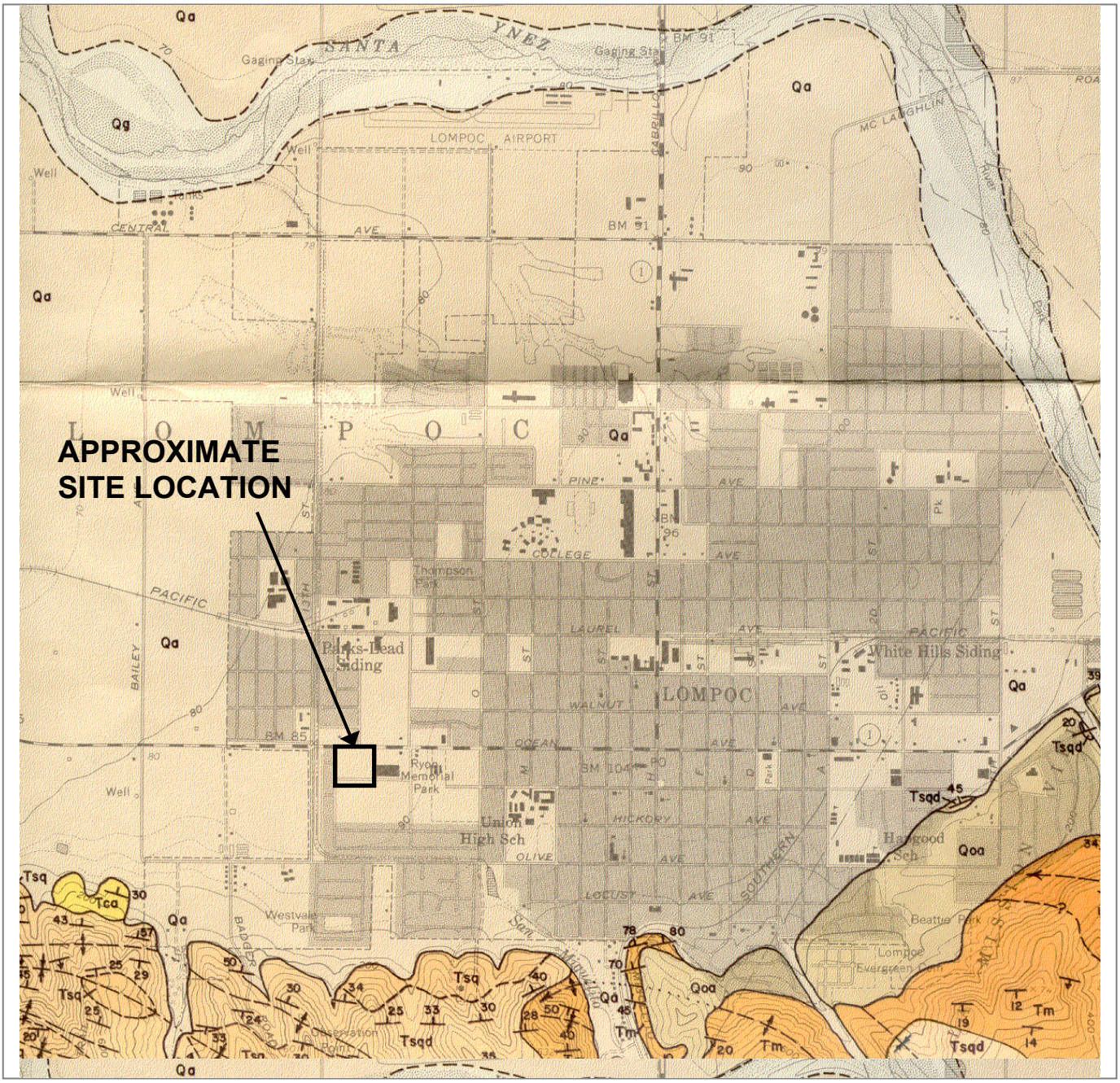


VICINITY MAP

Geotechnical Investigation,
Proposed Medical Building Development
1212 Ocean Avenue (Hwy 246)
City of Lompoc,
County Of Santa Barbara, California

GORIAN & ASSOCIATES, INC.	***Applied Earth Sciences*** Geotechnical Engineers and Geologists	**Figure 1**
Work Order No.: 2655-H-0-100		Date: 6/22/17
Scale: 1" = 0.5 Mile	Drawn By: Approved By:	



GEOLOGIC MAP OF THE SURF AND LOMPOC QUADRANGLES
SANTA BARBARA COUNTY, CALIFORNIA
BY THOMAS W. DIBBLEE, JR., AND HELMUT E. EHRENSPECK
1988, DF MAP #20

Explanation

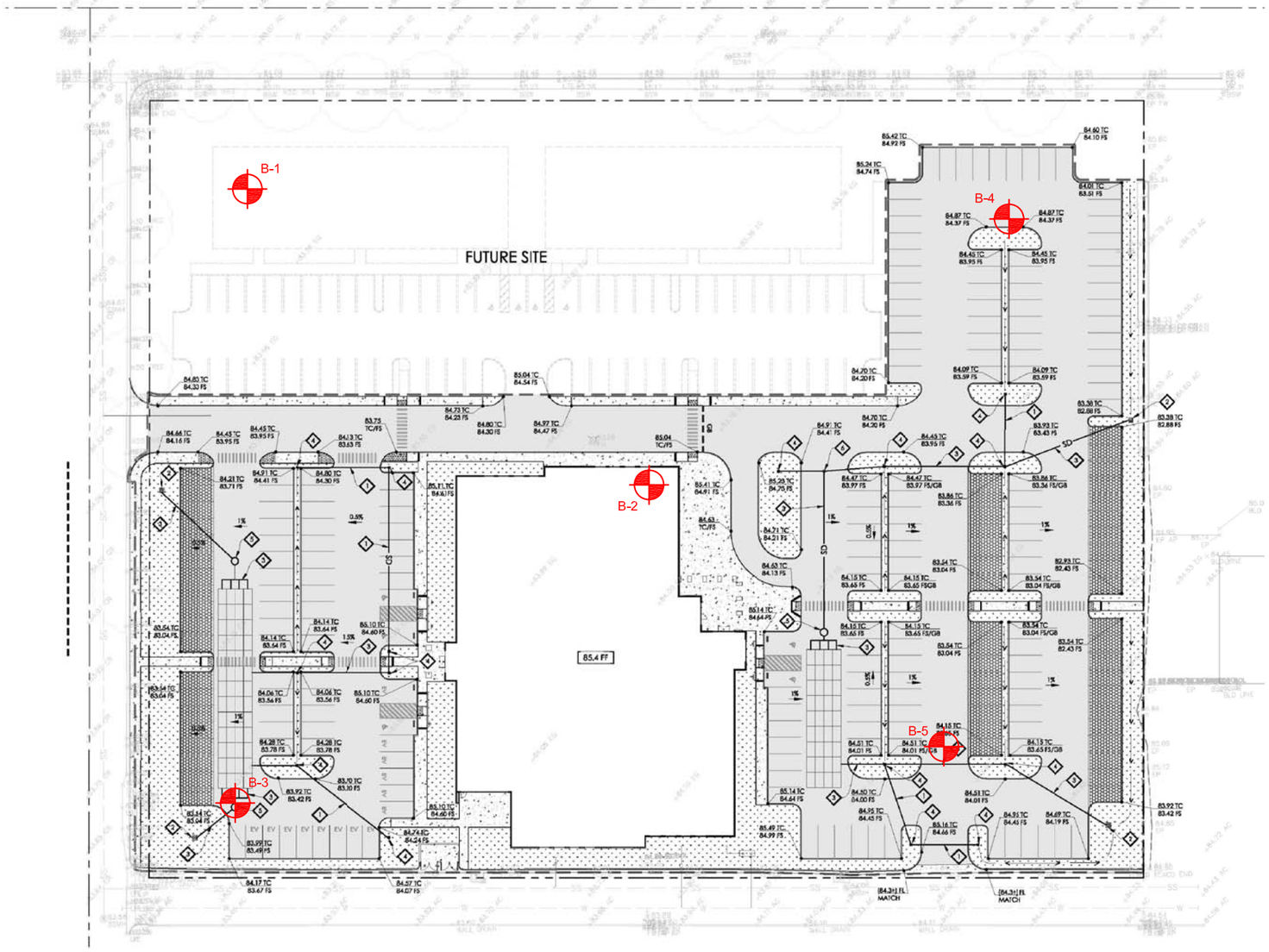
Qa – Alluvial Sediments

N

REGIONAL GEOLOGIC MAP

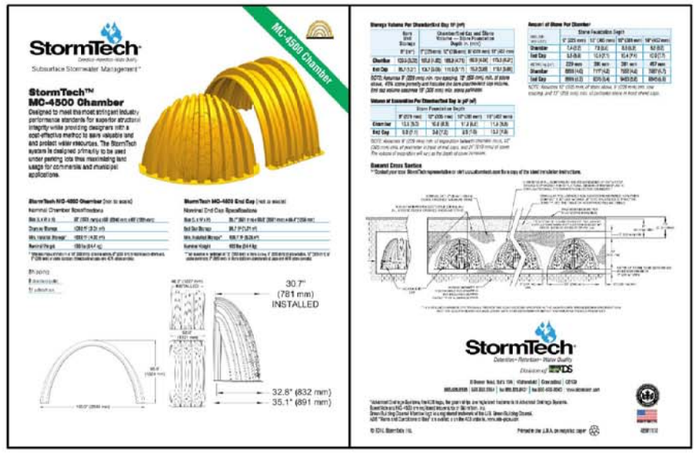
Geotechnical Investigation,
Proposed Medical Building Development
1212 Ocean Avenue (Hwy 246)
City of Lompoc,
County Of Santa Barbara, California

GORIAN & ASSOCIATES, INC. *Applied Earth Sciences* Geotechnical Engineers and Geologists		**Figure 2**
Work Order No.: 2655-H-0-100		Date: 6/22/17
Scale: 1:24,000 ±	Drawn By:	
	Approved By:	



IMPROVEMENT NOTES

1. INSTALL 8" HDPE STORM DRAIN (S = 0.005 MIN.)
2. INSTALL 36" X 36" MID STATE CONCRETE DRAIN INLET OR APPROVED EQUAL.
3. INSTALL 12" HDPE STORM DRAIN (S = 0.005 MIN.)
4. INSTALL 24" X 24" MID STATE CONCRETE DRAIN INLET OR APPROVED EQUAL.
5. INSTALL 48" STORM DRAIN MANHOLE.
6. INSTALL STORM DRAIN CLEANOUT.



EXPLANATION

B-5 Approximate Location of Geotechnical Boring (Gorian and Associates, Inc., 2005)

Boring Location Map

Gorian & Associates, Inc.
Applied Earth Sciences

Work Order: 2655-H-0-100		Date: June 2017
Scale: NTS	Drawn by:	PLATE 1
	Approved by:	

APPENDIX A

SUBSURFACE LOGS FROM GORIAN 2005

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-1

Page Number: 1

Date(s) Excavated 4/12/05	Logged By LAR	Excavation Location NW Corner of large parcel	Approximate Surface Elevation
Excavation Dimension 8"	Equipment Contractor S/G Drilling	Equipment Type CME 75 HT	Hammer Data 140#, Auto

Elevation / Depth (ft.)	Bulk Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0					CL		TOPSOIL: Dark brown silty CLAY (damp to moist, soft).	
		3	33.7	81.8	ML		ALLUVIUM: Brown clayey SILT (moist, soft).	P.P. = 0.0
5		6	38.7	76.4	CL		Brown to reddish brown and dark brown mottled silty CLAY (moist, medium stiff). Trace organics.	P.P. = 2.75
		14	8.3	92.2	SM		Brown and gray silty fine SAND (moist, medium dense). Iron oxide staining.	
10		15	19.2	102.2	CL		Brown silty CLAY (moist, very stiff to hard). Calcium carbonate nodules.	P.P. > 4.5
					SM-SP		At 13'; light chatter. Reddish brown silty SAND to SAND (damp, medium dense).	
15		30	7.0	97.6				
20		29	3.5	102.9				
							Total Depth 21' No groundwater, No caving	
25								
30								
35								

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-2

Date(s) Excavated 4/12/05	Logged By LAR	Excavation Location Center of Large Parcel	Approximate Surface Elevation
Excavation Dimension 8"	Equipment Contractor S/G Drilling	Equipment Type CME 75 HT	Hammer Data 140#, Auto

Elevation / Depth (ft.)	Bulk	Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0						ML		TOPSOIL: Dark sandy clayey SILT (damp to moist, soft).	
			2	37.6	78.6				P.P. = 0.75
						ML		ALLUVIUM: Brown clayey SILT (wet, soft).	
						SM		Dark brown silty SAND (wet, very loose).	
5			1/2/1						
						ML		Dark brown clayey SILT (wet, soft).	
			10	8.9	96.6	SM		Reddish brown and gray silty fine to medium SAND (moist, medium dense).	
10			6/4/5			SM		Brown silty fine SAND (damp, loose). Trace gravel, occasional sandy silt lenses.	
			16	16.6	85.7				
15			4/7/9			SP		Light brown fine to medium SAND (damp, medium dense). Very uniform.	
			33	5.4	106.0	SM		Brown silty fine to medium SAND (damp, medium dense). Trace gravel. Occasional clean sand lenses.	
20			8/8/9						
			27	6.4	100.8	SP		Brown fine to medium SAND (damp, medium dense).	
						GP-SP		Brown gravelly SAND (damp, medium dense).	
25			9/10/14			SP		Brown fine to coarse SAND (damp, medium dense), trace gravel.	
			31	16.6	97.2				
						GP-SP		Brown gravelly SAND (damp, medium dense).	
						ML		Brown and gray clayey SILT (very moist, medium stiff).	P.P. = 0.75
30			2/3/3						
						ML		Reddish brown sandy SILT (moist, medium dense). Trace clay.	
35			5/6/8						

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-2

Elevation / Depth (ft.)	Bulk Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
40		4/ 10/ 11			SM		Brown silty fine to coarse SAND (wet, medium dense).	
					ML		Brown sandy SILT (wet, loose), little clay.	
45		1/1/ 3						
					CL		At 46'2"; Dark gray silty CLAY (wet, soft to medium stiff), diatomaceous.	P.P. = 0.5 to 0.75
50		0/1/ 3						P.P. = 0.0
55		8	54.9	61.7				P.P. = 0.0
60		5	58.2	64.2				P.P. = 0.75
							Total Depth 61' Groundwater at 41'2"	
65								
70								
75								
80								

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-3

Date(s) Excavated 4/12/05	Logged By LAR	Excavation Location SW corner of Large Parcel	Approximate Surface Elevation
Excavation Dimension 8"	Equipment Contractor S/G Drilling	Equipment Type CME 75 HT	Hammer Data 140#, Auto

Elevation / Depth (ft.)	Bulk Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0					CL		TOPSOIL: Dark brown silty CLAY (moist, soft).	
		4	35.9	84.1				
					CL		ALLUVIUM: Brown silty CLAY (moist, medium stiff).	P.P. = 1.5
5		6	36.4	77.8				P.P. = 2.25
					ML		Dark brown very sandy SILT (moist, medium dense).	
		17						
10		21	5.6	102.9				
					SM-ML		Brown silty fine SAND (moist, medium dense). Interbedded with sandy SILT.	
15		19	11.1	89.1				
20		27	7.5	101.2				
					SP		Brown fine to medium SAND (moist, medium dense). Trace silt, occasional sandy silt lense.	
25		25	4.4	96.9				
		5/8/9						
					CL		Brown and gray silty CLAY (moist, stiff). Trace gravel.	P.P. = 2.0
30		9	25.6	94.0				
							Total Depth 31' No groundwater, No caving	
35								

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-4

Date(s) Excavated 4/12/05	Logged By LAR	Excavation Location NE Corner of Large Parcel	Approximate Surface Elevation
Excavation Dimension 8"	Equipment Contractor S/G Drilling	Equipment Type CME 75 HT	Hammer Data 140#, Auto

Elevation / Depth (ft.)	Bulk Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0					ML		TOPSOIL: Dark brown clayey SILT (damp, soft).	
		6			ML		ALLUVIUM: Dark brown clayey SILT (moist, medium stiff). Calcium carbonate veinlets.	P.P. = 2.0
		2	36.4	81.1				P.P. = 1.5
5		5	28.4	88.5				P.P. = 1.75
		6	29.2	90.8				P.P. = 1.25
10		22	14.9	101.3	SM		Gray and brown fine to medium silty SAND to SAND (moist, medium dense). Iron oxide staining.	
15		27	4.4	100.9	SP		Brown fine to medium SAND (damp, medium dense). Very uniform.	
20		5/6/9			SM		Brown silty fine SAND (damp, medium dense).	
		24	6.7	103.9	ML		Yellowish brown sandy SILT (dry to damp, medium dense). Trace gravel.	
25					SP-SM		Brown silty fine SAND to fine SAND (moist, medium dense).	
		30	6.2	96.7	SP		Brown fine to medium SAND (moist, medium dense). Trace gravel.	
							Total Depth 28½' No groundwater, No caving	
30								
35								

GORIAN & ASSOCIATES, INC.

Project: The Olson Company
Ocean Avenue, Lompoc

Work Order: 2655-0-0-10
Report Log: 23817

SUBSURFACE LOG

Excavation Number: B-5

Page Number: 1

Date(s) Excavated 4/13/05	Logged By LAR	Excavation Location SE Corner of Large Parcel	Approximate Surface Elevation
Excavation Dimension 8"	Equipment Contractor S/G Drilling	Equipment Type CME 75 HT	Hammer Data 140#, Auto

Elevation / Depth (ft.)	Bulk	Sample Type	Blow Counts	Moisture Content (% dry weight)	Dry Density (pcf)	USCS	Soil / Lithology	Description	Remarks
0						CL		TOPSOIL: Dark brown silty CLAY (damp, soft).	P.P. = 1.75
			4	22.0		ML		ALLUVIUM: Brown clayey SILT (moist, medium stiff).	
5			7	35.7	80.7	CL		Dark brown silty CLAY (moist, medium stiff).	P.P. = 2.5
			12	18.1	105.8				
						ML		Brown sandy SILT (moist, medium dense).	
						SM		Light yellowish brown fine sandy SILT (dry, medium dense). Occasional silty fine sand layers.	
10			19	6.3	94.5				
15			6/7/7					At 15'; getting very sandy.	
			27						
20			33	6.7	101.4				
						SP		Brown fine to medium SAND (moist, dense). Total Depth 21' No groundwater, No caving	
25									
30									
35									

APPENDIX B

LABORATORY TESTING FROM GORIAN 2005

General

Laboratory test results on selected undisturbed and bulk samples are presented below. Test were performed to evaluate the physical and engineering properties of the encountered earth materials, including compaction characteristics, expansion potential, and shear strength parameters. Soil corrosivity testing was performed under subcontract by a corrosion engineer.

Maximum Density-Optimum Moisture

Maximum Dry Density/Optimum Moisture Content relationships (compaction characteristics) were performed on a selected sample of the encountered materials. The test was performed per ASTM D1557 test method. The results are as follows:

Sample	Visual Soil Classification	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-2 @ 1-5’	Dark brown sandy clayey SILT	104.5	17.5

Soil Expansion Tests

Selected samples of the encountered soils were tested for expansiveness using the Expansion Index Test method (UBC 18-2) and classified in accordance with UBC Table 18-I-B. The results are as follows:

Sample	Expansion Index	Expansion Index Range	Expansion Potential
B-3 @ 1-5’	83	51-90	Medium

Direct Shear Tests

Strain controlled direct shear testing was performed on one undisturbed and one remolded sample. The sample sets were saturated prior to shearing under axial loads ranging from 1,175 to 4,700 psf. The shear strength results are attached.

Load consolidation Testing

Load consolidation tests were conducted on four relatively undisturbed drive samples. Test loads were added in increments to a maximum of 9,400 psf. Water was added at an axial load approximately equal to the soil’s in-situ overburden pressure to study the effect of moisture infiltration on potential consolidation behavior. The consolidation results are attached as graphic summaries.

Grain Size Distribution

Grain size distribution analyses were performed on several bulk samples. The grain size was evaluated in on of two ways: sieve analysis or hydrometer analysis. Sieve analyses were performed by drying out each sample and passing it through the #200 sieve with an apparent opening size of 0.075 mm. Results of the sieve analyses are limited to evaluating the percentage of sand only. The remaining percentage is referred to as the “percent fines”.

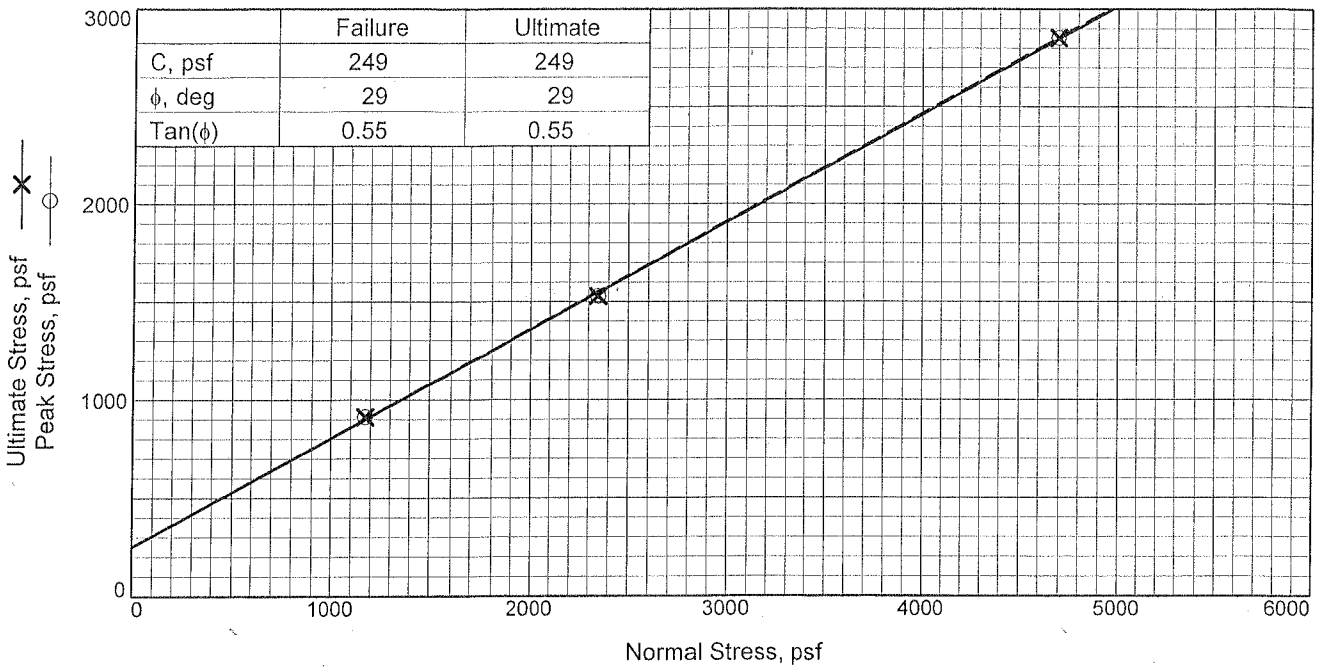
Hydrometer analyses were performed using a 50-gram sample. The sample was soaked for a minimum of 16 hours in a solution consisting of sodium hexametaphosphate and distilled water. After soaking, the sample was further diluted and missed thoroughly. The sample was then transferred o a 1000 mL

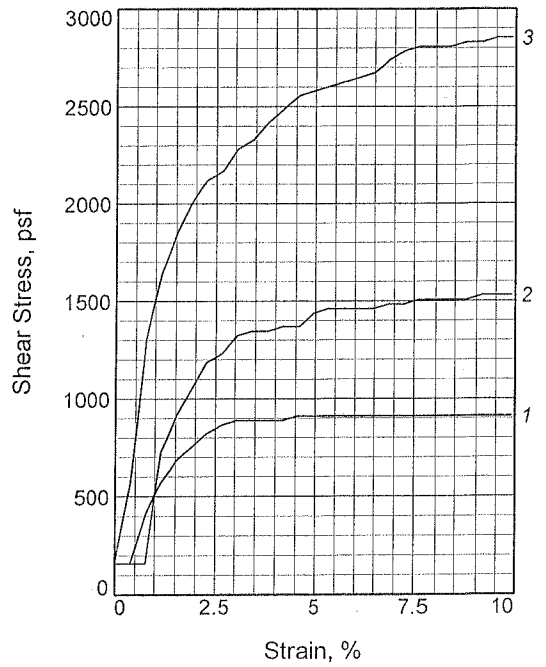
cylinder, diluted to make 1000 mL so solution, and agitated in the cylinder to begin readings. At selected time intervals the percentage of sand, silt, and clay was evaluated. The results of the sieve and hydrometer analysis are as follows:

HYDROMETER RESULTS						
Boring	**Depth (feet)**	**% Sand**	**% Silt**	**% Clay**	**% Fines (silt and clay)**	**Classification**
B-2	5	62	---	---	38	Silty SAND
B-2	10	88	---	---	12	Silty SAND
B-2	35	43	---	---	57	Sandy SILT
B-2	45	42	44	14	58	Sandy SILT
B-2	50	14	36	50	86	Silty CLAY

Corrosion Testing

A representative soil sample was sent out under separate contract to be tested for corrosive properties. The test results are attached.





Sample No.		1	2	3
Initial	Water Content, %	8.1	8.1	8.1
	Dry Density, pcf	93.0	91.9	91.1
	Saturation, %	27.6	26.8	26.3
	Void Ratio	0.7785	0.8000	0.8168
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	25.2	25.4	24.5
	Dry Density, pcf	93.0	91.9	91.1
	Saturation, %	85.9	84.2	79.6
	Void Ratio	0.7785	0.8000	0.8168
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
Normal Stress, psf		1175	2350	4700
Peak Stress, psf		912	1528	2853
Strain, %		4.6	9.9	9.9
Ultimate Stress, psf		912	1528	2853
Strain, %		9.9	9.9	9.9
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Undisturbed, Saturated
Description: ALLUVIUM: Brown silty fine SAND

LL= **PL=** **PI=**
Assumed Specific Gravity= 2.65
Remarks:

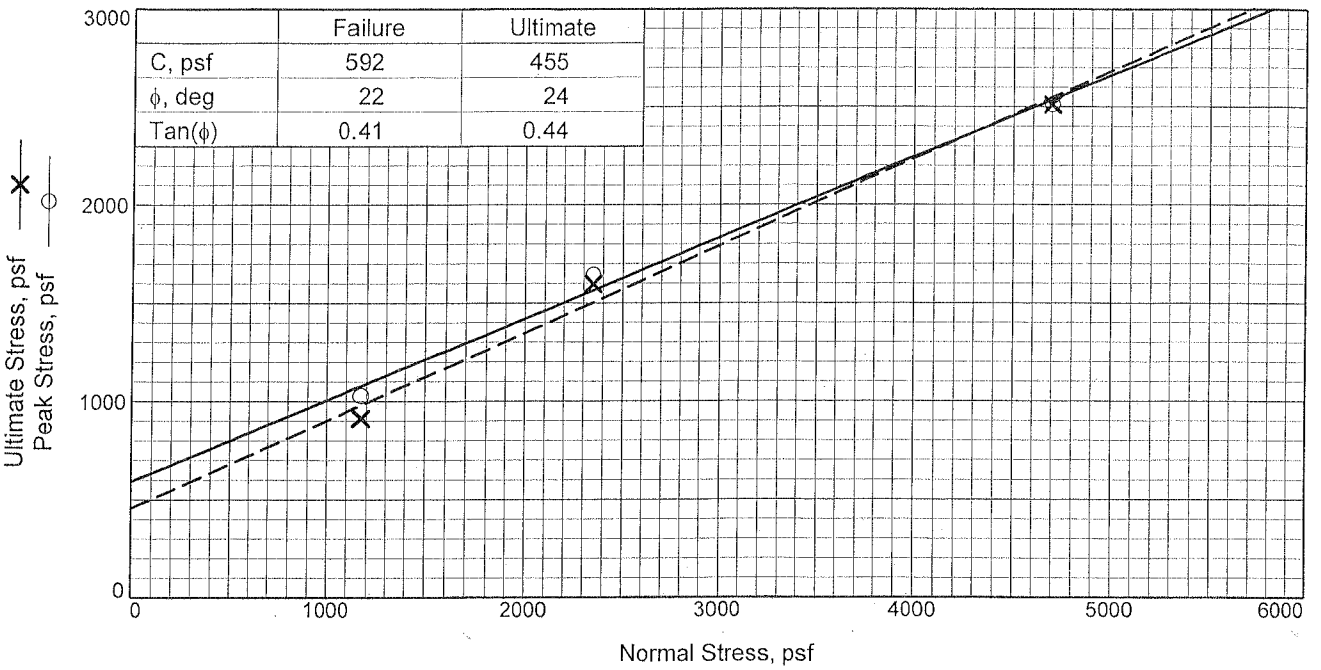
Client: The Olson Company

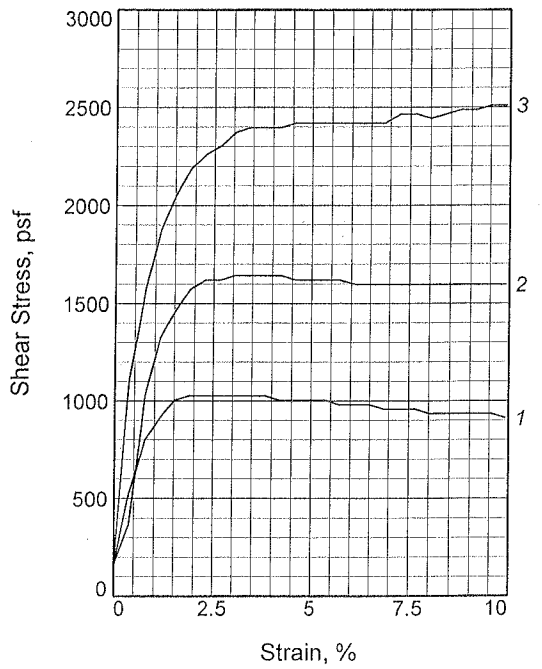
Project: The Olson Company
Ocean Avenue, Lompoc
Location: B-1 @ 7'
Sample Number: B-1 **Depth:** 7'
Proj. No.: 2655-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.1





Sample No.		1	2	3
Initial	Water Content, %	17.9	17.9	17.9
	Dry Density, pcf	94.7	94.7	94.7
	Saturation, %	63.5	63.5	63.5
	Void Ratio	0.7470	0.7470	0.7470
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	29.0	28.2	27.3
	Dry Density, pcf	94.7	94.7	94.7
	Saturation, %	102.8	100.0	96.9
	Void Ratio	0.7470	0.7470	0.7470
	Diameter, in.	2.62	2.62	2.62
	Height, in.	1.00	1.00	1.00
Normal Stress, psf		1175	2350	4700
Peak Stress, psf		1026	1642	2510
Strain, %		1.9	3.1	9.9
Ultimate Stress, psf		912	1597	2510
Strain, %		9.9	9.9	9.9
Strain rate, in./min.		0.02	0.02	0.02

Sample Type: Remolded, Saturated
Description: TOPSOIL: Dark brown clayey SILT

LL= **PL=** **PI=**
Assumed Specific Gravity= 2.65
Remarks:

Client: The Olson Company

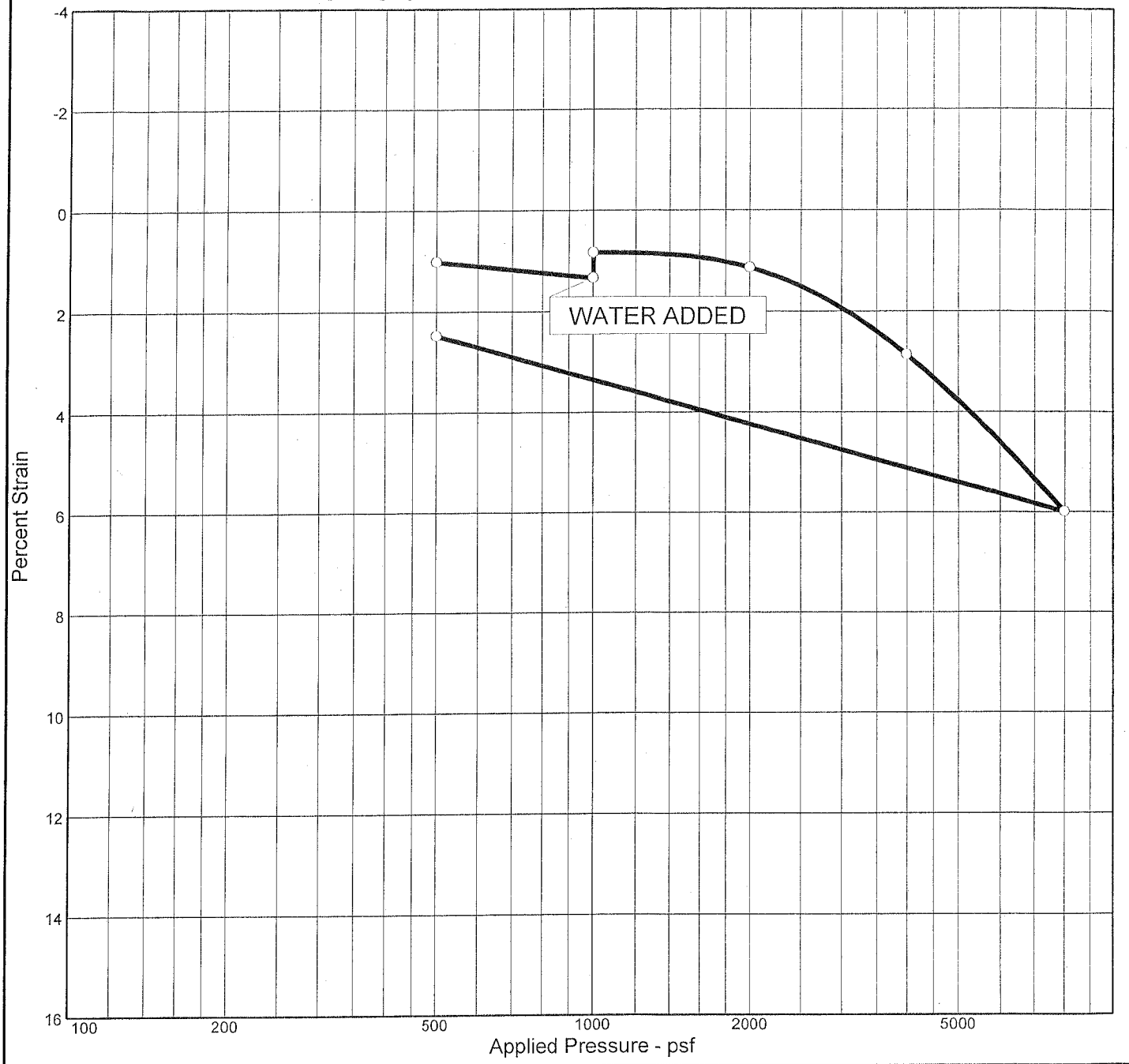
Project: The Olson Company
Ocean Avenue, Lompoc
Location: B-2 @ 1-5'
Sample Number: B-2 **Depth:** 1-5'
Proj. No.: 2655-0-0-10 **Date:**

DIRECT SHEAR TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.2

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_s	Swell Press. (psf)	Swell %	e_o
Sat.	Moist.											
85.8 %	38.6 %	75.5			2.65		2968	0.23	0.06	2285	0.5	1.192

MATERIAL DESCRIPTION	USCS	AASHTO
ALLUVIUM: Brown silty CLAY		

Project No. 2655-0-0-10 **Client:** The Olson Company

Project: The Olson Company
Ocean Avenue, Lompoc

Location: B-1 @ 5'

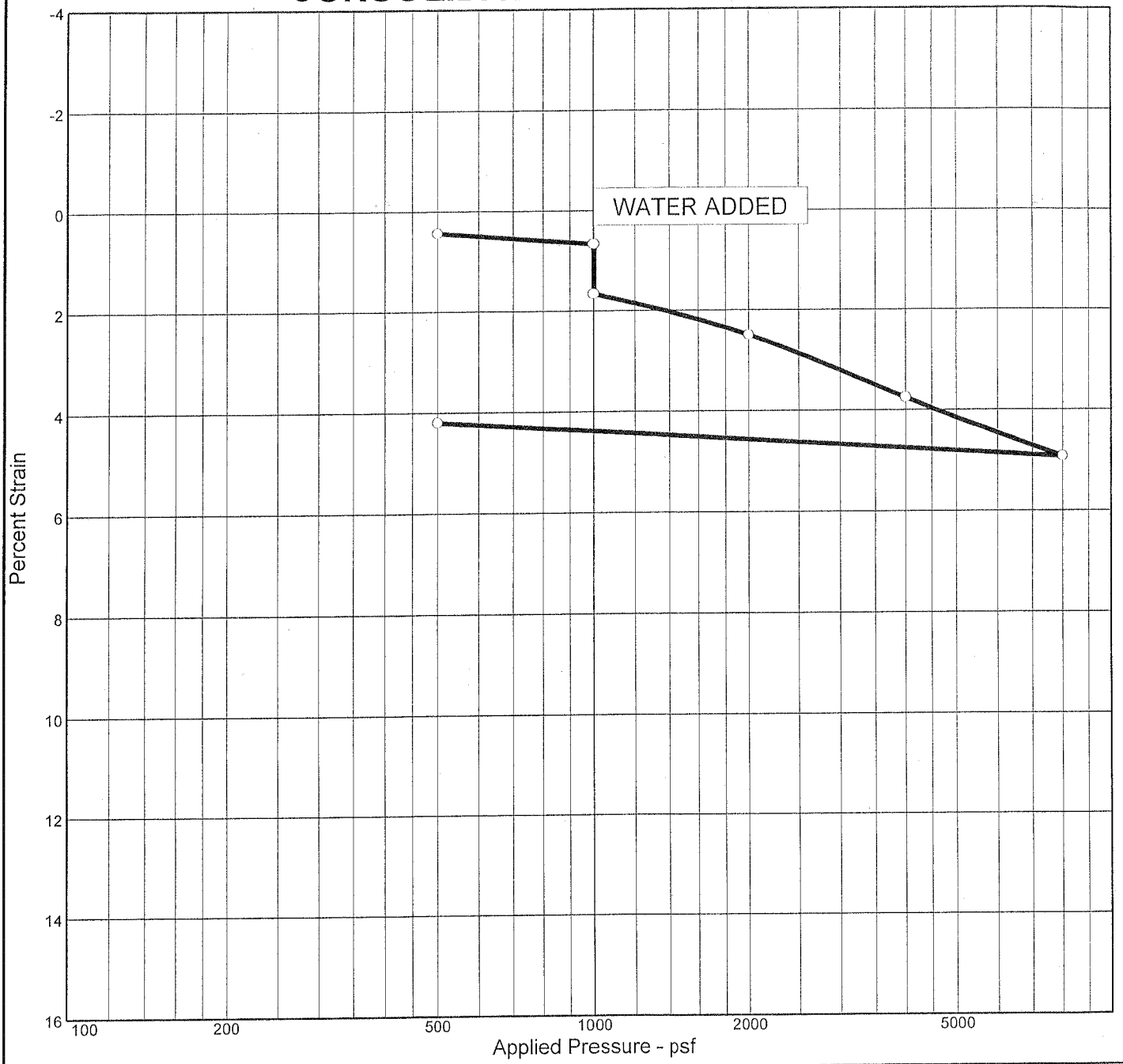
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.4

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_s	Swell Press. (psf)	Clpse. %	e_o
Sat.	Moist.											
21.8 %	7.7 %	85.5			2.65		1731	0.07	0.01		1.0	0.935

MATERIAL DESCRIPTION	USCS	AASHTO
ALLUVIUM: Brown silty fine SAND		

Project No. 2655-0-0-10 **Client:** The Olson Company

Project: The Olson Company
Ocean Avenue, Lompoc

Location: B-2 @ 12-1/2'

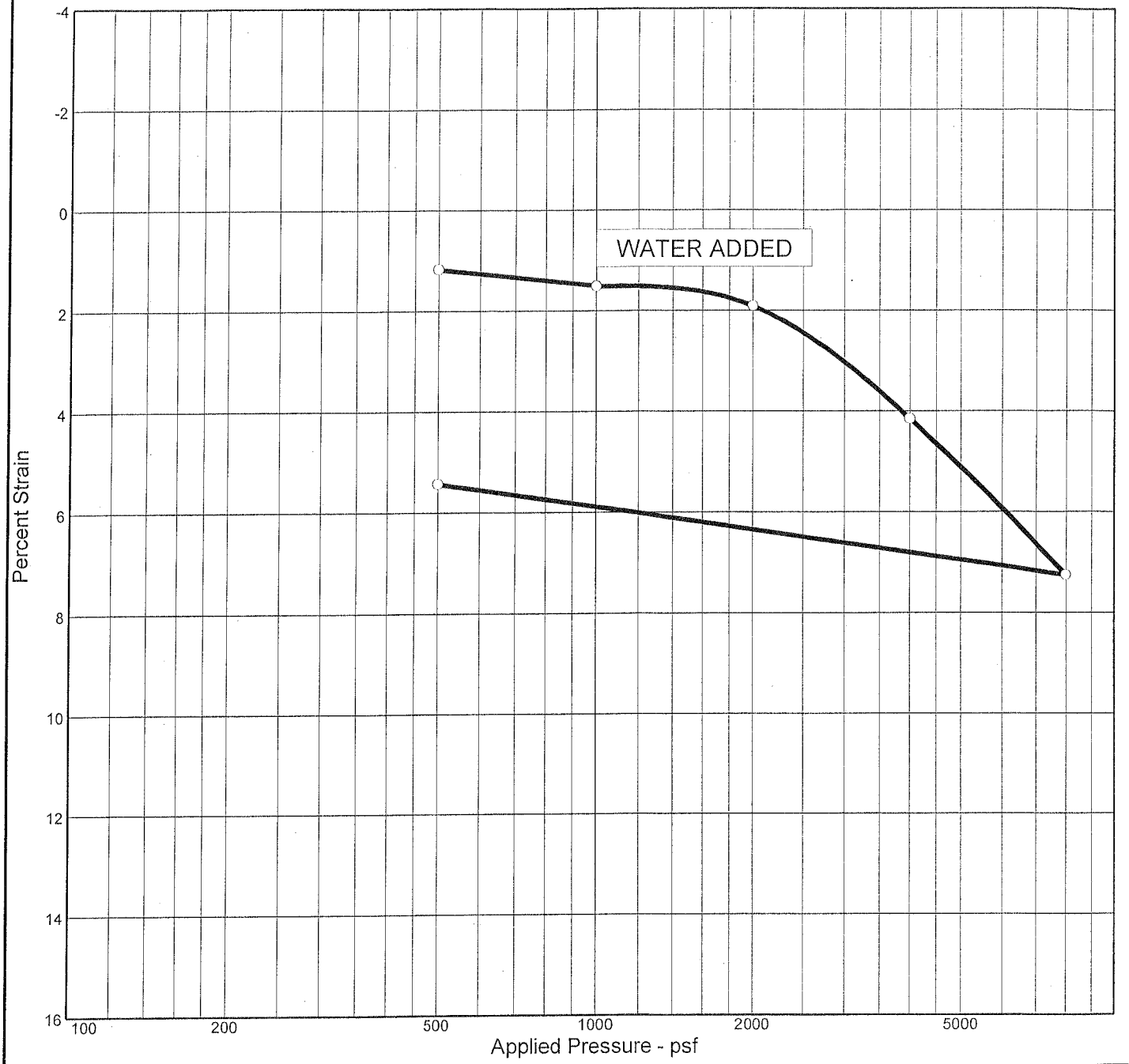
Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.5

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_s	Swell Press. (psf)	Swell %	e_o
Sat.	Moist.											
83.3 %	27.1 %	88.8			2.65		2503	0.19	0.03			0.864

MATERIAL DESCRIPTION	USCS	AASHTO
ALLUVIUM: Dark brown silty CLAY		

Project No. 2655-0-0-10 **Client:** The Olson Company

Project: The Olson Company
Ocean Avenue, Lompoc

Location: B-4 @ 7-1/2'

Remarks:

CONSOLIDATION TEST REPORT

GORIAN & ASSOCIATES, INC.

Figure B.6

April 26, 2005

Gorian and Associates, Inc.
Attention: Loree Reiner
3595 Old Conejo Road
Thousand Oaks, CA 91320

CME Job No.: 1S05125

Subject: Soil Chemistry Analysis for Gorian Job # 2655-0-0-10
1 Sample – Olson Company, Ocean Ave., Lompoc (B-1 @ 1-5')

Sample Number	As Rec'd Resistivity (ohm-cm)	[1]Minimum Resistivity (ohm-cm)	[2]pH	[3]Sulfate %	[3]Chloride %	[4]Ammonia %	[5]Keldahl Nitrogen %	(As Rec'd) Description
B-1	108	88	7.03	0.0021	0.0015	<0.0033	0.0920	Med. Brn. Clay, moist

NOTE: SAMPLES WERE ANALYZED IN ACCORDANCE WITH THE FOLLOWING METHODS.
1. MINIMUM RESISTIVITY DETERMINED BY SOIL BOX METHOD, (PER ASTM G-57)
2. PH MEASURED BY POTENTIOMETRIC METHOD USING STANDARD ELECTRODES. (PER CAL TRANS. #643)
3. CHLORIDE AND SULFATE WERE ANALYZED IN ACCORDANCE WITH EPA METHODS FOR CHEMICAL ANALYSIS FOR WATER AND WASTE, NO. 300 EPA-600/4-79-020. CONCENTRATION BY WEIGHT OF DRY SOIL.
4. AMMONIA WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 350.2
5. KELDAHL NITROGEN WAS ANALYZED IN ACCORDANCE WITH EPA METHOD 351.2

CONCLUSIONS:

Material	Corrosion Class
Concrete	Negligible for Sulfate and Chloride exposure (UBC Table 19-A-4)
Steel Cast/Ductile Iron Mortar Coated Steel Pipe or Other Buried Ferrous Metal	Very Corrosive
Copper Piping	Corrosive due to the presence of nitrogen and ammonia in soils.

The test results and corrosion classifications are based on the sample submitted, which may not be representative of overall site conditions. Additional sampling may be required to more fully characterize soil conditions. If recommendations, based upon the results of the testing are required, please feel free to contact our office.

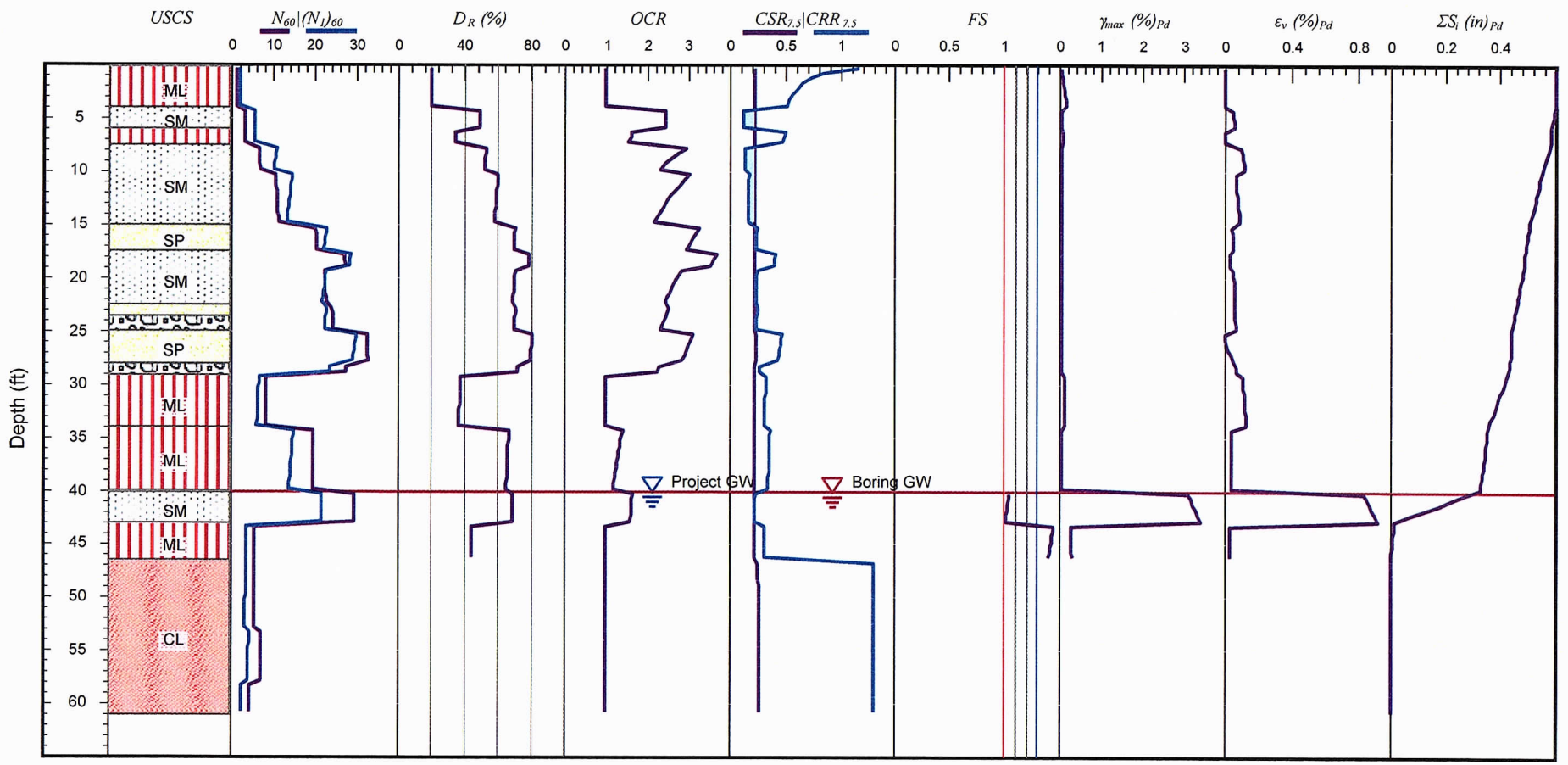
Sincerely,

CONCECO/MATCOR Engineering, Inc.

Kerri M. Howell, P.E.
President
KMH/ch

APPENDIX C

SEISMIC SETTLEMENT/LIQUEFACTION ANALYSIS



ML SP CL

SM GP

Earthquake & Groundwater Information:
Magnitude = 6.7
Max. Acceleration = 0.466 g
Project GW = 40 ft
Maximum Settlement = 0.60 in
Settlement at Bottom of Footing = 0.60 in

Liquefaction: Idriss & Boulanger (2008)
Settl.: Pradel (1998); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
σv correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)

GORIAN & ASSOCIATES, INC.

Seismic Settlement Potential - SPT Data

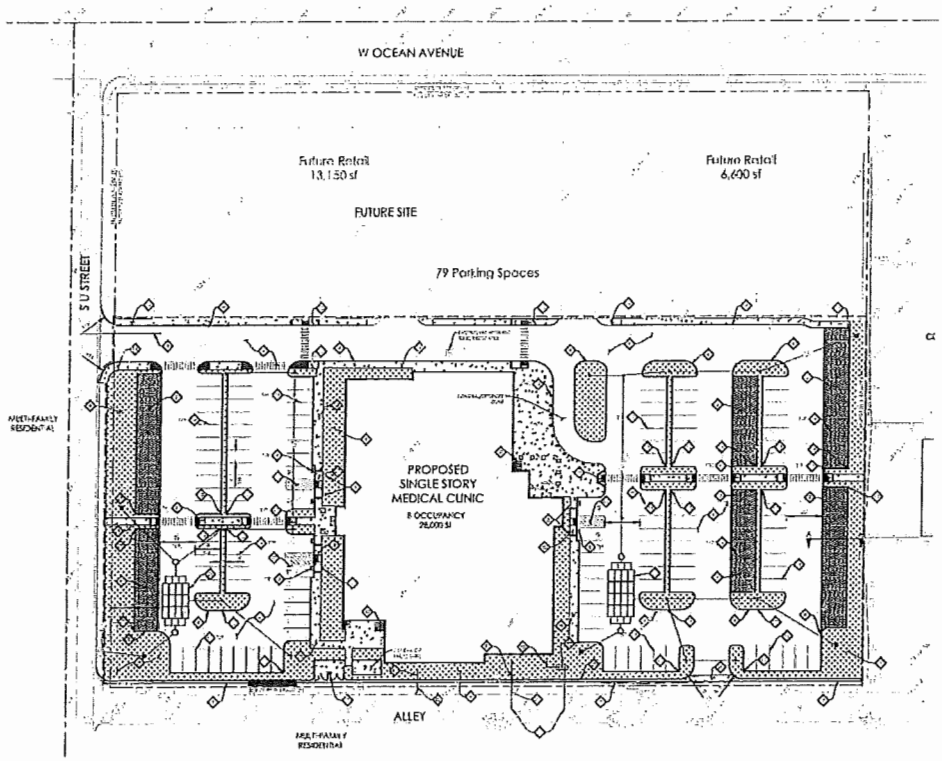
Project:	1212 West Ocean Avenue				
Location:	City of Lompac, CA				
Job Number:	2655-H-0-10	Boring No.:	B-2	Enclosure:	1

X:\2655 Community Health Centers of the Central Coast\Seismic Analysis\GeoSuite_2655-H-0-10_B-2.csv

Prepared at 6/22/2017 1:58:06 PM

COMMUNITY HEALTH CENTER PROJECT
CITY OF LOMPOC, CALIFORNIA

TRAFFIC AND CIRCULATION STUDY



October 9, 2017

ATE #17075

Prepared For:

City of Lompoc
100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93438-8001

REGISTERED PROFESSIONAL ENGINEER
RICHARD L. POOL
C 18030
CIVIL
STATE OF CALIFORNIA

ASSOCIATED TRANSPORTATION ENGINEERS
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ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509
Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

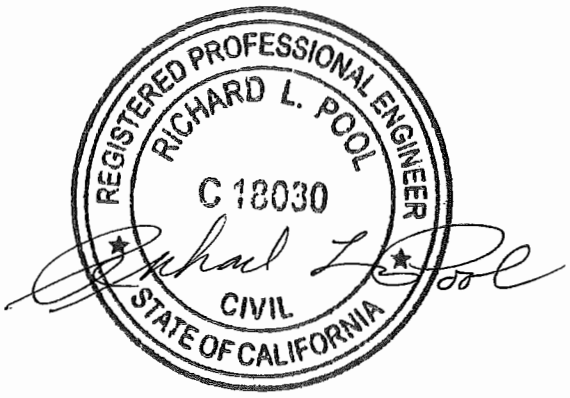
October 9, 2017

Brian Halvorson
City of Lompoc
100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93438-8001

TRAFFIC AND CIRCULATION STUDY
FOR THE COMMUNITY HEALTH CENTER PROJECT, CITY OF LOMPOC

Associated Transportation Engineers (ATE) has prepared the following traffic and circulation study for the Community Health Center Project proposed on Ocean Avenue in the City of Lompoc. It is understood that the traffic study will be used by the City for environmental review.

Associated Transportation Engineers



Dan Dawson
Supervising Transportation Planner

Richard Pool, PE
President

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1.0 EXECUTIVE SUMMARY

a. Existing Traffic Conditions

The study-area street network that serves the Community Health Center Project (the "Project") is comprised of arterial, collector, and local streets; including Ocean Avenue, V Street, U Street, T Street, R Street, and O Street. The Existing Conditions analysis found that all of the study-area intersections operate at LOS C or better during the AM and PM peak hour periods, which meet the City's and Caltrans' LOS C operating standard for intersections.

b. Future Traffic Conditions

The Project is forecast to generate1,887 average daily trips (ADT), with 93 trips occurring during the AM peak hour and 154 trips occurring during the PM peak hour. The traffic analysis found that all of the study-area intersections are forecast to operate at LOS C or better during the AM and PM peak hour periods under Existing + Project and Cumulative + Project conditions. The addition of Project traffic would not generate significant impacts.

c. Recommended Improvements

The traffic analysis found that the Project would not impact the study-area street network based on City thresholds. Thus, no improvements are recommended for study-area intersections. The following measures are recommended adjacent to the Project site.

1. Ocean Avenue Driveway. Construct driveway to City and Caltrans standards and align with T Street on the north side of Ocean Avenue.

2. U Street Driveway. Construct driveway to City standards.

3. U Street Frontage. Construct sidewalk facility on eastern side of U Street adjacent to the Project site.

4. Alleyway Driveway. Construct driveway to City standards.

2.0 PROJECT LOCATION AND DESCRIPTION

a. Project Location

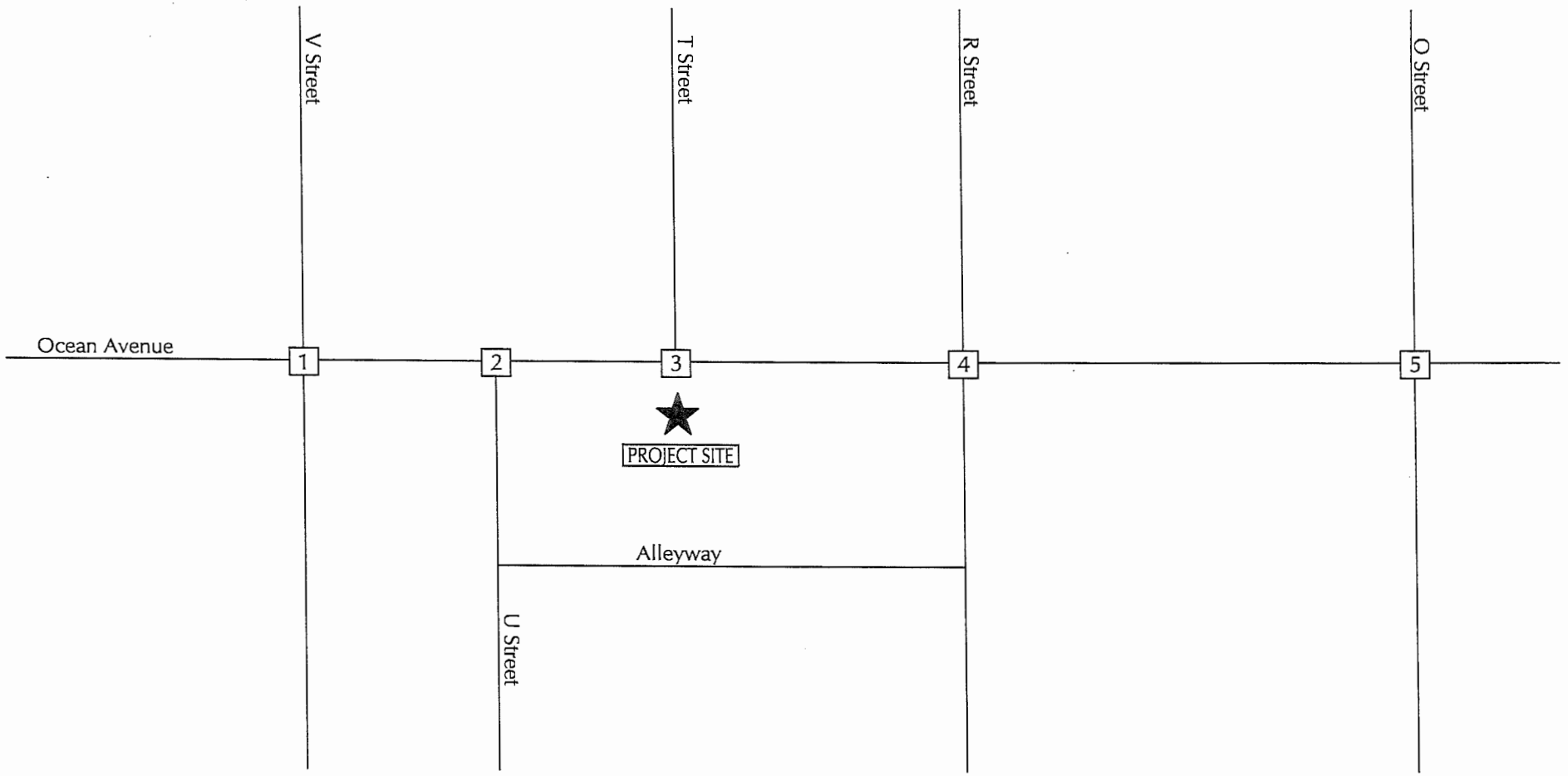
The Project site is located in the southwestern area of the City of Lompoc, as illustrated on Figure 1. More specifically, the Project site is located on the southeast corner of the Ocean Avenue/U Street intersection, as shown on Figure 2.

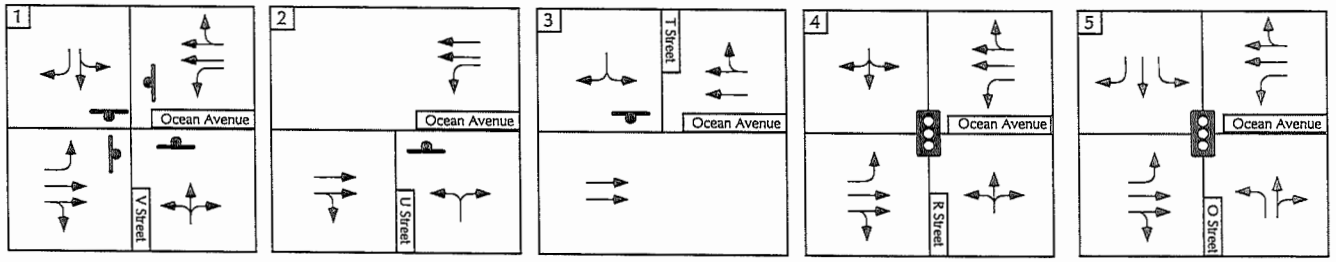
ASSOCIATED TRANSPORTATION ENGINEERS

VICINITY MAP

FIGURE 1

EKM - ATE#17075





LEGEND

- Signalized Intersection
- Stopped Approach
- Lane Geometry

N
NOT TO SCALE

ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT SITE LOCATION/EXISTING STREET NETWORK

FIGURE 2

EKM - ATE#17075

b. Project Description

The Project is proposing to construct a 28,000 SF medical clinic on the southern portion of the site and 19,750 SF of commercial uses on the northern portion of the site that fronts Ocean Avenue. Vehicular access is proposed via one new driveway on Ocean Avenue opposite T Street, one new driveway on U Street, and one new driveway on the alleyway on the south side of the site. Figure 3 shows the Project site plan.

3.0 EXISTING CONDITIONS

a. Street Network

The Project is served by a circulation system comprised of arterial, collector and local streets, which are illustrated on Figure 2. A brief description of the street network is provided below.

Ocean Avenue (State Route 246), located along the northern frontage of the Project site, is an east-west street that is classified as a Major Arterial in the City's Circulation Element. Ocean Avenue, which is also State Route 246 within the City, is a four-lane arterial with a center left-turn lane adjacent to the Project site. The speed limit is posted at 40 MPH adjacent to the Project site. On-street parking is allowed on both sides of the street in the vicinity of the Project site.

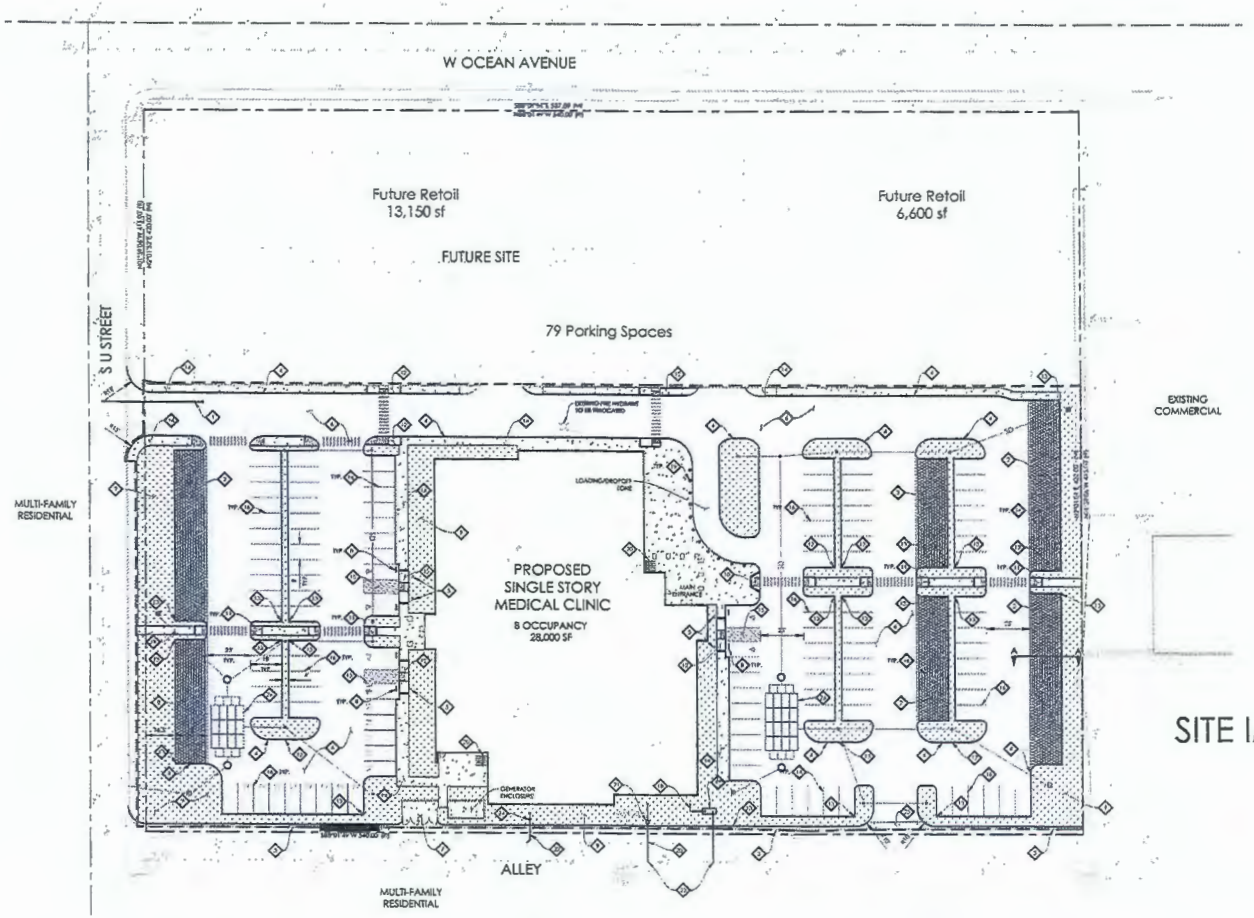
V Street, located west of the Project site, is a north-south street that is classified as a Minor Arterial street north of Ocean Avenue and a Collector street south of Ocean Avenue. V Street contains one lane in each direction and bike lanes north of Ocean Avenue. V Street contains one lane in each direction south of Ocean Avenue.

U Street, located along the western frontage of Project site, is a north-south local street. U Street contains one lane in each direction with on-street parking allowed in the vicinity of the Project site. Curb, gutter and sidewalk are present on both side of U Street – except for the eastern side of the street along the Project's frontage where curb and gutter are provided but no sidewalk.

T Street, located north of the Project site, is a local residential street that extends north of Ocean Avenue. T Street contains one lane in each direction with on-street parking allowed on both sides of the street.

R Street, located east of the Project site, is a north-south street that is classified as a Collector street north and south of Ocean Avenue. R Street contains one lane in each direction north and south of Ocean Avenue. On-street parking is allowed on both sides of R street.

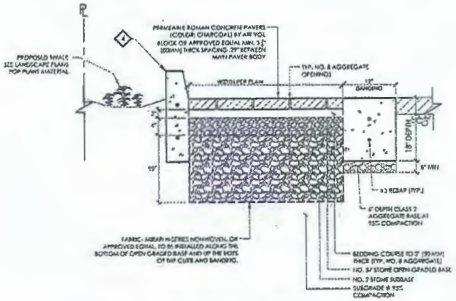
O Street, located east of the Project site, is a north-south street that is classified as a Minor Arterial street north of Ocean Avenue and a Collector street south of Ocean Avenue. O Street is a two-lane street with bike lanes and on-street parking north of Ocean Avenue. South of Ocean Avenue, R Street is a two-lane street with no parking allowed between Ocean Avenue and Cypress Avenue adjacent to Ryan Park. On-street parking is allowed on both sides of the street south of Cypress Avenue.



IMPROVEMENT NOTES

1. INSTALL SEWER STUB FOR POTENTIAL FUTURE CONNECTION.
2. CONSTRUCT PERMEABLE PAVERS PER LANDSCAPE PLANS AND SECTION A-A THIS SHEET.
3. CONSTRUCT 6" CURB AND 18" GUTTER PER CITY OF LOMPOC STANDARD 402.
4. CONSTRUCT 6" CURB PER CITY OF LOMPOC STANDARD 405. (CONSTRUCT DEPRESSED CURB IN PAVER AREAS)
5. INSTALL SIGN R1-1 PER CALTRANS STANDARD A24A
6. CONSTRUCT 4" AC PAVING OVER 16" COMPACTED A.B. PER CITY OF LOMPOC STANDARD 402 OR PER FINAL SOILS REPORT RECOMMENDATIONS.
7. CONSTRUCT TRASH ENCLOSURE PER CITY OF LOMPOC STANDARDS.
8. INSTALL CONCRETE WHEEL STOPS PER CALTRANS REVISED STANDARD PLAN A76A.
9. INSTALL LANDSCAPE PER LANDSCAPE PLANS.
10. CONSTRUCT CURB RAMP PER CASE A CALTRANS STANDARD PLAN A88A AND CITY OF LOMPOC STANDARD 424.
11. CONSTRUCT CURB RAMP PER CASE C CALTRANS STANDARD PLAN A88A AND CITY OF LOMPOC STANDARD 426.
12. CONSTRUCT CURB RAMP PER CASE F CALTRANS STANDARD PLAN A88A AND CITY OF LOMPOC STANDARD 426.
13. CONSTRUCT CURB CUT WITH GRAVEL ENERGY DISSIPATION PER LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT DETAIL 1/12.
14. CONSTRUCT 6" REINFORCED P.C.C. CONCRETE PLATFORM OVER 4" OF AGGREGATE BASE PER CITY OF LOMPOC STANDARD 413 AND PER SOILS REPORT RECOMMENDATIONS. REINFORCEMENT SHALL BE #3 BARS @ 24" O.C. ADD SFR LANDSCAPE PLANS FOR JOINTS, COLOR, AND FINISH.
15. INSTALL SIGNAGE AND STRIPING PER CALTRANS STANDARD PLAN A90A.
16. INSTALL PARKING STRIPING PER CITY OF LOMPOC STANDARD 801.
17. INSTALL 8" BACKFLOW PREVENTION DEVICE PER CITY OF LOMPOC STANDARD 406.
18. INSTALL 6" FIRE WATER SERVICE PER CITY OF LOMPOC STANDARD 410A.
19. INSTALL BOLLARDS PER LANDSCAPE PLANS.
20. INSTALL EDGE PAVERS PER LANDSCAPE PLANS.
21. INSTALL 2" WATER SERVICE METER WITH LATERAL PER CITY OF LOMPOC STANDARD 408.
22. INSTALL 6" SEWER LATERAL PER CITY OF LOMPOC STANDARD 309
23. INSTALL HOT TAP CONNECTION PER CITY OF LOMPOC STANDARD 414.
24. INSTALL SEWER CLEANOUT PER CITY OF LOMPOC STANDARD 304.
25. CONSTRUCT ALLEY CROSS GUTTER PER CITY OF LOMPOC STANDARD 603.
26. INSTALL MC-4000 STORMTECH CHAMBERS PER MANUFACTURER'S RECOMMENDATIONS.
27. CONSTRUCT SIDEWALK UNDERDRAIN PER CITY OF LOMPOC STANDARD 313.

SITE IMPROVEMENT AND UTILITY PLAN



SCALE: 1" = 30'

LEGEND

- PROJECT LIMITS
- AC PAVEMENT
- CONCRETE HARDSCAPE (SEE LANDSCAPE PLANS FOR COLOR AND FINISH)
- LANDSCAPE (SEE LANDSCAPE PLANS)

Medical Office Use Parking Requirements	Parking Calculation	Parking Spaces Required	Parking Spaces Proposed
1 space per each 250 sq ft	28,000 sq ft/250 = 112	112	
1 space per exam room	1 x 49 exam rooms = 49	49	
0.5 space per employee	76 employees/2 = 38	38	
		199	
10% Parking Reduction	199 x 0.1 = 20	- 20	
Total Parking		179	179

CHC Community Health Centers

COMMUNITY HEALTH CENTER

1300 & 1200 W. OCEAN AVE., LOMPOC

PARCEL #'S: 091-110-034, 091-110-035

NEENAN architruction®

rrm design group

C.1

DATE: AUGUST 16, 2017
0784-01-CO17

ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT SITE PLAN

FIGURE 3

EKM - ATE#17075

b. Traffic Volumes

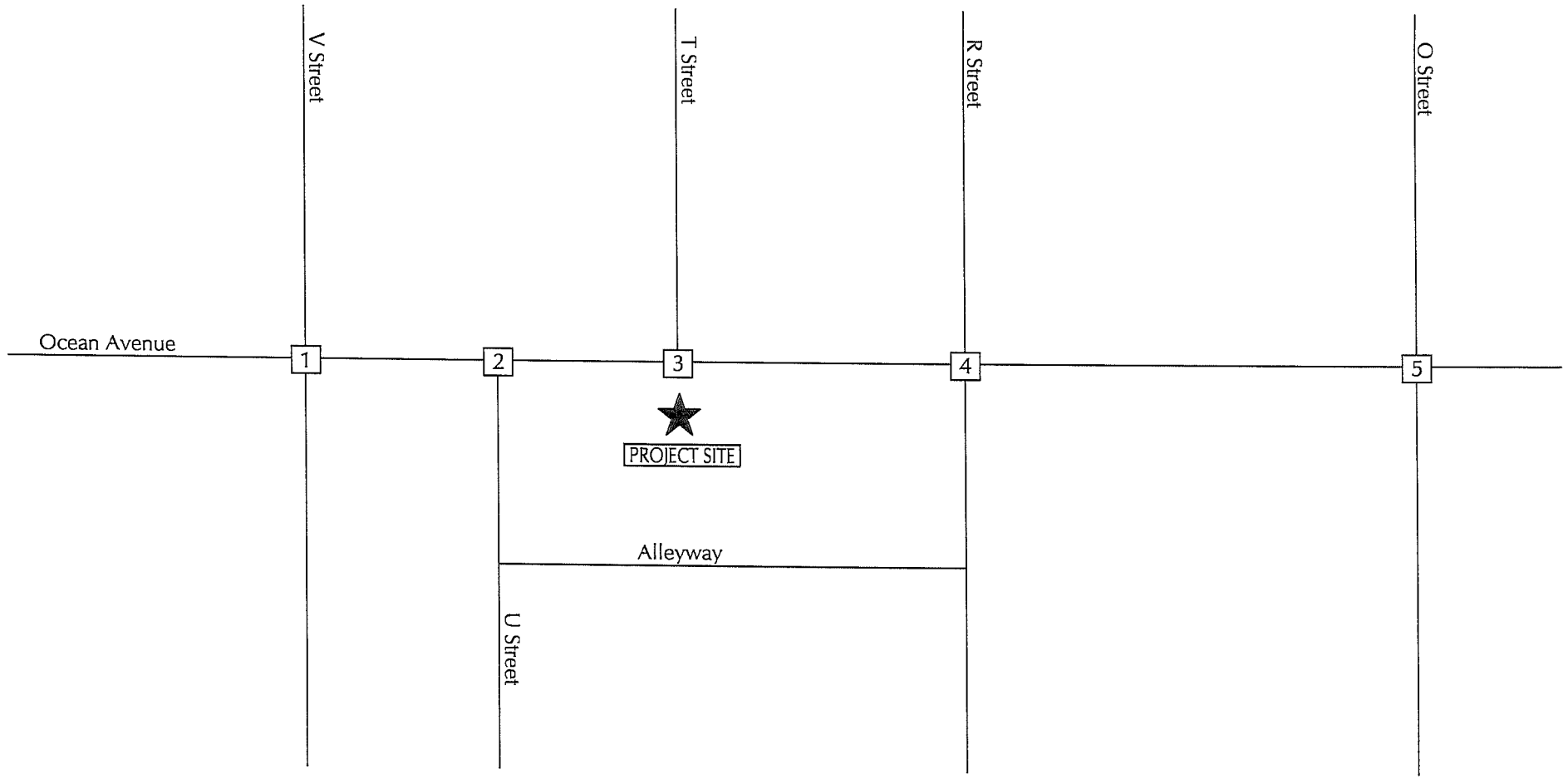
Because traffic flow on the City's street network is most constrained at intersections, a detailed analysis of traffic flow must examine the operating conditions of critical intersections during peak travel periods. Morning and evening traffic counts establish the extent to which the existing peak hour intersection capacities are being utilized by existing traffic volumes, and the directional orientation of traffic in the area.

Existing AM and PM peak hour turning volumes were collected at the study-area intersections in September 2017 for this study (traffic count data is contained in the Technical Appendix). Figure 4 illustrates the Existing traffic volumes.

c. City of Lompoc Standards and Significance Thresholds

As stated in the City of Lompoc General Plan, the City's traffic impact threshold is: *"The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said mitigation, cannot be achieved."*

Peak hour traffic creates the heaviest demand on the circulation system and the lane configuration at intersections is the limiting factor in roadway capacity; therefore, peak hour intersection capacity analyses address "worst-case" conditions. Table 1 shows the intersection level of service criteria used by the City.



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING TRAFFIC VOLUMES

FIGURE 4

EKM - ATE#17075

Table 1
Intersection Level of Service Criteria

LOS	Delay(a)		Definition
	Signals	Stop Signs	
A	< 10.0 sec.	< 10.0 sec.	Conditions of free unobstructed flow, no delays and all signal phases sufficient in duration to clear all approaching vehicles.
B	10.1 -20.0	10.1 - 15.0	Conditions of stable flow, very little delay, a few phases are unable to handle all approaching vehicles.
C	20.1 - 35.0	15.1 - 25.0	Conditions of stable flow, delays are low to moderate, full use of peak direction signal phases is experienced.
D	35.1 - 55.0	25.1 - 35.0	Conditions approaching unstable flow, delays are moderate to heavy, significant signal time deficiencies are experienced for short durations during the peak traffic period.
E	55.1 - 80.0	35.1 - 50.0	Conditions of unstable flow, delays are significant, signal phase timing is generally insufficient, congestion exist for extended duration throughout the peak period.
F	> 80.0	> 50.0	Conditions of forced flow, travel speeds are low and volumes are well above capacity. This condition is often caused when vehicles released by upstream signal are unable to proceed because of back-ups from a downstream signal.

(a) Average delay per vehicle in seconds.

d. Existing Levels of Service

As required by City policy, levels of service were calculated for the study-area intersections using the operations methodology outlined in the Highway Capacity Manual (HCM).[1] Levels of service are based on the average number of seconds of delay per vehicle during the peak one-hour period. Table 2 lists the traffic controls at the study-area intersections and the Existing levels of service during the AM and PM peak hour periods (levels of service calculation worksheets are contained in the Technical Appendix for reference).

Table 2
Existing Levels of Service

Intersection	Control	Delay/LOS	
		AM Peak Hour	PM Peak Hour
Ocean Avenue/V Street	4-Way Stop	18.8 Sec. / LOS C	12.1 Sec. / LOS B
Ocean Avenue/U Street	1-Way Stop	13.2 Sec. / LOS B	10.6 Sec. / LOS B
Ocean Avenue/T Street	1-Way Stop	11.1 Sec. / LOS B	10.2 Sec. / LOS B
Ocean Avenue/R Street	Traffic Signals	10.2 Sec. / LOS B	10.1 Sec. / LOS B
Ocean Avenue/O Street	Traffic Signals	11.3 Sec. / LOS B	11.0 Sec. / LOS B

[1] Highway Capacity Manual, National Research Council, 2016.

The data presented in Table 2 show that the study-area intersections currently operate at LOS C or better, which meets the City's and Caltrans' LOS C operating standard.

e. Relevant Circulation Plans

City of Lompoc Circulation Element. The City's Circulation Element roadway classifications are illustrated on Figure 5.[2] The Circulation Element roadway classifications include expressways, major arterials, minor arterials, collectors and local roads. Arterial roads are major thoroughfares used primarily for through traffic and access to commercial uses via limited access connections. Collector roads collect traffic from the local roads and serve as connectors between arterials and local roads. Local roads provide access to individual properties.

Congestion Management Program. The Santa Barbara County Association of Governments has been designated as the Congestion Management Agency for the County and is therefore responsible for administration of the Congestion Management Program (CMP). The CMP establishes a minimum level of service for roadways and intersections that are included in the CMP network. A separate section of this report addresses the Project's potential impact to the CMP system.

f. Alternative Transportation Modes

City of Lompoc Transit (COLT) provides public transit service within Lompoc, Mission Hills, and Vandenberg Village. COLT Route 2 passes by the Project site. The nearest bus stop is located on R Street just north of Ocean Avenue. Service is provided from 6:30 AM to 7:00 PM on weekdays, and from 9:00 AM to 5:00 PM on Saturdays. Curb-to-curb service is available for seniors and persons with disabilities.

Class II bike lanes (painted on-street lanes) are present on V Street, R Street and O Street in the vicinity of the Project site. There are sidewalks in place along Ocean Avenue and U Street adjacent to the Project site, except for the eastern side of U Street along the Project's frontage.

4.0 CIRCULATION ANALYSIS

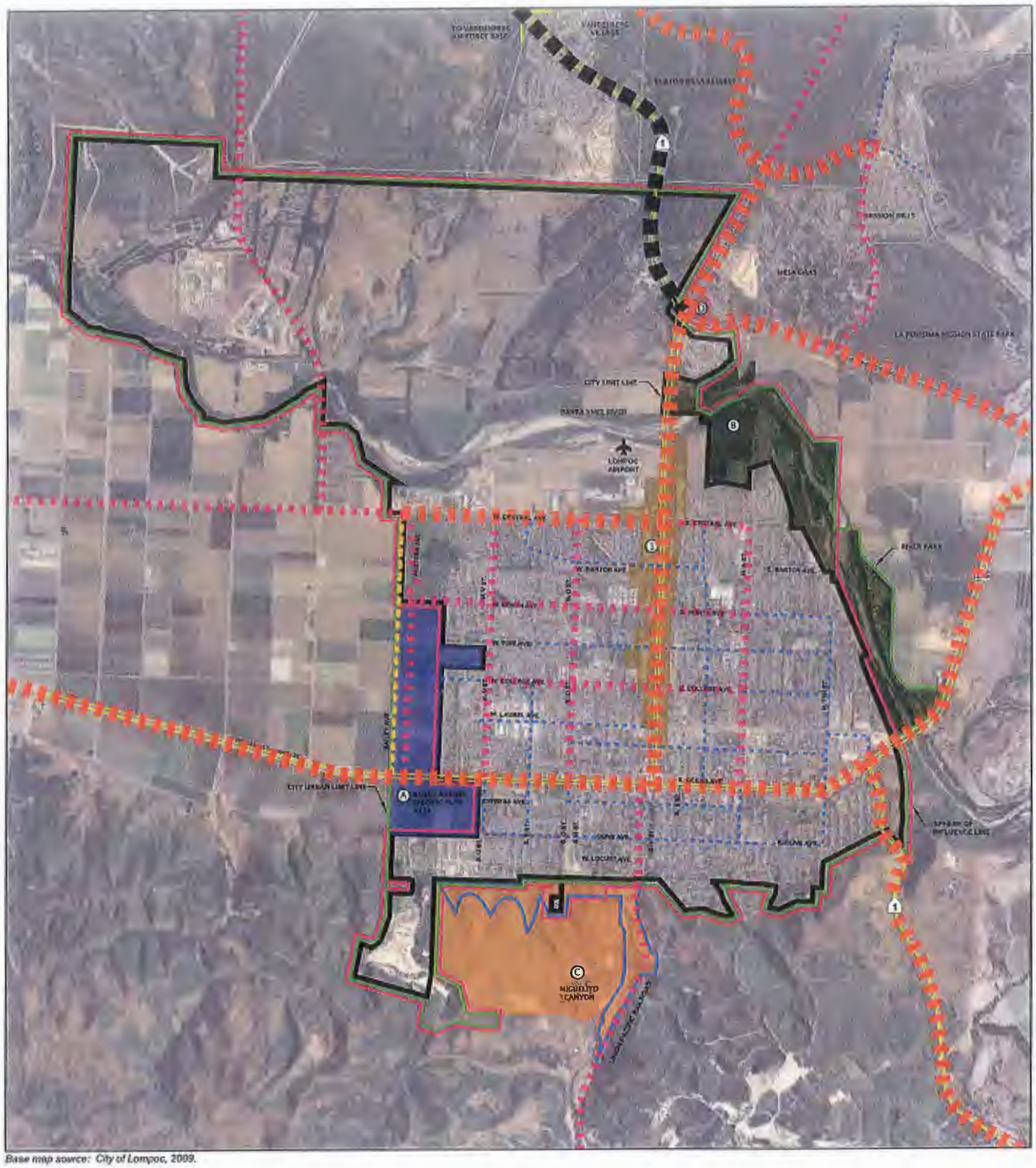
a. Project Trip Generation

Trip generation estimates were calculated for the Project using rates presented in the Institute of Transportation Engineers (ITE) Trip Generation manual.[3] The ITE rates for Medical-Dental Office Building (Land Use #720) were selected as the best fit for the proposed health clinic and the ITE rates for Specialty Retail Center (Land Use #826) were selected for the commercial uses. Table 3 presents trip generation estimates for the Project.

---

2 2030 General Plan Circulation Element, City of Lompoc, 2013.

3 Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.



Base map source: City of Lompoc, 2009.

LEGEND

Roadway Designations

- Expressway
- Major Arterial
- Minor Arterial
- Collector Street
- Rural Road

Additional Overlays

- Existing City Limits
- Proposed Area to be Added to City Urban Limit Line
- Existing City Urban Limit Line
- Existing City Sphere of Influence

Notes: * City Limit and parcel lines obtained from City of Lompoc GIS
* City SOI and ULL interpreted from 1997 General Plan

Proposed Land Use Changes

- Area (1) H Street Corridor Infill
- Area (A) Bailey Avenue Specific Plan
- Area (B) River Area
- Area (C) Miguelito Canyon
- Area (D) Wye Residential

N

0 .75 1.5

Scale in Miles

ASSOCIATED TRANSPORTATION ENGINEERS

CITY OF LOMPOC ROADWAY DESIGNATIONS

FIGURE 5

EKM - ATE#17075

Table 3
Project Trip Generation

Land Use	Size	ADT		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Health Center	28.0 KSF	36.13	1,012	2.39	67	3.57	100
Commercial	19.75 KSF	44.32	875	1.33	26	2.71	54
Totals			**1,887**		**93**		**154**

Notes: Rates are per 1,000 SF of building area.

As shown in Table 3, the Project is forecast to generate 1,887 average daily trips, with 93 trips occurring during the AM peak hour and 154 trips occurring during the PM peak hour.

Primary and Pass-By Trips

The trip generation analysis also accounts for the "Primary" and "Pass-By" trips that would be generated by the proposed commercial uses (all of the health center trips would be primary trips). Primary trips are single purpose trips where the sole purpose of the trip is related to the proposed uses (i.e. from a home to commercial center and then back home). Pass-By trips include the commercial trips that would come from the existing traffic stream on Ocean Avenue directly adjacent to the Project site (i.e. existing vehicles on Ocean Avenue that would stop and patronize the commercial uses along their way). These trips would not affect the study-area street network beyond the Project site.

Based on the data contained in the ITE Trip Generation Handbook, 20-50% of the commercial trips would be pass-by trips (depending upon the actual commercial use, such as general retail, restaurant, etc.) As a reasonable worst-case estimate, the traffic study assumes that 15% of the commercial trips would be pass-by trips (and the remaining 85% of the commercial trips would be primary trips). Table 4 summarizes the primary and pass-by trips for the Project for the AM and PM peak hour periods.

Table 4
Project Trip Generation – Trip Type Summary

Trip Generation	AM Peak Trips	PM Peak Trips
Health Center(a)	67	100
Commercial – Primary Trips (85%)	22	146
Commercial – Pass-By Trips (15%)	4	8
Totals	93	154

(a) 100% of Health Center trips are primary trips.

b. Project Trip Distribution

Trip distribution percentages were developed for the Project based on existing traffic patterns in the area and consideration of the surrounding population centers. The Project trip distribution percentages are presented in Table 5. Figure 6 shows the distribution and assignment of Project traffic on the study-area street network.

Table 5
Project Trip Distribution

Origin/Destination	Direction	Distribution %
Ocean Avenue	East	35%
	West	2%
V Street	North	10%
	South	2%
U Street	South	5%
T Street	North	5%
R Street	North	20%
	South	2%
O Street	North	15%
	South	4%
Total		**100%**

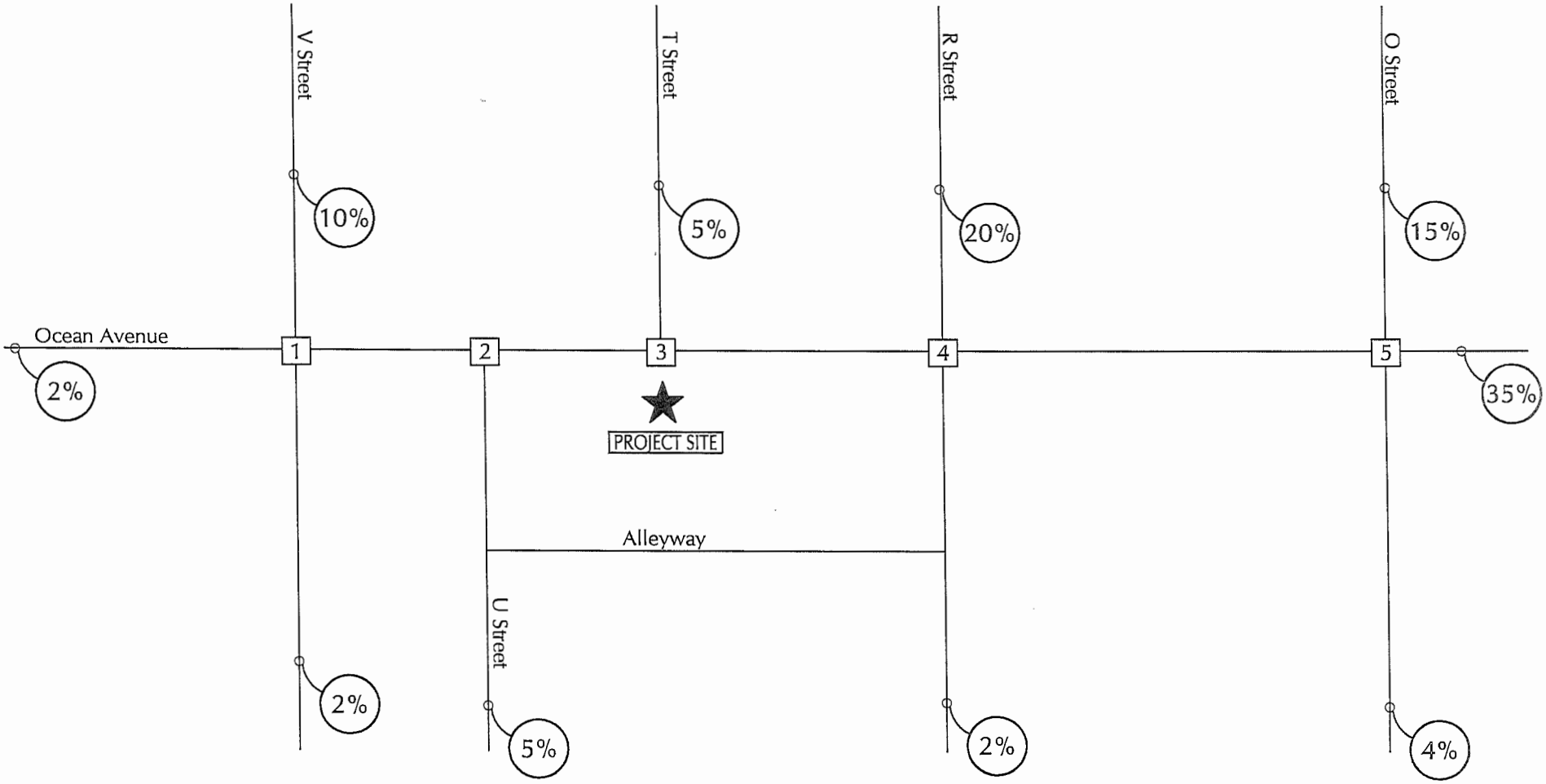
c. Project-Specific Analysis

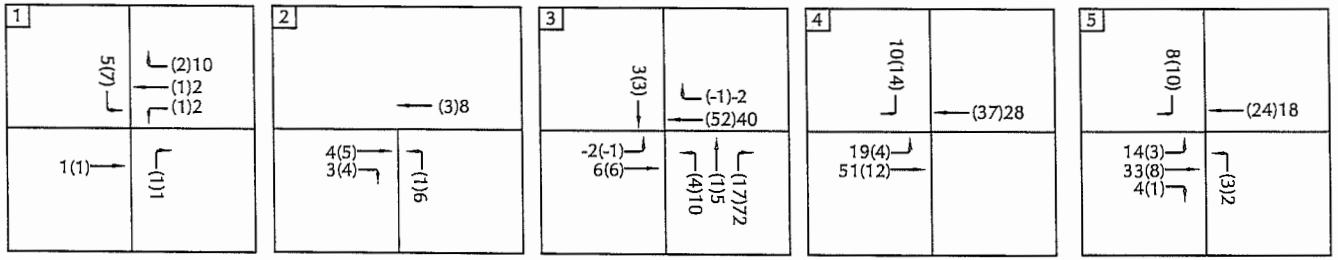
Traffic Volumes. Figure 7 shows the Existing + Project traffic volumes for the study-area intersections.

Intersection Operations. Tables 6 and 7 compare the Existing and Existing + Project levels of service for the AM and PM peak hour periods. The tables also show the significance of Project-added traffic based on City thresholds. It is noted that the Existing + Project forecasts assume modifications to the Ocean Avenue/T Street intersection to install the Project's main access driveway on the south leg of the intersection (thereby creating a standard 4-leg intersection).

Table 6
Existing + Project Levels of Service - AM Peak Hour

Intersection	Delay/LOS		Project Added	
	Existing	Existing + Project	Trips	Impact?
Ocean Avenue/V Street	18.8 Sec. / LOS C	19.3 Sec. / LOS C	13	NO
Ocean Avenue/U Street	13.2 Sec. / LOS B	13.4 Sec. / LOS B	13	NO
Ocean Avenue/T Street	11.1 Sec. / LOS B	13.3 Sec. / LOS B	80	NO
Ocean Avenue/R Street	10.2 Sec. / LOS B	10.5 Sec. / LOS B	67	NO
Ocean Avenue/O Street	11.3 Sec. / LOS B	11.4 Sec. / LOS B	49	NO





LEGEND

(XX)XX - (A.M.)P.M. Peak Hour Volume

% - Distribution Percentage

N

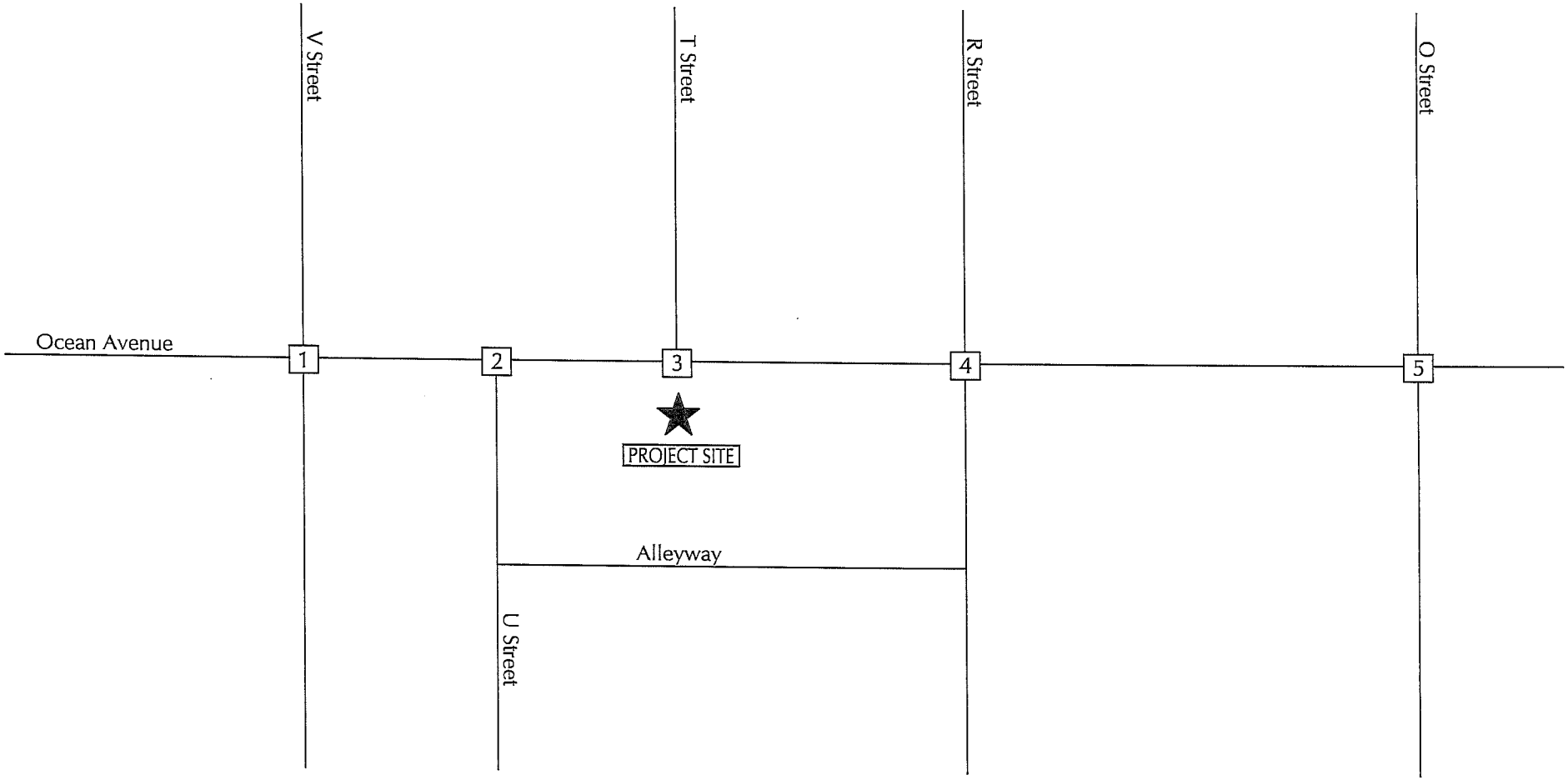
NOT TO SCALE

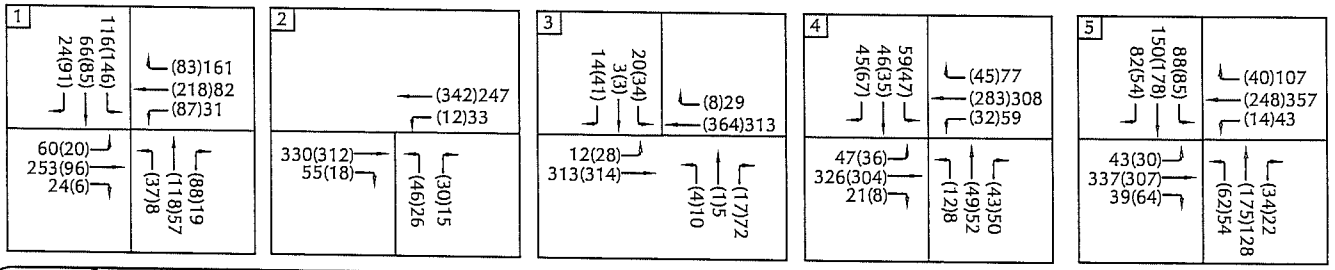
ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 6

EKM - ATE#17075





LEGEND

└(XX)XX - (A.M.)P.M. Peak Hour Volume

N

NOT TO SCALE

ASSOCIATED
TRANSPORTATION
ENGINEERS

EXISTING + PROJECT TRAFFIC VOLUMES

FIGURE 7

EKM - ATE#17075

Table 7
Existing + Project Levels of Service - PM Peak Hour

Intersection	Delay/LOS		Project Added	
	Existing	Existing + Project	Trips	Impact?
Ocean Avenue/V Street	12.1 Sec. / LOS B	12.3 Sec. / LOS B	21	NO
Ocean Avenue/U Street	10.6 Sec. / LOS B	11.1 Sec. / LOS B	21	NO
Ocean Avenue/T Street	10.2 Sec. / LOS B	11.3 Sec. / LOS B	126	NO
Ocean Avenue/R Street	10.1 Sec. / LOS B	10.6 Sec. / LOS B	108	NO
Ocean Avenue/O Street	11.0 Sec. / LOS B	11.4 Sec. / LOS B	79	NO

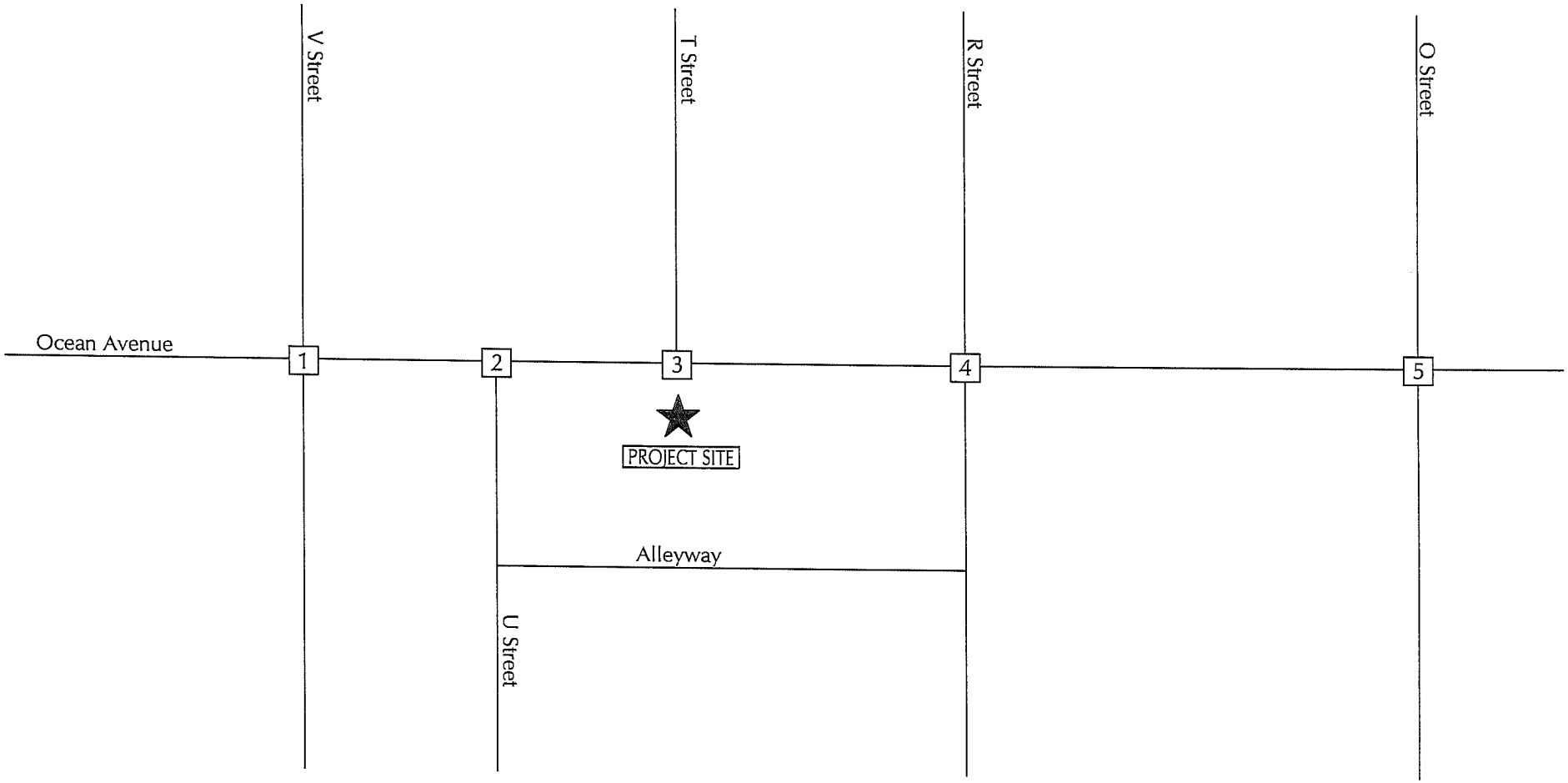
The data presented in Tables 6 and 7 indicate that the study-area intersections would continue to operate at LOS C or better during the AM and PM peak hours with the addition of Project traffic, which meet the City's and Caltrans' LOS C standard. Thus, the Project would not significantly impact the study-area intersections based on City and Caltrans standards.

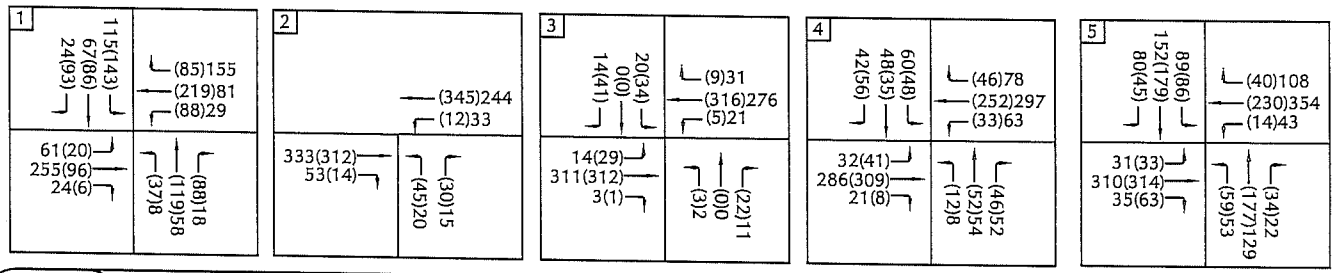
d. Cumulative Analysis

The California Environmental Quality Act (CEQA) requires that a project's impact be considered in conjunction with closely related past, present, and reasonably foreseeable future projects (cumulative setting). A list of approved and pending projects was provided by City staff for the cumulative analysis (a copy of the list is included in the Technical Appendix for reference).

Traffic Forecasts. Trip generation estimates were calculated for the cumulative projects using rates published in the ITE Trip Generation report. Traffic generated by the cumulative projects was then distributed and assigned to the study-area street network based on patterns developed for other projects in the City as well as the existing traffic patterns observed in the area. The Cumulative traffic forecasts are shown on Figure 8.

The Cumulative forecasts include traffic that would be generated by the Mosaic Walk Project, a 60-unit residential project that has been approved on the same site as the proposed Community Health Center Project. Traffic that would be generated by the Mosaic Walk Project was subtracted from the Cumulative forecasts and the traffic that would be generated by the proposed Community Health Center Project was added to the Cumulative traffic forecasts to forecast Cumulative + Project traffic volumes. Cumulative + Project forecasts are shown on Figure 9.





LEGEND

(XX)XX - (A.M.)P.M. Peak Hour Volume

N

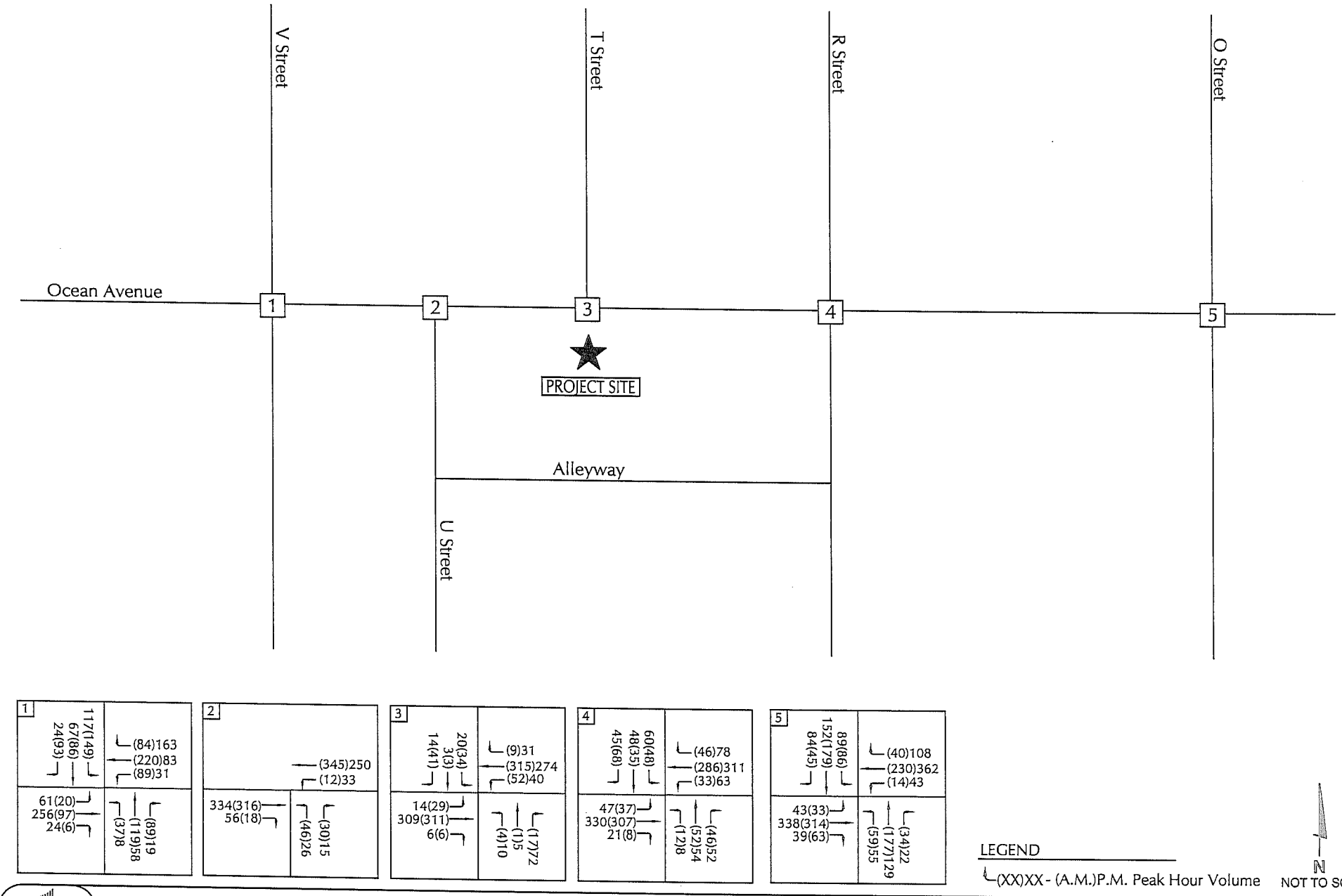
NOT TO SCALE

ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE TRAFFIC VOLUMES

FIGURE 8

EKM - ATE#17075



ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE + PROJECT TRAFFIC VOLUMES

FIGURE 9

EKM - ATE#17075

Intersection Operations. Levels of service were calculated for the study-area intersections assuming the Cumulative and Cumulative + Project traffic forecasts shown on Figures 8 and 9. Tables 8 and 9 compare the levels of service forecasts for the study-area intersections. The tables also show the significance of Project-added traffic based on the City's and Caltrans' LOS C standard.

Table 8
Cumulative + Project Levels of Service - AM Peak Hour

Intersection	Delay/LOS		Project Added	
	Cumulative	Cumulative + Project	Trips	Impact?
Ocean Avenue/V Street	19.3 Sec. / LOS C	19.8 Sec. / LOS C	13	NO
Ocean Avenue/U Street	13.3 Sec. / LOS B	13.5 Sec. / LOS B	13	NO
Ocean Avenue/T Street	12.7 Sec. / LOS B	13.5 Sec. / LOS B	80	NO
Ocean Avenue/R Street	10.4 Sec. / LOS B	10.6 Sec. / LOS B	67	NO
Ocean Avenue/O Street	11.5 Sec. / LOS B	11.5 Sec. / LOS B	49	NO

Table 9
Cumulative + Project Levels of Service - PM Peak Hour

Intersection	Delay/LOS		Project Added	
	Cumulative	Cumulative + Project	Trips	Impact?
Ocean Avenue/V Street	12.3 Sec. / LOS B	12.4 Sec. / LOS B	21	NO
Ocean Avenue/U Street	10.7 Sec. / LOS B	11.1 Sec. / LOS B	21	NO
Ocean Avenue/T Street	10.6 Sec. / LOS B	11.4 Sec. / LOS B	126	NO
Ocean Avenue/R Street	10.4 Sec. / LOS B	10.7 Sec. / LOS B	108	NO
Ocean Avenue/O Street	11.1 Sec. / LOS B	11.4 Sec. / LOS B	79	NO

The data presented in Tables 8 and 9 shows that the study-area intersections are forecast to operate at LOS C under Cumulative and Cumulative + Project conditions during the AM and PM peak hour periods, which meets the City's and Caltrans' LOS C operating standard. Thus, the Project would not contribute to significant cumulative impacts.

e. Site Access and Circulation

Project access is proposed via one new driveway on Ocean Avenue, one new driveway on U Street, and one new driveway on the alleyway on the south side of the site (see Figure 3 – Project Site Plan).

The new driveway on Ocean Avenue is proposed opposite T Street, thereby creating a standard 4-leg intersection. As shown in Table 8 and 9, the Ocean Avenue/T Street intersection is forecast to operate at LOS B during the AM and PM peak hour periods under Cumulative + Project traffic conditions assuming that the driveway is controlled by Stop signs. Ocean Avenue is flat and straight adjacent to the proposed driveway, which provides adequate sight distances for vehicles entering and exiting the Project site. This new driveway should be constructed to City and Caltrans standards and align with T Street on the north side of Ocean Avenue in order to maximize safety and operations.

The new driveway on U Street is proposed about midway between Ocean Avenue and the alleyway that runs along the south side of the Project site. Traffic volumes on U Street are relatively low – about 100 vehicles during AM peak hour and 120 vehicles during the PM peak hour. This driveway is forecast to operate at LOS A during the AM and PM peak hour periods. The U Street driveway should be constructed to City standards. In addition, the east side of U Street along the Project frontage contains curb and gutter but no sidewalk. It is recommended that sidewalk be constructed along the U Street frontage pursuant to City standards.

The new driveway proposed on the alleyway on the south side of the Project site should also be constructed to City standards. Traffic volumes on the alleyway are low and the driveway is forecast to operate at LOS A during the AM and PM peak hour periods.

5.0 RECOMMENDED IMPROVEMENTS

The traffic analysis found that the Project would not impact the study-area street network based on City thresholds. Thus, no improvements are recommended for study-area intersections. The following measures are recommended for the Project site.

1. Ocean Avenue Driveway. Construct driveway to City and Caltrans standards and align with T Street on the north side of Ocean Avenue.

2. U Street Driveway. Construct driveway to City standards.

3. U Street Frontage. Construct sidewalk facility on eastern side of U Street adjacent to the Project site.

4. Alleyway Driveway. Construct driveway to City standards.

6.0 CONGESTION MANAGEMENT PROGRAM ANALYSIS

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact guidelines to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities within the County-wide CMP roadway system. The following guidelines were developed by SBCAG to determine the significance of project-generated traffic impacts on the regional CMP system.

a. Impact Criteria

1. For any roadway or intersection operating at "Level of Service" (LOS) A or B, a decrease of two levels of service resulting from the addition of project-generated traffic.

2. For any roadway or intersection operating at LOS C, project-added traffic that results in LOS D or worse.

3. For intersections within the CMP system with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	20
LOS E	10
LOS F	10

4. For freeway or highway segments with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	100
LOS E	50
LOS F	50

b. Potential Impacts

Ocean Avenue is part of the CMP roadway network. Levels of service for CMP signalized roadways segments such as Ocean Avenue are based on operations at signalized intersections. The signalized Ocean Avenue/R Street and Ocean Avenue/O Street intersections are part of the CMP roadway network. Levels of service were calculated for these intersections using the "Intersection Capacity Utilization" (ICU) methodology required by SBCAG, which is different than the HCM methodology used by the City. Table 10 lists the results of the ICU level of service analysis (worksheets are contained in the Technical Appendix).

Table 10
CMP Levels of Service

Intersection	ICU / LOS			
	Existing	Existing + Project	Cumulative	Cumulative + Project
Ocean Avenue/R Street	0.39/LOS A	0.41/LOS A	0.40/LOS A	0.43/LOS A
Ocean Ave/O Street	0.41/LOS A	0.42/LOS A	0.41/LOS A	0.43/LOS A

The data presented in Table 10 shows that the CMP intersections in the vicinity of the Project site are forecast to operate at LOS A with Existing + Project and Cumulative + Project traffic. Thus, the Project would not impact the CMP network according to the adopted thresholds.

● ● ●

7.0 REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

Richard L. Pool, PE, Principal Engineer
Scott A. Schell, AICP, PTP, Principal Transportation Planner
Dan Dawson, PTP, Supervising Transportation Planner
Erica Monson, Transportation Planner

References

2030 General Plan Circulation Element, City of Lompoc, 2013.

Highway Capacity Manual, Transportation Research Board, National Research Council, 2016.

Trip Generation, Institute of Transportation Engineers, 9th Edition, 2012.

Persons Contacted

Breese, Lucille, City of Lompoc
Halvorson, Brian, City of Lompoc
Luther, Michael, City of Lompoc

8.0 TECHNICAL APPENDIX

CONTENTS:

PROJECT TRIP GENERATION CALCULATION WORKSHEET

CUMULATIVE PROJECT LIST

TRAFFIC COUNT DATA

LEVEL OF SERVICE CALCULATION WORKSHEETS

PROJECT TRIP GENERATION CALCULATION WORKSHEET

Associated Transportation Engineers
Trip Generation Worksheet

LOMPOC COMMUNITY HEALTH CENTER PROJECT

Land Use	Size	ADT		A.M. PEAK HOUR						P.M. PEAK HOUR					
		Rate	Trips	Rate	Trips	In %	Trips	Out %	Trips	Rate	Trips	In %	Trips	Out %	Trips
1. Medical Clinic(a)	28,000 SF	36.13	1,012	2.39	67	79%	53	21%	14	3.57	100	28%	28	72%	72
2. General Retail(b)	19,750 SF	44.32	875	1.33	26	60%	16	40%	10	2.71	54	50%	27	50%	27
Totals:			1,887		93		69		24		154		55		99

(a) ITE Code 720. Medical-Dental Office Building.
(b) ITE Code 826. Specialty Retail Center.

CUMULATIVE PROJECT LIST

CITY OF LOMPOC
PROJECT LIST – for January 2017 – June 2017

TAZ	Location / Address	Project Name / Number	Development Type	Acreage / Sq. Footage	Project Status
❖ Completed / Expired Projects					
40102	1517 West College Avenue (APN: 93-174-16)	Church Expansion (CUP 09-06)	1,624 sq. ft. accessory building	2.28	Complete
40265	109 South Third Street (APN: 85-150-47)	Third Street Apartments (DR 09-11, ZC 09-02)	24 unit apartment complex	.96 acres	Expired
40188	510 North I Street (APN: 087-191-010)	The Longley Building CUP 17-01	Allow commercial use without off-street parking	0.16 Acres	Approved 4/12/17 Complete
40196	1133, 1137, and 1145 North H Street (APN: 089-011-016, -017, & -018)	Flower Valley Plaza DR 14-03	Sign Program amendment	3.84 Acres	Approved 3/8/17 Complete
40275	400 East Ocean (APN: 085-172-001)	"Hi, Let's Eat" Sign DR 17-01	Landmark sign designation		Approved 4/12/17 Complete
40176	234 North H Street (APN: 85—082-15)	Solvang Brewery (CUP14-05)	5,960 sq. ft. restaurant in existing building and new brewery	42,000 sq. ft.	Approved 12-10-14 TCO issued
❖ Approved Projects – Under Construction					
40334	300 North Twelfth Street (APN: 99-141-22)	Santa Rita Hills Wine Center (DR 12-01 / CUP 12-01 / CUP 12-02 / LOM 593	Wine Center	9.6 acres	Under Construction
40178	304 West College Avenue (APN: 89-192-02)	SBCOHA – Community Center/ Lompoc Gardens (DR 14-09)	2094 sq. ft. Community Center and Minor Site Improvements	6.36 acres	Under Construction
40198	1201 North H Street (APN:89-490-13)	Hilton Garden Inn (DR14-11)	Hilton Garden Hotel 156 room hotel	2.8 acres	Approved 6/10/15 Under Construction

TAZ	Location / Address	Project Name / Number	Development Type	Acreage / Sq. Footage	Project Status
40027	340 North G Street (APN: 085-022-012)	Barto Warehouse (DR15-10)	3,500 square foot warehouse	9,812 sq. ft.	Approved 9/9/15 Under Construction
40145	604 North Q Street (APN: 089-143-004)	Triplex DR15-14	New Construction	8,846 sq. ft.	Approved 12/9/15 Under Construction
40162	304 West Ocean Ave (APN: 091-102-021)	The Laundry Room DR 16-05	Exterior façade change – Architectural review	0.48 Acres	Approved 1/11/17 Under Construction
❖ Approved Projects – Plan Check					
40334	Laurel Avenue & Twelfth Street (APN: 99-140-21)	River Terrace (EIR 04-01, LOM 533, DR 04-03, GP 04-01, ZC 04-01)	Residential / commercial development 308 units - single-family residences, town homes, condominiums	26.31 acres	Approved 8-16-05 Grading plans in plan check Map time extension to 8-16-26
40165	410 North K Street (APN: 89-232-10)	Residential Project (LOM 560, ZC 06-02, DR 06-03)	5 unit residential project	.24 acres	Approved 5-8-06 Grading plans in plan check Time extension to 5-8-18
40137	Southeast Corner of Ocean Avenue and R Street (APN: 91-110-47)	Mosaic Walk (LOM 554, DR 05-29, ZC 05-03)	13 unit residential project	1.36 acres	Approved 8-1-06 Map in Plan Check Map time extension to 7-10-20
40075	Southeast Corner of Ocean Avenue & U Street (APN: 85-171-03, 15)	Mosaic Walk (LOM 555, DR 05-30, ZC 05-04)	60 unit residential project	5.13 acres	Approved 8-1-06 Map in Plan Check Map time extension to 7-10-20

TAZ	Location / Address	Project Name / Number	Development Type	Acreage / Sq. Footage	Project Status
40001	The Towbes Residential Development (APN: 97-250- 51, -83, -84)	Residential Project (DR 07-01, LOM 570)	210 residential units	100.96 acres	Approved 5-14-08 Grading Plans in Plan Check Map time extension to 5-14-19
40122	537 North K Street (APN: 89-191-01)	Willis Apartments (DR 14-10)	3 Duplex's	10, 500 sq. ft.	Approved 12-10-14 Building plans in plan check Grading plans in plan check
40268	801 East Ocean Avenue (APN: 085-150-031, -032)	Conserv Fuel DR 16-03	10 Fueling Stations 3560 sq. ft. convenience store - Remodel	0.59 acres	Approved 12-14-16 Building plans in plan check Grading plans in plan check
40154	209 West Ocean Ave (APN: 091-083-009)	Pay-if-Forward CUP 16-03	Outdoor storage of garden wares and plants	0.08 Acres	Approved 2/8/17 Building plans in plan check
40191	638 North H Street (APN:087-131-001)	Fast Pass Car Wash CUP 03-04	Amendment to existing CUP to allow self-service vacuums	0.79 Acres	Approved 4/12/17 Building plans in plan check
40187	516 North I Street (APN: 87-191-12)	Commercial Project (DR 06-06)	Mini market	700 sq. ft.	Approved 7/10/06 Building plans submitted for remaining 15% of work in plan check

TAZ	Location / Address	Project Name / Number	Development Type	Acreage / Sq. Footage	Project Status
40201	1405 North H Street (APN: 093-450-032)	CFT Development DR 16-02	4,350 sq. ft. two-tenant restaurant/retail pad	1.02 Acres	Approved 1/11/17 Building plans in plan check
40132	231 North O Street (APN: 091-040-058)	O Street Daycare CUP 16-02	3,253 sq. ft. daycare addition to existing church	0.88 Acres	Approved 1/11/17 Building plans in plan check Grading plans in plan check
40275	400 & 405 East Ocean Ave (APN: 085-172-001 & -002)	Starbucks CUP 16-01	1,840 sq. ft. drive-thru coffee shop	0.4 Acres	Approved 3/8/17 Building plans in plan check Grading plans in plan check
❖ Approved Projects					
40107	1275 North V Street (APN: 93-070-36)	Coastal Meadows (LOM 557, DR 05-39)	42 unit residential project	3.09 acres	Approved 7-18-06 Time extension to 6-12-17
40002	The Cottages at Burton Ranch (APN: 97-250-70, -85, -86)	Residential Project (DR 07-02, LOM 567)	55 residential units with common open space	14.3 acres	Approved 5-14-08 Time extension to 5-14-19
40201	1016 West Aviation Drive (APN: 093-450-046)	Wine Storage DR 16-01	31,119 sq. ft. Building New Construction	1.84 acres	Approved 6/15/16
40001	Harris Grade and Purisima Road (APN: 097-250-040)	Summit View Homes DR 12-04	44 Homes New Construction	10 Acres	Approved 6/29/16
40201	440 Commerce Court (APN: 093-450-006)	Wine Warehouse DR 16-06	13,906 sq. ft. wine storage and production shell building	0.81 Acres	Approved 1/11/17

TAZ	Location / Address	Project Name / Number	Development Type	Acreage / Sq. Footage	Project Status
40107	1275 North V Street (APN: 093-070-036)	Coastal Meadows LOM 557	40-residential lots – time extension	3.14 Acres	Pending
40201	432 Commerce Court (APN: 093-480-004, & -005)	The Compound CUP 17-02	7,740 sq. ft. martial arts building in existing industrial building	0.77 Acres	Pending
40263	Corner of East Chestnut Ave and North D Street (APN: 085-033-001, -004, -005, -006, -007, 085-040-001, -002, -003, & -004)	Transit Center DR 15-13, LOM 601	City of Lompoc Transit Operation and Fleet Maintenance Facility	4.24 Acres	Pending

TRAFFIC COUNT DATA

Prepared by National Data & Surveying Services

V St & Ocean Ave

Peak Hour Turning Movement Count

ID: 17-08085-001
City: Lompoc

Day: Thursday
Date: 09/28/2017

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — V St

AM	91	85	139	0	219	AM
NOON	0	0	0	0	0	NOON
PM	24	66	111	0	268	PM

0 2 0 0

EASTBOUND — Ocean Ave

AM	NOON	PM	
345	0	112	
0	0	0	0
20	0	60	1
95	0	252	2
6	0	24	0
AM	NOON	PM	

WESTBOUND — Ocean Ave

PM	NOON	AM	
151	0	81	0
80	0	217	2
29	0	86	1
0	0	1	0
381	0	322	
PM	NOON	AM	

CONTROL

4-Way Stop

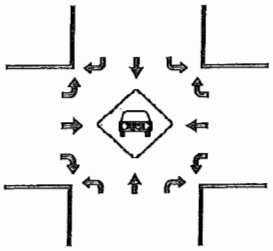
TEV	1063 AM	0 NOON	880 PM
PHF	0.77		0.86

0 0 1 0

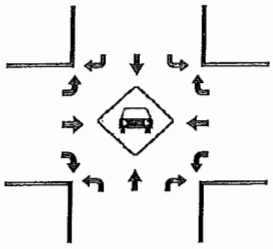
NORTHBOUND — V St

PM	119	0	8	57	18	PM
NOON	0	0	0	0	0	NOON
AM	177	0	37	118	87	AM

Total Vehicles (AM)



Total Vehicles (NOON)



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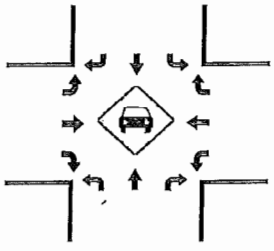
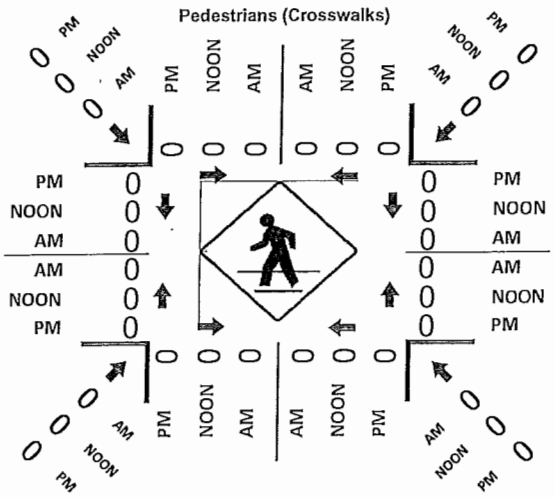


Pedestrians (Crosswalks)



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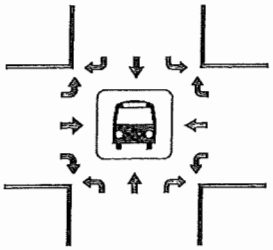

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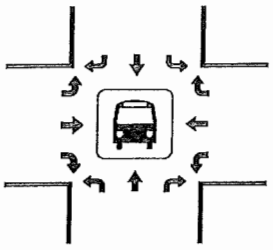
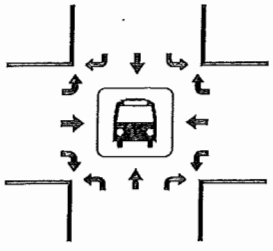


Total Vehicles (PM)



Prepared by National Data & Surveying Services

U St & Ocean Ave

Peak Hour Turning Movement Count

ID: 17-08085-002
City: Lompoc

Day: Thursday
Date: 09/28/2017

PEAK HOURS: 07:15 AM - 08:15 AM; NONE; 04:15 PM - 05:15 PM

COUNT PERIODS: 07:00 AM - 09:00 AM; NONE; 04:00 PM - 06:00 PM

U St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Ocean Ave — EASTBOUND

AM	NOON	PM	
384	0	259	⇦
0	0	0	↶ 0
0	0	0	↱ 0
307	0	326	→ 2
14	0	52	↴ 0
AM	NOON	PM	

CONTROL

1-Way Stop(NB)

TEV	747 AM	0 NOON	685 PM
PHF	0.78		0.86

Ocean Ave — WESTBOUND

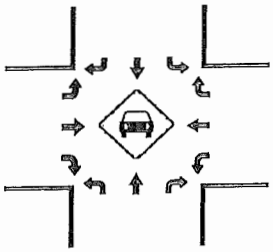
PM	NOON	AM	
0	0	0	↰ 0
239	0	339	← 2
33	0	12	↙ 0
0	0	0	↳ 0
341	0	337	⇨
PM	NOON	AM	

U St — NORTHBOUND

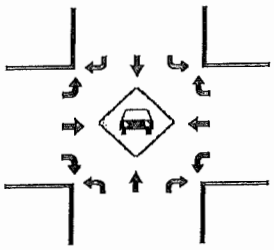
PM	85	0	20	0	15	PM
NOON	0	0	0	0	0	NOON
AM	26	0	45	0	30	AM

0 0 1 0

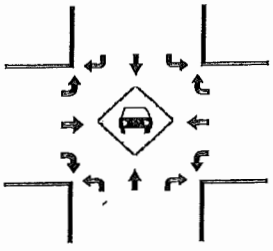
Total Vehicles (AM)



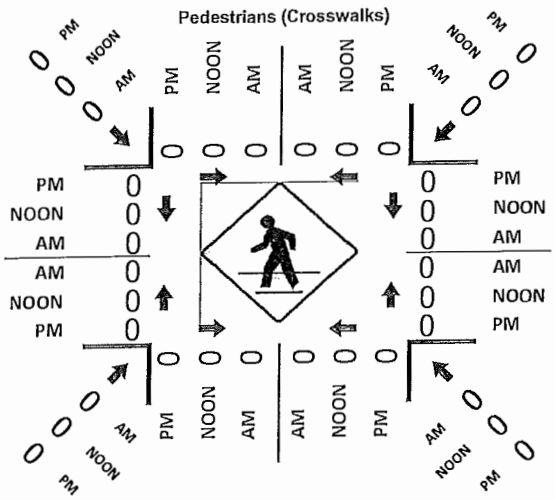
Total Vehicles (NOON)



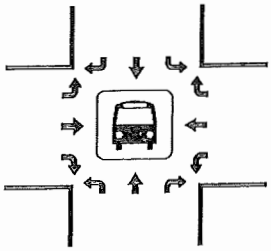
Total Vehicles (PM)



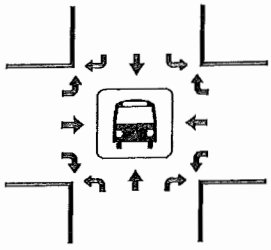
Pedestrians (Crosswalks)



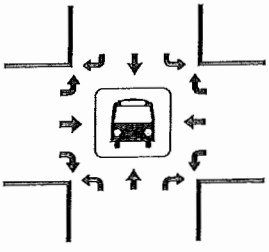
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

T St & Ocean Ave

Peak Hour Turning Movement Count

ID: 17-08085-003
City: Lompoc

Day: Thursday
Date: 09/28/2017

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

T St — SOUTHBOUND

AM	41	0	34	0	38	AM
NOON	0	0	0	0	0	NOON
PM	14	0	20	0	45	PM

0 1 0 0

Ocean Ave — EASTBOUND

AM	NOON	PM		
353	0	287	⇦	
0	0	0	↶	0
29	0	14	↑	0
308	0	307	→	2
0	0	0	↷	0
AM	NOON	PM		

CONTROL

1-Way Stop(SB)

TEV	733	0	659
	AM	NOON	PM
PHF	0.75		0.85

Ocean Ave — WESTBOUND

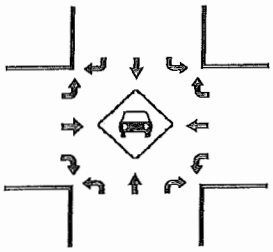
PM	NOON	AM		
0	0	0	↶	0
273	0	312	←	2
31	0	9	↰	0
0	0	0	↩	0
327	0	342	⇨	
PM	NOON	AM		

0 0 0 0

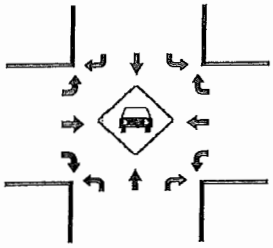
T St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

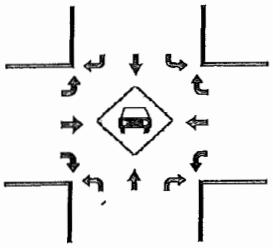
Total Vehicles (AM)



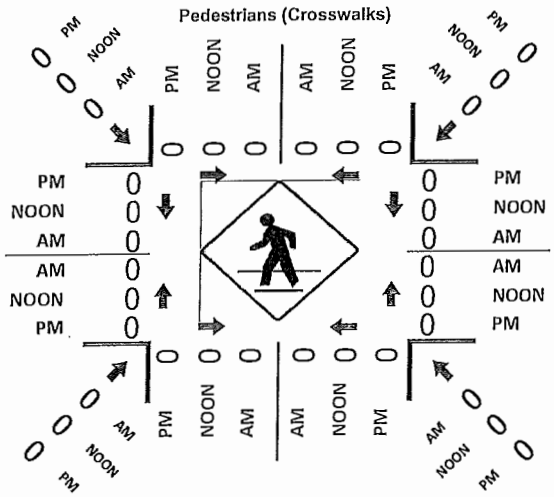
Total Vehicles (NOON)



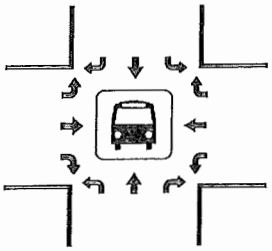
Total Vehicles (PM)



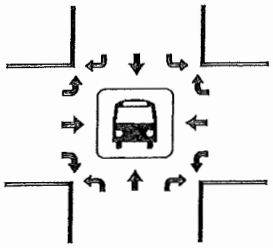
Pedestrians (Crosswalks)



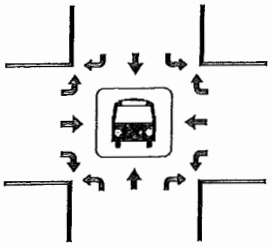
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

R St & Ocean Ave

Peak Hour Turning Movement Count

ID: 17-08085-004
City: Lompoc

Day: Thursday
Date: 09/28/2017

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND (R St)

AM	53	35	47	0	126	AM
NOON	0	0	0	0	0	NOON
PM	35	46	59	0	157	PM

0 1 0 0

EASTBOUND (Ocean Ave)

AM	NOON	PM	
311	0	323	
0	0	0	0
32	0	28	1
292	0	275	2
8	0	21	0
AM	NOON	PM	

WESTBOUND (Ocean Ave)

PM	NOON	AM	
77	0	45	0
280	0	246	2
59	0	32	1
0	0	0	0
384	0	382	
PM	NOON	AM	

CONTROL

Signalized

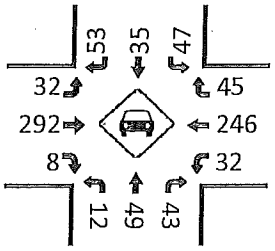
TEV	894	0	990
	AM	NOON	PM
PHF	0.74		0.85

0 0 1 0

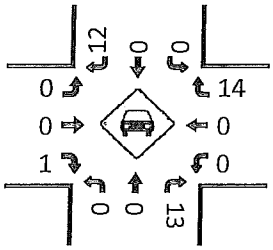
NORTHBOUND (R St)

PM	126	0	8	52	50	PM
NOON	0	0	0	0	0	NOON
AM	75	0	12	49	43	AM

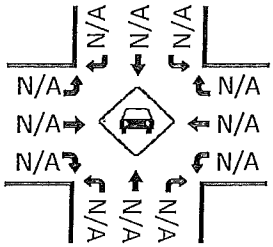
Total Vehicles (AM)



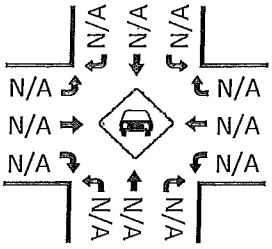
RTOR (AM)



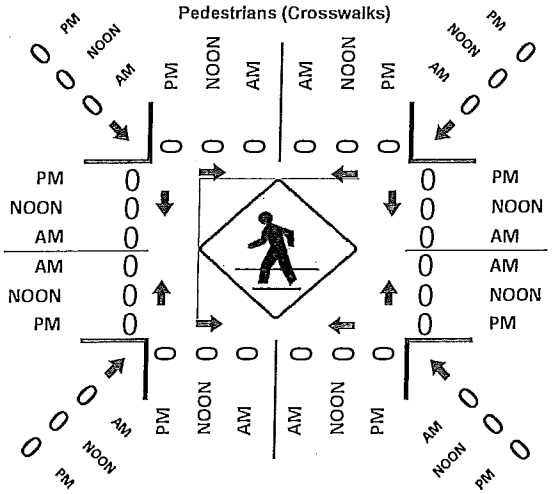
Total Vehicles (NOON)



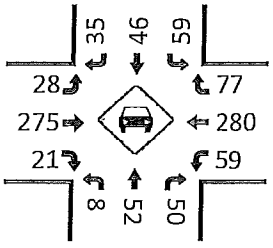
RTOR (NOON)



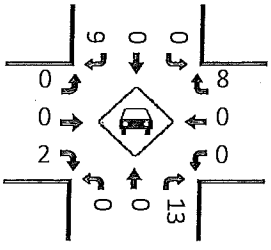
Pedestrians (Crosswalks)



Total Vehicles (PM)



RTOR (PM)



Prepared by National Data & Surveying Services

O St & Ocean Ave

Peak Hour Turning Movement Count

ID: 17-08085-005
City: Lompoc

Day: Thursday
Date: 09/28/2017

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — O St

AM	44	178	85	0	242	AM
NOON	0	0	0	0	0	NOON
PM	74	150	88	0	264	PM
	1	1	1	0		

EASTBOUND — Ocean Ave

AM	NOON	PM	
327	0	465	
0	0	0	0
27	0	29	1
299	0	304	2
63	0	35	0
AM	NOON	PM	

WESTBOUND — Ocean Ave

PM	NOON	AM	
107	0	40	0
339	0	224	2
43	0	14	1
0	0	0	0
414	0	418	
PM	NOON	AM	

CONTROL

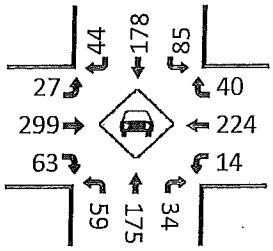
Signalized

TEV	1242 AM	0 NOON	1371 PM
PHF	0.80		0.91

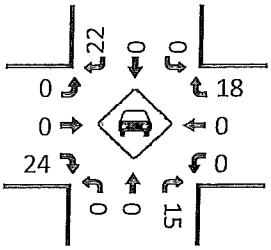
NORTHBOUND — O St

PM	228	0	52	128	22	PM
NOON	0	0	0	0	0	NOON
AM	255	0	59	175	34	AM
		0	1	1	0	

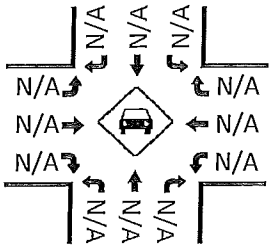
Total Vehicles (AM)



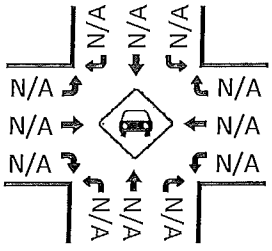
RTOR (AM)



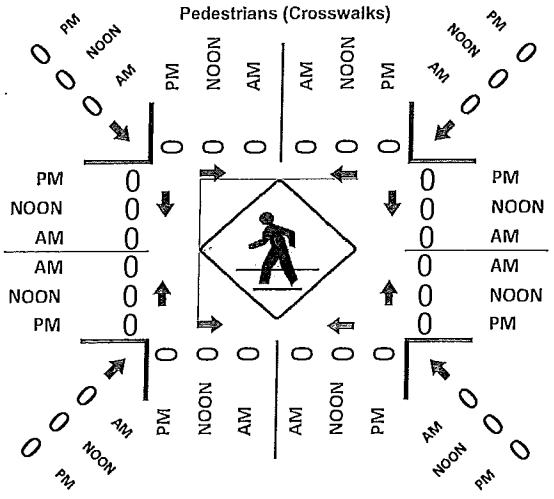
Total Vehicles (NOON)



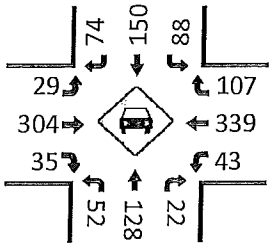
RTOR (NOON)



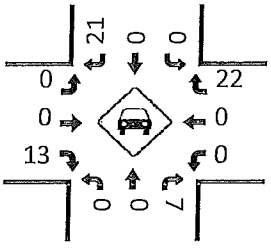
Pedestrians (Crosswalks)



Total Vehicles (PM)



RTOR (PM)



INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 – Ocean Avenue/V Street
Reference 2 – Ocean Avenue/U Street
Reference 3 – Ocean Avenue/T Street
Reference 4 – Ocean Avenue/R Street
Reference 5 – Ocean Avenue/O Street

EXISTING AM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	20	95	6	0	87	217	81	0	37	118	87
Future Vol, veh/h	0	20	95	6	0	87	217	81	0	37	118	87
Peak Hour Factor	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	123	8	0	113	282	105	0	48	153	113
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.8	17.7	22.7
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	30%	0%	45%	0%	62%	0%
Vol Thru, %	49%	70%	89%	55%	57%	38%	0%
Vol Right, %	36%	0%	11%	0%	43%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	68	54	196	190	224	91
LT Vol	37	20	0	87	0	139	0
Through Vol	118	48	48	109	109	85	0
RT Vol	87	0	6	0	81	0	91
Lane Flow Rate	314	88	69	254	246	291	118
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.641	0.202	0.156	0.538	0.485	0.624	0.219
Departure Headway (Hd)	7.339	8.294	8.059	7.627	7.09	7.722	6.686
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	490	431	444	472	507	468	535
Service Time	5.397	6.066	5.831	5.384	4.847	5.482	4.446
HCM Lane V/C Ratio	0.641	0.204	0.155	0.538	0.485	0.622	0.221
HCM Control Delay	22.7	13.2	12.3	19	16.4	22.5	11.3
HCM Lane LOS	C	B	B	C	C	C	B
HCM 95th-tile Q	4.4	0.7	0.5	3.1	2.6	4.2	0.8

EXISTING + PROJECT AM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	20	96	6	0	88	218	83	0	37	118	88
Future Vol, veh/h	0	20	96	6	0	88	218	83	0	37	118	88
Peak Hour Factor	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	125	8	0	114	283	108	0	48	153	114
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.9	18.1	23.2
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	29%	0%	45%	0%	63%	0%
Vol Thru, %	49%	71%	89%	55%	57%	37%	0%
Vol Right, %	36%	0%	11%	0%	43%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	243	68	54	197	192	231	91
LT Vol	37	20	0	88	0	146	0
Through Vol	118	48	48	109	109	85	0
RT Vol	88	0	6	0	83	0	91
Lane Flow Rate	316	88	70	256	249	300	118
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.648	0.205	0.158	0.546	0.494	0.647	0.221
Departure Headway (Hd)	7.394	8.361	8.128	7.68	7.139	7.767	6.726
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	489	428	440	468	504	465	533
Service Time	5.453	6.135	5.901	5.44	4.898	5.526	4.484
HCM Lane V/C Ratio	0.646	0.206	0.159	0.547	0.494	0.645	0.221
HCM Control Delay	23.2	13.3	12.4	19.4	16.7	23.8	11.4
HCM Lane LOS	C	B	B	C	C	C	B
HCM 95th-tile Q	4.5	0.8	0.6	3.2	2.7	4.5	0.8

CUMULATIVE AM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	19.3
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	20	96	6	0	88	219	85	0	37	119	88
Future Vol, veh/h	0	20	96	6	0	88	219	85	0	37	119	88
Peak Hour Factor	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	125	8	0	114	284	110	0	48	155	114
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.9	18.2	23.4
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	29%	0%	45%	0%	62%	0%
Vol Thru, %	49%	71%	89%	55%	56%	38%	0%
Vol Right, %	36%	0%	11%	0%	44%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	68	54	198	195	229	93
LT Vol	37	20	0	88	0	143	0
Through Vol	119	48	48	110	110	86	0
RT Vol	88	0	6	0	85	0	93
Lane Flow Rate	317	88	70	256	253	297	121
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.652	0.205	0.159	0.548	0.501	0.643	0.226
Departure Headway (Hd)	7.402	8.373	8.14	7.686	7.142	7.779	6.741
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	488	427	439	469	503	464	531
Service Time	5.463	6.149	5.915	5.445	4.901	5.54	4.502
HCM Lane V/C Ratio	0.65	0.206	0.159	0.546	0.503	0.64	0.228
HCM Control Delay	23.4	13.3	12.5	19.4	16.9	23.6	11.5
HCM Lane LOS	C	B	B	C	C	C	B
HCM 95th-tile Q	4.6	0.8	0.6	3.2	2.8	4.4	0.9

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	20	97	6	0	89	220	84	0	37	119	89
Future Vol, veh/h	0	20	97	6	0	89	220	84	0	37	119	89
Peak Hour Factor	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77	0.92	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	126	8	0	116	286	109	0	48	155	116
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	13	18.5	23.8
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	29%	0%	45%	0%	63%	0%
Vol Thru, %	49%	71%	89%	55%	57%	37%	0%
Vol Right, %	36%	0%	11%	0%	43%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	69	55	199	194	235	93
LT Vol	37	20	0	89	0	149	0
Through Vol	119	49	49	110	110	86	0
RT Vol	89	0	6	0	84	0	93
Lane Flow Rate	318	89	71	258	252	305	121
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.658	0.208	0.161	0.555	0.503	0.662	0.227
Departure Headway (Hd)	7.443	8.422	8.19	7.73	7.187	7.81	6.767
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	484	425	437	465	501	461	529
Service Time	5.505	6.201	5.969	5.492	4.949	5.572	4.529
HCM Lane V/C Ratio	0.657	0.209	0.162	0.555	0.503	0.662	0.229
HCM Control Delay	23.8	13.4	12.5	19.8	17.1	24.7	11.5
HCM Lane LOS	C	B	B	C	C	C	B
HCM 95th-tile Q	4.7	0.8	0.6	3.3	2.8	4.7	0.9

EXISTING PM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	60	252	24	0	29	80	151	0	8	57	18
Future Vol, veh/h	0	60	252	24	0	29	80	151	0	8	57	18
Peak Hour Factor	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	70	293	28	0	34	93	176	0	9	66	21
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.1	11.2	11.3
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	10%	32%	0%	42%	0%	63%	0%
Vol Thru, %	69%	68%	84%	58%	21%	37%	0%
Vol Right, %	22%	0%	16%	0%	79%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	186	150	69	191	177	24
LT Vol	8	60	0	29	0	111	0
Through Vol	57	126	126	40	40	66	0
RT Vol	18	0	24	0	151	0	24
Lane Flow Rate	97	216	174	80	222	206	28
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.181	0.376	0.29	0.144	0.35	0.393	0.045
Departure Headway (Hd)	6.768	6.257	5.98	6.454	5.678	6.881	5.852
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	528	573	600	554	631	523	610
Service Time	4.838	4.01	3.732	4.211	3.435	4.637	3.608
HCM Lane V/C Ratio	0.184	0.377	0.29	0.144	0.352	0.394	0.046
HCM Control Delay	11.3	12.8	11.2	10.3	11.5	14.1	8.9
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.7	1.7	1.2	0.5	1.6	1.9	0.1

EXISTING + PROJECT PM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	60	253	24	0	31	82	161	0	8	57	19
Future Vol, veh/h	0	60	253	24	0	31	82	161	0	8	57	19
Peak Hour Factor	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	70	294	28	0	36	95	187	0	9	66	22
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.2	11.5	11.5
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	10%	32%	0%	43%	0%	64%	0%
Vol Thru, %	68%	68%	84%	57%	20%	36%	0%
Vol Right, %	23%	0%	16%	0%	80%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	187	151	72	202	182	24
LT Vol	8	60	0	31	0	116	0
Through Vol	57	127	127	41	41	66	0
RT Vol	19	0	24	0	161	0	24
Lane Flow Rate	98	217	175	84	235	212	28
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.186	0.381	0.294	0.151	0.373	0.408	0.046
Departure Headway (Hd)	6.837	6.318	6.041	6.502	5.715	6.94	5.906
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	568	593	549	627	516	603
Service Time	4.915	4.08	3.803	4.268	3.481	4.705	3.67
HCM Lane V/C Ratio	0.187	0.382	0.295	0.153	0.375	0.411	0.046
HCM Control Delay	11.5	13	11.3	10.4	11.9	14.4	9
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.7	1.8	1.2	0.5	1.7	2	0.1

CUMULATIVE PM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	61	255	24	0	29	81	155	0	8	58	18
Future Vol, veh/h	0	61	255	24	0	29	81	155	0	8	58	18
Peak Hour Factor	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	71	297	28	0	34	94	180	0	9	67	21
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.2	11.4	11.5
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	10%	32%	0%	42%	0%	63%	0%
Vol Thru, %	69%	68%	84%	58%	21%	37%	0%
Vol Right, %	21%	0%	16%	0%	79%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	189	152	70	196	182	24
LT Vol	8	61	0	29	0	115	0
Through Vol	58	128	128	41	41	67	0
RT Vol	18	0	24	0	155	0	24
Lane Flow Rate	98	219	176	81	227	212	28
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.185	0.384	0.295	0.146	0.361	0.407	0.046
Departure Headway (Hd)	6.822	6.301	6.024	6.496	5.72	6.919	5.887
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	570	594	550	625	518	606
Service Time	4.9	4.061	3.784	4.261	3.484	4.682	3.65
HCM Lane V/C Ratio	0.187	0.384	0.296	0.147	0.363	0.409	0.046
HCM Control Delay	11.5	13	11.3	10.4	11.7	14.4	8.9
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.7	1.8	1.2	0.5	1.6	2	0.1

CUMULATIVE + PROJECT PM PEAK HOUR
1: V Street & Ocean Avenue

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	61	256	24	0	31	83	163	0	8	58	19
Future Vol, veh/h	0	61	256	24	0	31	83	163	0	8	58	19
Peak Hour Factor	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86	0.92	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	71	298	28	0	36	97	190	0	9	67	22
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	12.3	11.6	11.6
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	9%	32%	0%	43%	0%	64%	0%
Vol Thru, %	68%	68%	84%	57%	20%	36%	0%
Vol Right, %	22%	0%	16%	0%	80%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	189	152	73	205	184	24
LT Vol	8	61	0	31	0	117	0
Through Vol	58	128	128	42	42	67	0
RT Vol	19	0	24	0	163	0	24
Lane Flow Rate	99	220	177	84	238	214	28
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.189	0.387	0.298	0.153	0.379	0.414	0.046
Departure Headway (Hd)	6.873	6.344	6.067	6.528	5.743	6.967	5.933
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	565	590	547	623	516	601
Service Time	4.952	4.107	3.83	4.295	3.509	4.733	3.698
HCM Lane V/C Ratio	0.191	0.389	0.3	0.154	0.382	0.415	0.047
HCM Control Delay	11.6	13.1	11.4	10.5	12	14.6	9
HCM Lane LOS	B	B	B	B	B	B	A
HCM 95th-tile Q	0.7	1.8	1.2	0.5	1.8	2	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	307	14	12	339	45	30
Future Vol, veh/h	307	14	12	339	45	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	394	18	15	435	58	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	412	0	651	206
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	248	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1143	-	401	800
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	770	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1143	-	396	800
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1143	-
HCM Lane V/C Ratio	0.194	-	-	0.013	-
HCM Control Delay (s)	14	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

→ AWD = 13.2 Sec = LOS B

EXISTING + PROJECT AM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	312	18	12	342	46	30
Future Vol, veh/h	312	18	12	342	46	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	23	15	438	59	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	423	0	662	212
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	250	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1133	-	395	793
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1133	-	390	793
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	488	-	-	1133	-
HCM Lane V/C Ratio	0.2	-	-	0.014	-
HCM Control Delay (s)	14.2	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

→ AWD = 13.4 SEC = LOS B

CUMULATIVE AM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	312	14	12	345	45	30
Future Vol, veh/h	312	14	12	345	45	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	18	15	442	58	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	418	0	661	209
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1138	-	395	797
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1138	-	390	797
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	-	-	1138	-
HCM Lane V/C Ratio	0.196	-	-	0.014	-
HCM Control Delay (s)	14.1	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

→ AWD = 13.3 SEC = LOS B

CUMULATIVE + PROJECT AM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	316	18	12	345	46	30
Future Vol, veh/h	316	18	12	345	46	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	405	23	15	442	59	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	428	0	669	214
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1128	-	391	791
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1128	-	386	791
Mov Cap-2 Maneuver	-	-	-	-	386	-
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	484	-	-	1128	-
HCM Lane V/C Ratio	0.201	-	-	0.014	-
HCM Control Delay (s)	14.3	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0	-

→ AVG = 13.5 sec = LOS B

EXISTING PM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	326	52	33	239	20	15
Future Vol, veh/h	326	52	33	239	20	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	379	60	38	278	23	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	440	0	625	220
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1116	-	417	784
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1116	-	403	784
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	772	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	509	-	-	1116	-
HCM Lane V/C Ratio	0.08	-	-	0.034	-
HCM Control Delay (s)	12.7	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

→ AWD = 10.6 Sec = LOS B

EXISTING + PROJECT PM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	330	55	33	247	26	15
Future Vol, veh/h	330	55	33	247	26	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	384	64	38	287	30	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	448	0	636	224
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1109	-	410	779
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	795	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1109	-	396	779
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	483	-	-	1109	-
HCM Lane V/C Ratio	0.099	-	-	0.035	-
HCM Control Delay (s)	13.3	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

→ AVD = 11.1 SEC = LOS B

CUMULATIVE PM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	333	53	33	244	20	15
Future Vol, veh/h	333	53	33	244	20	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	387	62	38	284	23	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	449	0	637	224
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	219	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1108	-	410	779
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	796	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1108	-	396	779
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	769	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	502	-	-	1108	-
HCM Lane V/C Ratio	0.081	-	-	0.035	-
HCM Control Delay (s)	12.8	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

→ AWD = 10.7 Sec = LOS B

CUMULATIVE + PROJECT PM PEAK HOUR
2: U Street & Ocean Avenue

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	334	56	33	250	26	15
Future Vol, veh/h	334	56	33	250	26	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	388	65	38	291	30	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	453	0	643	227
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1104	-	406	776
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1104	-	392	776
Mov Cap-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	1104	-
HCM Lane V/C Ratio	0.1	-	-	0.035	-
HCM Control Delay (s)	13.3	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

AWDT 11.1 SEE = LOS B

EXISTING AM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	29	308	312	9	34	41
Future Vol, veh/h	29	308	312	9	34	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	411	416	12	45	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	428	0	-	0	705	214
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1128	-	-	-	371	791
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1128	-	-	-	358	791
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1128	-	-	-	602
HCM Lane V/C Ratio	0.034	-	-	-	0.166
HCM Control Delay (s)	8.3	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

→ Avg = 11.1 sec = LOS B

EXISTING + PROJECT AM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	29	307	6	52	311	9	4	1	17	34	3	41
Future Vol, veh/h	29	307	6	52	311	9	4	1	17	34	3	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	409	8	69	415	12	5	1	23	45	4	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	427	0	0	417	0	0	839	1056	209	842	1054	213
Stage 1	-	-	-	-	-	-	491	491	-	559	559	-
Stage 2	-	-	-	-	-	-	348	565	-	283	495	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1129	-	-	1138	-	-	259	224	797	257	225	792
Stage 1	-	-	-	-	-	-	528	546	-	481	509	-
Stage 2	-	-	-	-	-	-	641	506	-	700	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1129	-	-	1138	-	-	221	203	797	231	204	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	221	203	-	231	204	-
Stage 1	-	-	-	-	-	-	510	527	-	464	478	-
Stage 2	-	-	-	-	-	-	556	475	-	655	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.2	12.7	18.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	496	1129	-	-	1138	-	-	365
HCM Lane V/C Ratio	0.059	0.034	-	-	0.061	-	-	0.285
HCM Control Delay (s)	12.7	8.3	-	-	8.4	-	-	18.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-	1.2

→ AWD = 13.3 sec - LOS B

CUMULATIVE AM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	29	312	1	5	316	9	3	0	22	34	0	41
Future Vol, veh/h	29	312	1	5	316	9	3	0	22	34	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	416	1	7	421	12	4	0	29	45	0	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	433	0	0	417	0	0	718	941	209	726	936	217
Stage 1	-	-	-	-	-	-	494	494	-	441	441	-
Stage 2	-	-	-	-	-	-	224	447	-	285	495	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1123	-	-	1138	-	-	316	262	797	312	264	787
Stage 1	-	-	-	-	-	-	526	545	-	565	575	-
Stage 2	-	-	-	-	-	-	758	572	-	698	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1123	-	-	1138	-	-	285	251	797	291	253	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	251	-	291	253	-
Stage 1	-	-	-	-	-	-	508	526	-	545	571	-
Stage 2	-	-	-	-	-	-	701	568	-	649	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.1	10.8	15.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	656	1123	-	-	1138	-	-	444
HCM Lane V/C Ratio	0.051	0.034	-	-	0.006	-	-	0.225
HCM Control Delay (s)	10.8	8.3	-	-	8.2	-	-	15.4
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.9

→ AWD = 12.7 sec = LOS B

CUMULATIVE + PROJECT AM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	29	311	6	52	315	9	4	1	17	34	3	41
Future Vol, veh/h	29	311	6	52	315	9	4	1	17	34	3	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	415	8	69	420	12	5	1	23	45	4	55

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	423	0	0	847	1067	211	850	1065	216
Stage 1	-	-	-	-	-	-	496	496	-	565	565	-
Stage 2	-	-	-	-	-	-	351	571	-	285	500	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1124	-	-	1133	-	-	255	221	794	254	221	789
Stage 1	-	-	-	-	-	-	524	544	-	477	506	-
Stage 2	-	-	-	-	-	-	639	503	-	698	541	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1124	-	-	1133	-	-	217	200	794	228	200	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	200	-	228	200	-
Stage 1	-	-	-	-	-	-	506	525	-	460	475	-
Stage 2	-	-	-	-	-	-	554	472	-	653	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.2	12.8	19
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	491	1124	-	-	1133	-	-	361
HCM Lane V/C Ratio	0.06	0.034	-	-	0.061	-	-	0.288
HCM Control Delay (s)	12.8	8.3	-	-	8.4	-	-	19
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-	1.2

→ AWD = 13.5 SEC = LOS B

EXISTING PM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	14	307	273	31	20	14
Future Vol, veh/h	14	307	273	31	20	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	361	321	36	24	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	358	0	-	0	553	179
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1197	-	-	-	463	833
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1197	-	-	-	457	833
Mov Cap-2 Maneuver	-	-	-	-	543	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	790	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1197	-	-	-	634
HCM Lane V/C Ratio	0.014	-	-	-	0.063
HCM Control Delay (s)	8	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

→ AWD = 10.1 sec = LOS B

EXISTING + PROJECT PM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	305	0	40	271	31	10	5	72	20	3	14
Future Vol, veh/h	14	305	0	40	271	31	10	5	72	20	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	92	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	359	0	47	319	36	12	6	85	24	4	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	355	0	0	359	0	0	647	841	179	646	823	178
Stage 1	-	-	-	-	-	-	392	392	-	431	431	-
Stage 2	-	-	-	-	-	-	255	449	-	215	392	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1200	-	-	1196	-	-	356	300	833	357	307	834
Stage 1	-	-	-	-	-	-	604	605	-	573	581	-
Stage 2	-	-	-	-	-	-	727	571	-	767	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1200	-	-	1196	-	-	332	284	833	303	291	834
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	284	-	303	291	-
Stage 1	-	-	-	-	-	-	596	597	-	565	558	-
Stage 2	-	-	-	-	-	-	680	549	-	673	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	11.6	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	648	1200	-	-	1196	-	-	397
HCM Lane V/C Ratio	0.158	0.014	-	-	0.039	-	-	0.11
HCM Control Delay (s)	11.6	8	-	-	8.1	-	-	15.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.4

→ AWD = 11.3 SEC = LOS B

CUMULATIVE PM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	311	3	21	276	31	2	0	11	20	0	14
Future Vol, veh/h	14	311	3	21	276	31	2	0	11	20	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	92	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	366	3	25	325	36	2	0	13	24	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	369	0	0	612	811	185	608	794	181
Stage 1	-	-	-	-	-	-	400	400	-	392	392	-
Stage 2	-	-	-	-	-	-	212	411	-	216	402	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1194	-	-	1186	-	-	377	312	826	380	319	831
Stage 1	-	-	-	-	-	-	597	600	-	604	605	-
Stage 2	-	-	-	-	-	-	770	593	-	766	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1194	-	-	1186	-	-	360	301	826	364	308	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	301	-	364	308	-
Stage 1	-	-	-	-	-	-	589	592	-	596	592	-
Stage 2	-	-	-	-	-	-	739	581	-	744	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	10.3	13.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	689	1194	-	-	1186	-	-	474
HCM Lane V/C Ratio	0.022	0.014	-	-	0.021	-	-	0.084
HCM Control Delay (s)	10.3	8.1	-	-	8.1	-	-	13.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.3

→ AWD = 10.6 SBL = LOS B

CUMULATIVE + PROJECT PM PEAK HOUR
3: Ocean Avenue & T Street

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	309	6	40	274	31	10	5	72	20	3	14
Future Vol, veh/h	14	309	6	40	274	31	10	5	72	20	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	92	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	364	7	47	322	36	12	6	85	24	4	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	370	0	0	657	853	185	653	838	179
Stage 1	-	-	-	-	-	-	400	400	-	435	435	-
Stage 2	-	-	-	-	-	-	257	453	-	218	403	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1196	-	-	1185	-	-	350	295	826	352	301	833
Stage 1	-	-	-	-	-	-	597	600	-	570	579	-
Stage 2	-	-	-	-	-	-	725	568	-	764	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1196	-	-	1185	-	-	326	280	826	298	285	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	326	280	-	298	285	-
Stage 1	-	-	-	-	-	-	589	592	-	562	556	-
Stage 2	-	-	-	-	-	-	678	545	-	670	590	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.9	11.7	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	641	1196	-	-	1185	-	-	392
HCM Lane V/C Ratio	0.16	0.014	-	-	0.04	-	-	0.111
HCM Control Delay (s)	11.7	8.1	-	-	8.2	-	-	15.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.4

→ AWD = 11.4 SEE LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	292	8	32	246	45	12	49	43	47	35	53
Future Volume (veh/h)	32	292	8	32	246	45	12	49	43	47	35	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	395	11	43	332	61	16	66	58	64	47	72
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	1002	28	89	852	155	155	193	152	248	122	135
Arrive On Green	0.05	0.28	0.28	0.05	0.28	0.28	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	3517	98	1774	2993	544	99	893	701	401	562	625
Grp Volume(v), veh/h	43	198	208	43	195	198	140	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1845	1774	1770	1767	1693	0	0	1587	0	0
Q Serve(g_s), s	0.7	2.7	2.7	0.7	2.7	2.7	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.7	2.7	2.7	0.7	2.7	2.7	2.1	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.31	0.11		0.41	0.35		0.39
Lane Grp Cap(c), veh/h	89	504	526	89	504	503	500	0	0	505	0	0
V/C Ratio(X)	0.48	0.39	0.39	0.48	0.39	0.39	0.28	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	324	1058	1104	324	1058	1057	1131	0	0	1080	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	8.7	8.7	13.9	8.7	8.7	10.0	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.5	0.5	4.0	0.5	0.5	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	1.5	0.4	1.4	1.4	1.0	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	17.9	9.2	9.2	17.9	9.1	9.2	10.4	0.0	0.0	10.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		449			436			140			183	
Approach Delay, s/veh		10.0			10.0			10.4			10.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.0	6.0	13.1		11.0	6.0	13.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.1	2.7	4.7		4.9	2.7	4.7
Green Ext Time (p_c), s		1.7	0.0	3.8		1.7	0.0	3.9

Intersection Summary		
HCM 2010 Ctrl Delay		10.2
HCM 2010 LOS		B

EXISTING + PROJECT AM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	304	8	32	283	45	15	49	43	47	35	67
Future Volume (veh/h)	36	304	8	32	283	45	15	49	43	47	35	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	49	411	11	43	382	61	20	66	58	64	47	91
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1055	28	88	900	143	156	200	153	229	116	161
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3522	94	1774	3062	485	120	886	679	354	516	714
Grp Volume(v), veh/h	49	206	216	43	220	223	144	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1846	1774	1770	1777	1685	0	0	1584	0	0
Q Serve(g_s), s	0.9	2.9	2.9	0.7	3.2	3.2	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.9	2.9	0.7	3.2	3.2	2.2	0.0	0.0	3.4	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.27	0.14		0.40	0.32		0.45
Lane Grp Cap(c), veh/h	98	530	553	88	520	522	509	0	0	507	0	0
V/C Ratio(X)	0.50	0.39	0.39	0.49	0.42	0.43	0.28	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	307	1031	1076	279	1003	1008	1067	0	0	1023	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	8.8	8.8	14.7	9.0	9.1	10.4	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	3.9	0.5	0.4	4.1	0.5	0.6	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.5	1.6	0.5	1.6	1.6	1.1	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	18.5	9.3	9.3	18.8	9.6	9.6	10.7	0.0	0.0	11.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		471			486			144			202	
Approach Delay, s/veh		10.2			10.4			10.7			11.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.7	6.1	14.0		11.7	6.3	13.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.0	18.5		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.2	2.7	4.9		5.4	2.9	5.2
Green Ext Time (p_c), s		1.8	0.0	4.2		1.8	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

CUMULATIVE AM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	309	8	33	252	46	12	52	46	48	35	56
Future Volume (veh/h)	41	309	8	33	252	46	12	52	46	48	35	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	55	418	11	45	341	62	16	70	62	65	47	76
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1040	27	92	858	154	149	194	154	243	120	140
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	3523	93	1774	2998	539	92	892	710	397	550	642
Grp Volume(v), veh/h	55	210	219	45	200	203	148	0	0	188	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1846	1774	1770	1768	1694	0	0	1589	0	0
Q Serve(g_s), s	0.9	2.9	2.9	0.8	2.8	2.9	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.9	2.9	0.8	2.8	2.9	2.3	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.31	0.11		0.42	0.35		0.40
Lane Grp Cap(c), veh/h	108	522	545	92	506	506	497	0	0	502	0	0
V/C Ratio(X)	0.51	0.40	0.40	0.49	0.39	0.40	0.30	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	315	1056	1102	286	1027	1026	1098	0	0	1048	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.1	8.7	8.7	14.3	8.9	8.9	10.4	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.5	0.5	4.0	0.5	0.5	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	1.5	0.5	1.4	1.4	1.1	0.0	0.0	1.5	0.0	0.0
LnGrp Delay(d),s/veh	17.8	9.2	9.2	18.3	9.4	9.4	10.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		484			448			148			188	
Approach Delay, s/veh		10.2			10.3			10.7			11.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.2	6.1	13.6		11.2	6.4	13.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.0	18.5		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.3	2.8	4.9		5.0	2.9	4.9
Green Ext Time (p_c), s		1.8	0.0	4.1		1.7	0.0	4.0

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

CUMULATIVE + PROJECT AM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	307	8	33	286	46	12	52	46	48	35	68
Future Volume (veh/h)	37	307	8	33	286	46	12	52	46	48	35	68
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	50	415	11	45	386	62	16	70	62	65	47	92
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	1055	28	91	902	144	145	203	161	229	116	162
Arrive On Green	0.06	0.30	0.30	0.05	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	3523	93	1774	3059	487	89	895	709	357	512	714
Grp Volume(v), veh/h	50	208	218	45	222	226	148	0	0	204	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1846	1774	1770	1777	1693	0	0	1583	0	0
Q Serve(g_s), s	0.9	3.0	3.0	0.8	3.2	3.3	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.0	3.0	0.8	3.2	3.3	2.3	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.27	0.11		0.42	0.32		0.45
Lane Grp Cap(c), veh/h	99	530	553	91	522	524	509	0	0	507	0	0
V/C Ratio(X)	0.50	0.39	0.39	0.49	0.43	0.43	0.29	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	305	1024	1069	278	997	1001	1064	0	0	1015	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.7	8.9	8.9	14.8	9.1	9.1	10.4	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	3.9	0.5	0.5	4.1	0.6	0.6	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.5	1.6	0.5	1.6	1.7	1.2	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	18.5	9.4	9.3	18.8	9.6	9.7	10.8	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		476			493			148			204	
Approach Delay, s/veh		10.3			10.5			10.8			11.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.7	6.1	14.1		11.7	6.3	13.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.0	18.5		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.3	2.8	5.0		5.5	2.9	5.3
Green Ext Time (p_c), s		1.9	0.0	4.3		1.8	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	275	21	59	280	77	8	52	50	59	46	35
Future Volume (veh/h)	28	275	21	59	280	77	8	52	50	59	46	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	324	25	69	329	91	9	61	59	69	54	41
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	908	70	130	840	229	141	174	156	275	137	80
Arrive On Green	0.04	0.27	0.27	0.07	0.31	0.31	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	3332	256	1774	2751	750	57	866	778	512	684	399
Grp Volume(v), veh/h	33	171	178	69	210	210	129	0	0	164	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1818	1774	1770	1730	1700	0	0	1596	0	0
Q Serve(g_s), s	0.5	2.3	2.3	1.1	2.8	2.9	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	2.3	2.3	1.1	2.8	2.9	1.9	0.0	0.0	2.5	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.43	0.07		0.46	0.42		0.25
Lane Grp Cap(c), veh/h	71	482	495	130	540	529	471	0	0	492	0	0
V/C Ratio(X)	0.46	0.36	0.36	0.53	0.39	0.40	0.27	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	316	1071	1100	328	1082	1058	1148	0	0	1098	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	8.7	8.7	13.3	8.1	8.2	10.3	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.4	0.4	3.4	0.5	0.5	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.2	0.7	1.4	1.4	0.9	0.0	0.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	18.6	9.2	9.2	16.7	8.6	8.7	10.6	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		382			489			129			164	
Approach Delay, s/veh		10.0			9.8			10.6			10.9	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.5	6.7	12.6		10.5	5.7	13.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.3	18.2
Max Q Clear Time (g_c+I1), s		3.9	3.1	4.3		4.5	2.5	4.9
Green Ext Time (p_c), s		1.5	0.0	3.8		1.5	0.0	3.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

EXISTING + PROJECT PM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	308	21	59	308	77	8	52	50	59	46	45
Future Volume (veh/h)	47	308	21	59	308	77	8	52	50	59	46	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	55	362	25	69	362	91	9	61	59	69	54	53
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	970	67	128	844	210	135	178	160	257	132	98
Arrive On Green	0.06	0.29	0.29	0.07	0.30	0.30	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3360	231	1774	2811	698	55	868	778	469	644	480
Grp Volume(v), veh/h	55	190	197	69	226	227	129	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1822	1774	1770	1740	1701	0	0	1593	0	0
Q Serve(g_s), s	0.9	2.7	2.7	1.2	3.2	3.3	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.7	2.7	1.2	3.2	3.3	2.0	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.40	0.07		0.46	0.39		0.30
Lane Grp Cap(c), veh/h	108	511	526	128	531	522	473	0	0	488	0	0
V/C Ratio(X)	0.51	0.37	0.37	0.54	0.43	0.43	0.27	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	285	1023	1054	313	1052	1034	1097	0	0	1049	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	8.8	8.8	13.9	8.7	8.8	10.6	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.4	0.4	3.5	0.5	0.6	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	0.7	1.6	1.6	1.0	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	17.9	9.3	9.3	17.4	9.3	9.3	10.9	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		442			522			129			176	
Approach Delay, s/veh		10.3			10.4			10.9			11.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.9	6.7	13.5		10.9	6.4	13.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5
Max Q Clear Time (g_c+I1), s		4.0	3.2	4.7		4.9	2.9	5.3
Green Ext Time (p_c), s		1.6	0.0	4.1		1.5	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

CUMULATIVE PM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	286	21	63	297	78	8	54	52	60	48	42
Future Volume (veh/h)	32	286	21	63	297	78	8	54	52	60	48	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	336	25	74	349	92	9	64	61	71	56	49
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	919	68	135	852	222	137	181	161	266	138	92
Arrive On Green	0.05	0.27	0.27	0.08	0.31	0.31	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3341	247	1774	2781	724	53	874	775	486	664	444
Grp Volume(v), veh/h	38	177	184	74	220	221	134	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1819	1774	1770	1735	1702	0	0	1594	0	0
Q Serve(g_s), s	0.6	2.5	2.5	1.2	3.0	3.1	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.6	2.5	2.5	1.2	3.0	3.1	2.0	0.0	0.0	2.8	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.42	0.07		0.46	0.40		0.28
Lane Grp Cap(c), veh/h	80	487	500	135	542	531	479	0	0	496	0	0
V/C Ratio(X)	0.47	0.36	0.37	0.55	0.41	0.42	0.28	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	313	1041	1070	319	1047	1027	1118	0	0	1067	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.3	8.9	8.9	13.6	8.4	8.4	10.4	0.0	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.5	0.5	3.4	0.5	0.5	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	1.3	0.7	1.5	1.5	1.0	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	18.6	9.4	9.4	17.0	8.9	9.0	10.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		399			515			134			176	
Approach Delay, s/veh		10.3			10.1			10.7			11.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		10.8	6.8	12.9		10.8	5.9	13.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.4	18.1
Max Q Clear Time (g_c+I1), s		4.0	3.2	4.5		4.8	2.6	5.1
Green Ext Time (p_c), s		1.6	0.0	3.9		1.6	0.0	3.9

Intersection Summary		
HCM 2010 Ctrl Delay		10.4
HCM 2010 LOS		B

CUMULATIVE + PROJECT PM PEAK HOUR
4: R Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	330	21	63	311	78	8	54	52	60	48	45
Future Volume (veh/h)	47	330	21	63	311	78	8	54	52	60	48	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	55	388	25	74	366	92	9	64	61	71	56	53
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	977	63	134	856	213	133	181	161	257	135	97
Arrive On Green	0.06	0.29	0.29	0.08	0.30	0.30	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	3377	217	1774	2811	698	52	875	775	474	651	469
Grp Volume(v), veh/h	55	203	210	74	229	229	134	0	0	180	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1824	1774	1770	1740	1702	0	0	1594	0	0
Q Serve(g_s), s	0.9	2.9	2.9	1.3	3.3	3.3	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.9	2.9	1.3	3.3	3.3	2.1	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.40	0.07		0.46	0.39		0.29
Lane Grp Cap(c), veh/h	108	512	528	134	539	530	474	0	0	489	0	0
V/C Ratio(X)	0.51	0.40	0.40	0.55	0.42	0.43	0.28	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	281	1009	1041	309	1037	1020	1083	0	0	1035	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.4	9.0	9.0	14.1	8.8	8.8	10.8	0.0	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	3.7	0.5	0.5	3.5	0.5	0.6	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	1.5	0.7	1.7	1.7	1.0	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	18.1	9.5	9.5	17.6	9.3	9.4	11.1	0.0	0.0	11.5	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B			B		
Approach Vol, veh/h		468			532			134			180	
Approach Delay, s/veh		10.5			10.5			11.1			11.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		11.0	6.9	13.6		11.0	6.4	14.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5
Max Q Clear Time (g_c+I1), s		4.1	3.3	4.9		5.0	2.9	5.3
Green Ext Time (p_c), s		1.6	0.0	4.2		1.6	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.7
HCM 2010 LOS	B

Community Health Center Project REFERENCE #05PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

TIME PERIOD: *PM*

N/S STREET: *O STREET*

E/W STREET: *OCEAN AVENUE*

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING	52	128	22	88	150	74	29	304	35	43	339	107
(B) PROJECT	2	0	0	0	0	8	14	33	4	0	18	0
(C) CUMULATIVE	53	129	22	89	152	80	31	310	35	43	354	108

GEOMETRICS

GEOMETRICS	NORTH BOUND L TR	SOUTH BOUND L T R	EAST BOUND L T TR	WEST BOUND L T TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
SCENARIO 2: EXISTING+PROJECT (A+B)
SCENARIO 3: CUMULATIVE (C)
SCENARIO 4: CUMULATIVE+PROJECT(B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	52	54	53	55	0.03	0.03	0.03	0.03
NBT	1	1600	128	128	129	129	0.09 *	0.09 *	0.09 *	0.09 *
NBR	0	0	22	22	22	22	-	-	-	-
SBL	1	1600	88	88	89	89	0.06 *	0.06 *	0.06 *	0.06 *
SBT	1	1600	150	150	152	152	0.09	0.09	0.10	0.10
SBR	1	1600	74	82	80	88	0.05	0.05	0.05	0.06
EBL	1	1600	29	43	31	45	0.02 *	0.03 *	0.02 *	0.03 *
EBT	2	3200	304	337	310	343	0.11	0.12	0.11	0.12
EBR	0	0	35	39	35	39	-	-	-	-
WBL	1	1600	43	43	43	43	0.03	0.03	0.03	0.03
WBT	2	3200	339	357	354	372	0.14 *	0.15 *	0.14 *	0.15 *
WBR	0	0	107	107	108	108	-	-	-	-
		LOST TIME:					0.10 *	0.10 *	0.10 *	0.10 *
		INTERSECTION CAPACITY UTILIZATION:					0.41	0.42	0.41	0.43
		LEVEL OF SERVICE:					A	A	A	A

NOTES:

10/06/17

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	299	63	14	224	40	59	175	34	85	178	44
Future Volume (veh/h)	27	299	63	14	224	40	59	175	34	85	178	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	34	374	79	18	280	50	74	219	42	106	222	55
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	782	164	41	756	133	464	501	96	444	614	522
Arrive On Green	0.04	0.27	0.27	0.02	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	2915	610	1774	3008	530	1098	1520	291	1114	1863	1583
Grp Volume(v), veh/h	34	226	227	18	163	167	74	0	261	106	222	55
Grp Sat Flow(s),veh/h/ln	1774	1770	1755	1774	1770	1769	1098	0	1811	1114	1863	1583
Q Serve(g_s), s	0.7	3.8	3.9	0.4	2.7	2.8	2.0	0.0	4.0	2.9	3.2	0.9
Cycle Q Clear(g_c), s	0.7	3.8	3.9	0.4	2.7	2.8	5.2	0.0	4.0	7.0	3.2	0.9
Prop In Lane	1.00		0.35	1.00		0.30	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	71	475	471	41	444	444	464	0	597	444	614	522
V/C Ratio(X)	0.48	0.47	0.48	0.44	0.37	0.38	0.16	0.00	0.44	0.24	0.36	0.11
Avail Cap(c_a), veh/h	264	910	902	249	895	895	664	0	926	646	952	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	10.9	10.9	17.2	11.0	11.0	11.1	0.0	9.3	12.1	9.1	8.3
Incr Delay (d2), s/veh	4.9	0.7	0.8	7.4	0.5	0.5	0.2	0.0	0.5	0.3	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.9	1.9	0.3	1.4	1.4	0.6	0.0	2.0	0.9	1.7	0.4
LnGrp Delay(d),s/veh	21.6	11.7	11.7	24.6	11.5	11.5	11.2	0.0	9.9	12.3	9.4	8.4
LnGrp LOS	C	B	B	C	B	B	B		A	B	A	A
Approach Vol, veh/h		487			348			335			383	
Approach Delay, s/veh		12.4			12.2			10.2			10.1	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.2	5.3	14.1		16.2	5.9	13.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.2	5.0	18.3		18.2	5.3	18.0
Max Q Clear Time (g_c+I1), s		7.2	2.4	5.9		9.0	2.7	4.8
Green Ext Time (p_c), s		3.1	0.0	3.7		2.8	0.0	3.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.3
HCM 2010 LOS	B

EXISTING + PROJECT AM PEAK HOUR
5: O Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	307	64	14	248	40	62	175	34	85	178	54
Future Volume (veh/h)	30	307	64	14	248	40	62	175	34	85	178	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	38	384	80	18	310	50	78	219	42	106	222	68
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	801	165	41	774	123	458	499	96	440	612	520
Arrive On Green	0.04	0.27	0.27	0.02	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	2923	603	1774	3058	488	1085	1520	291	1114	1863	1583
Grp Volume(v), veh/h	38	231	233	18	178	182	78	0	261	106	222	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1756	1774	1770	1777	1085	0	1811	1114	1863	1583
Q Serve(g_s), s	0.8	3.9	4.0	0.4	3.0	3.1	2.1	0.0	4.1	3.0	3.3	1.1
Cycle Q Clear(g_c), s	0.8	3.9	4.0	0.4	3.0	3.1	5.4	0.0	4.1	7.0	3.3	1.1
Prop In Lane	1.00		0.34	1.00		0.27	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	78	485	481	41	448	449	458	0	595	440	612	520
V/C Ratio(X)	0.49	0.48	0.48	0.44	0.40	0.40	0.17	0.00	0.44	0.24	0.36	0.13
Avail Cap(c_a), veh/h	266	903	897	246	884	887	646	0	910	633	935	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	10.9	10.9	17.4	11.2	11.2	11.3	0.0	9.5	12.3	9.2	8.5
Incr Delay (d2), s/veh	4.7	0.7	0.8	7.4	0.6	0.6	0.2	0.0	0.5	0.3	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.0	2.0	0.3	1.5	1.5	0.7	0.0	2.1	0.9	1.7	0.5
LnGrp Delay(d),s/veh	21.5	11.7	11.7	24.8	11.8	11.8	11.5	0.0	10.0	12.5	9.6	8.6
LnGrp LOS	C	B	B	C	B	B	B		B	B	A	A
Approach Vol, veh/h		502			378			339			396	
Approach Delay, s/veh		12.4			12.4			10.3			10.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.3	5.3	14.4		16.3	6.1	13.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.1	5.0	18.4		18.1	5.4	18.0
Max Q Clear Time (g_c+I1), s		7.4	2.4	6.0		9.0	2.8	5.1
Green Ext Time (p_c), s		3.1	0.0	3.9		2.8	0.0	4.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	314	63	14	230	40	59	177	34	86	179	45
Future Volume (veh/h)	33	314	63	14	230	40	59	177	34	86	179	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	41	392	79	18	288	50	74	221	42	108	224	56
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	805	161	41	755	130	460	501	95	439	614	521
Arrive On Green	0.05	0.27	0.27	0.02	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	2941	587	1774	3023	518	1095	1522	289	1112	1863	1583
Grp Volume(v), veh/h	41	234	237	18	167	171	74	0	263	108	224	56
Grp Sat Flow(s),veh/h/ln	1774	1770	1759	1774	1770	1771	1095	0	1812	1112	1863	1583
Q Serve(g_s), s	0.8	4.0	4.1	0.4	2.8	2.9	2.0	0.0	4.1	3.0	3.3	0.9
Cycle Q Clear(g_c), s	0.8	4.0	4.1	0.4	2.8	2.9	5.3	0.0	4.1	7.2	3.3	0.9
Prop In Lane	1.00		0.33	1.00		0.29	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	83	484	482	41	442	443	460	0	597	439	614	521
V/C Ratio(X)	0.49	0.48	0.49	0.44	0.38	0.39	0.16	0.00	0.44	0.25	0.37	0.11
Avail Cap(c_a), veh/h	270	907	902	246	883	883	645	0	904	627	929	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	11.0	11.0	17.4	11.2	11.2	11.2	0.0	9.5	12.3	9.2	8.4
Incr Delay (d2), s/veh	4.5	0.8	0.8	7.4	0.5	0.6	0.2	0.0	0.5	0.3	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.1	2.1	0.3	1.4	1.4	0.6	0.0	2.1	1.0	1.7	0.4
LnGrp Delay(d),s/veh	21.3	11.7	11.8	24.8	11.7	11.8	11.4	0.0	10.0	12.6	9.6	8.5
LnGrp LOS	C	B	B	C	B	B	B		B	B	A	A
Approach Vol, veh/h		512			356			337			388	
Approach Delay, s/veh		12.5			12.4			10.3			10.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.4	5.3	14.4		16.4	6.2	13.5
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.0	18.5		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		7.3	2.4	6.1		9.2	2.8	4.9
Green Ext Time (p_c), s		3.1	0.0	3.8		2.7	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	312	64	14	252	40	62	177	34	86	179	54
Future Volume (veh/h)	32	312	64	14	252	40	62	177	34	86	179	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	40	390	80	18	315	50	78	221	42	108	224	68
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	808	164	41	775	122	456	502	95	438	614	522
Arrive On Green	0.05	0.28	0.28	0.02	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1774	2931	596	1774	3066	482	1083	1522	289	1112	1863	1583
Grp Volume(v), veh/h	40	234	236	18	180	185	78	0	263	108	224	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1758	1774	1770	1778	1083	0	1812	1112	1863	1583
Q Serve(g_s), s	0.8	4.0	4.1	0.4	3.1	3.1	2.1	0.0	4.1	3.1	3.3	1.1
Cycle Q Clear(g_c), s	0.8	4.0	4.1	0.4	3.1	3.1	5.5	0.0	4.1	7.2	3.3	1.1
Prop In Lane	1.00		0.34	1.00		0.27	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	81	488	485	41	448	450	456	0	597	438	614	522
V/C Ratio(X)	0.49	0.48	0.49	0.44	0.40	0.41	0.17	0.00	0.44	0.25	0.36	0.13
Avail Cap(c_a), veh/h	269	902	896	244	877	881	636	0	898	623	923	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	11.0	11.0	17.5	11.3	11.3	11.4	0.0	9.5	12.4	9.3	8.5
Incr Delay (d2), s/veh	4.6	0.7	0.8	7.4	0.6	0.6	0.2	0.0	0.5	0.3	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.0	2.1	0.3	1.6	1.6	0.7	0.0	2.1	1.0	1.7	0.5
LnGrp Delay(d),s/veh	21.5	11.7	11.8	24.9	11.9	11.9	11.5	0.0	10.1	12.7	9.6	8.6
LnGrp LOS	C	B	B	C	B	B	B		B	B	A	A
Approach Vol, veh/h		510			383			341			400	
Approach Delay, s/veh		12.5			12.5			10.4			10.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		16.5	5.3	14.5		16.5	6.2	13.7
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.0	18.5		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		7.5	2.4	6.1		9.2	2.8	5.1
Green Ext Time (p_c), s		3.1	0.0	3.9		2.8	0.0	4.0

Intersection Summary		
HCM 2010 Ctrl Delay		11.5
HCM 2010 LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	304	35	43	339	107	52	128	22	88	150	74
Future Volume (veh/h)	29	304	35	43	339	107	52	128	22	88	150	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	32	334	38	47	373	118	57	141	24	97	165	81
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	905	102	94	788	246	434	415	71	448	498	424
Arrive On Green	0.04	0.28	0.28	0.05	0.30	0.30	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	3206	362	1774	2656	830	1129	1552	264	1216	1863	1583
Grp Volume(v), veh/h	32	183	189	47	247	244	57	0	165	97	165	81
Grp Sat Flow(s),veh/h/ln	1774	1770	1799	1774	1770	1716	1129	0	1816	1216	1863	1583
Q Serve(g_s), s	0.6	2.8	2.9	0.9	3.9	4.0	1.5	0.0	2.5	2.4	2.4	1.3
Cycle Q Clear(g_c), s	0.6	2.8	2.9	0.9	3.9	4.0	3.9	0.0	2.5	4.9	2.4	1.3
Prop In Lane	1.00		0.20	1.00		0.48	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	68	499	507	94	525	509	434	0	486	448	498	424
V/C Ratio(X)	0.47	0.37	0.37	0.50	0.47	0.48	0.13	0.00	0.34	0.22	0.33	0.19
Avail Cap(c_a), veh/h	261	938	954	287	964	935	730	0	963	768	988	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	9.8	9.8	15.6	9.8	9.8	11.5	0.0	10.0	12.0	10.0	9.6
Incr Delay (d2), s/veh	5.0	0.5	0.5	4.1	0.7	0.7	0.1	0.0	0.4	0.2	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.4	1.5	0.5	1.9	1.9	0.5	0.0	1.3	0.8	1.3	0.6
LnGrp Delay(d),s/veh	21.0	10.2	10.2	19.8	10.4	10.5	11.7	0.0	10.4	12.2	10.4	9.8
LnGrp LOS	C	B	B	B	B	B	B		B	B	B	A
Approach Vol, veh/h		404			538			222			343	
Approach Delay, s/veh		11.1			11.3			10.8			10.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		13.6	6.3	14.1		13.6	5.8	14.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5
Max Q Clear Time (g_c+I1), s		5.9	2.9	4.9		6.9	2.6	6.0
Green Ext Time (p_c), s		2.3	0.0	4.2		2.2	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	337	39	43	358	107	54	128	22	88	150	82
Future Volume (veh/h)	43	337	39	43	358	107	54	128	22	88	150	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	47	370	43	47	393	118	59	141	24	97	165	90
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	957	110	93	805	239	421	410	70	437	492	419
Arrive On Green	0.05	0.30	0.30	0.05	0.30	0.30	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	3198	369	1774	2692	799	1120	1552	264	1216	1863	1583
Grp Volume(v), veh/h	47	204	209	47	257	254	59	0	165	97	165	90
Grp Sat Flow(s),veh/h/ln	1774	1770	1798	1774	1770	1722	1120	0	1816	1216	1863	1583
Q Serve(g_s), s	0.9	3.2	3.2	0.9	4.2	4.3	1.6	0.0	2.6	2.5	2.5	1.6
Cycle Q Clear(g_c), s	0.9	3.2	3.2	0.9	4.2	4.3	4.1	0.0	2.6	5.1	2.5	1.6
Prop In Lane	1.00		0.21	1.00		0.46	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	93	529	538	93	529	515	421	0	480	437	492	419
V/C Ratio(X)	0.51	0.38	0.39	0.51	0.49	0.49	0.14	0.00	0.34	0.22	0.34	0.21
Avail Cap(c_a), veh/h	278	906	920	278	906	882	698	0	930	738	954	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	9.8	9.8	16.2	10.1	10.1	12.1	0.0	10.5	12.5	10.4	10.1
Incr Delay (d2), s/veh	4.2	0.5	0.5	4.2	0.7	0.7	0.2	0.0	0.4	0.3	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.6	0.6	2.1	2.1	0.5	0.0	1.3	0.8	1.3	0.7
LnGrp Delay(d),s/veh	20.4	10.2	10.2	20.4	10.8	10.9	12.2	0.0	10.9	12.8	10.8	10.3
LnGrp LOS	C	B	B	C	B	B	B		B	B	B	B
Approach Vol, veh/h		460			558			224			352	
Approach Delay, s/veh		11.3			11.6			11.2			11.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		13.8	6.3	15.0		13.8	6.3	15.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		6.1	2.9	5.2		7.1	2.9	6.3
Green Ext Time (p_c), s		2.3	0.0	4.5		2.2	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

CUMULATIVE PM PEAK HOUR
5: O Street & Ocean Avenue

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	310	35	43	354	108	53	129	22	89	152	80
Future Volume (veh/h)	31	310	35	43	354	108	53	129	22	89	152	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	34	341	38	47	389	119	58	142	24	98	167	88
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	922	102	93	801	242	429	417	70	446	500	425
Arrive On Green	0.04	0.29	0.29	0.05	0.30	0.30	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	3214	356	1774	2679	810	1120	1554	263	1215	1863	1583
Grp Volume(v), veh/h	34	187	192	47	255	253	58	0	166	98	167	88
Grp Sat Flow(s),veh/h/ln	1774	1770	1800	1774	1770	1720	1120	0	1816	1215	1863	1583
Q Serve(g_s), s	0.6	2.9	2.9	0.9	4.1	4.2	1.5	0.0	2.5	2.4	2.5	1.5
Cycle Q Clear(g_c), s	0.6	2.9	2.9	0.9	4.1	4.2	4.0	0.0	2.5	5.0	2.5	1.5
Prop In Lane	1.00		0.20	1.00		0.47	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	72	508	516	93	529	514	429	0	487	446	500	425
V/C Ratio(X)	0.48	0.37	0.37	0.50	0.48	0.49	0.14	0.00	0.34	0.22	0.33	0.21
Avail Cap(c_a), veh/h	273	926	942	284	936	910	715	0	950	755	975	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	9.8	9.8	15.9	9.9	9.9	11.7	0.0	10.1	12.1	10.1	9.8
Incr Delay (d2), s/veh	4.8	0.4	0.4	4.2	0.7	0.7	0.1	0.0	0.4	0.2	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.5	1.5	0.5	2.1	2.1	0.5	0.0	1.3	0.8	1.3	0.7
LnGrp Delay(d),s/veh	21.0	10.2	10.2	20.0	10.6	10.6	11.9	0.0	10.6	12.4	10.5	10.0
LnGrp LOS	C	B	B	C	B	B	B		B	B	B	A
Approach Vol, veh/h		413			555			224			353	
Approach Delay, s/veh		11.1			11.4			10.9			10.9	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		13.7	6.3	14.4		13.7	5.9	14.8
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.3	18.2
Max Q Clear Time (g_c+I1), s		6.0	2.9	4.9		7.0	2.6	6.2
Green Ext Time (p_c), s		2.4	0.0	4.3		2.3	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	338	39	43	362	108	55	129	22	89	152	84
Future Volume (veh/h)	43	338	39	43	362	108	55	129	22	89	152	84
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	47	371	43	47	398	119	60	142	24	98	167	92
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	960	111	93	809	239	419	413	70	437	495	420
Arrive On Green	0.05	0.30	0.30	0.05	0.30	0.30	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	3199	368	1774	2695	797	1116	1554	263	1215	1863	1583
Grp Volume(v), veh/h	47	204	210	47	260	257	60	0	166	98	167	92
Grp Sat Flow(s),veh/h/ln	1774	1770	1798	1774	1770	1722	1116	0	1816	1215	1863	1583
Q Serve(g_s), s	0.9	3.2	3.3	0.9	4.3	4.3	1.6	0.0	2.6	2.5	2.6	1.6
Cycle Q Clear(g_c), s	0.9	3.2	3.3	0.9	4.3	4.3	4.2	0.0	2.6	5.1	2.6	1.6
Prop In Lane	1.00		0.20	1.00		0.46	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	93	531	540	93	531	517	419	0	482	437	495	420
V/C Ratio(X)	0.51	0.38	0.39	0.51	0.49	0.50	0.14	0.00	0.34	0.22	0.34	0.22
Avail Cap(c_a), veh/h	276	901	916	276	901	877	691	0	925	733	949	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	9.8	9.8	16.3	10.1	10.2	12.2	0.0	10.5	12.6	10.5	10.1
Incr Delay (d2), s/veh	4.2	0.5	0.5	4.2	0.7	0.7	0.2	0.0	0.4	0.3	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.6	0.6	2.1	2.1	0.5	0.0	1.3	0.9	1.4	0.7
LnGrp Delay(d),s/veh	20.5	10.2	10.3	20.5	10.8	10.9	12.3	0.0	10.9	12.8	10.9	10.4
LnGrp LOS	C	B	B	C	B	B	B		B	B	B	B
Approach Vol, veh/h		461			564			226			357	
Approach Delay, s/veh		11.3			11.7			11.3			11.3	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		13.9	6.3	15.1		13.9	6.3	15.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		6.2	2.9	5.3		7.1	2.9	6.3
Green Ext Time (p_c), s		2.4	0.0	4.5		2.3	0.0	4.3

Intersection Summary		
HCM 2010 Ctrl Delay		11.4
HCM 2010 LOS		B

Community Health Center Project REFERENCE #04PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

TIME PERIOD: *PM*

N/S STREET: *R STREET*

E/W STREET: *OCEAN AVENUE*

CONTROL TYPE: SIGNAL

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING	8	52	50	59	46	35	28	275	21	59	280	77
(B) PROJECT	0	0	0	0	0	10	19	51	0	0	28	0
(C) CUMULATIVE	8	54	52	60	48	42	32	286	21	63	297	78

GEOMETRICS

GEOMETRICS	NORTH BOUND LTR	SOUTH BOUND LTR	EAST BOUND L T TR	WEST BOUND L T TR

TRAFFIC SCENARIOS

SCENARIO 1: EXISTING (A)
SCENARIO 2: EXISTING+PROJECT (A+B)
SCENARIO 3: CUMULATIVE (C)
SCENARIO 4: CUMULATIVE+PROJECT(B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	8	8	8	8	-	-	-	-
NBT	1	1600	52	52	54	54	0.07 *	0.07 *	0.07 *	0.07 *
NBR	0	0	50	50	52	52	-	-	-	-
SBL	0	0	59	59	60	60	-	-	-	-
SBT	1	1600	46	46	48	48	0.09 *	0.09 *	0.09 *	0.10 *
SBR	0	0	35	45	42	52	-	-	-	-
EBL	1	1600	28	47	32	51	0.02 *	0.03 *	0.02 *	0.03 *
EBT	2	3200	275	326	286	337	0.09	0.11	0.10	0.11
EBR	0	0	21	21	21	21	-	-	-	-
WBL	1	1600	59	59	63	63	0.04	0.04	0.04	0.04
WBT	2	3200	280	308	297	325	0.11 *	0.12 *	0.12 *	0.13 *
WBR	0	0	77	77	78	78	-	-	-	-
		LOST TIME:					0.10 *	0.10 *	0.10 *	0.10 *
		INTERSECTION CAPACITY UTILIZATION:					0.39	0.41	0.40	0.43
		LEVEL OF SERVICE:					A	A	A	A

NOTES:

10/06/17

ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509
Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

December 1, 2017

17075L02

Brian Halvorson
City of Lompoc
100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93438-8001

SUPPLEMENTAL TRAFFIC IMPACT ANLAYSIS FOR THE COMMUNITY HEALTH CENTER PROJECT, CITY OF LOMPOC

Associated Transportation Engineers (ATE) prepared a traffic and circulation study for the Community Health Center Project proposed on Ocean Avenue in the City of Lompoc (study dated October 9, 2017). That study analyzed potential impacts for the Project assuming development of a 28,000 SF medical clinic on the southern portion of the site and 19,750 SF of commercial uses on the northern portion of the site that fronts Ocean Avenue. Vehicular access was analyzed assuming one new driveway on Ocean Avenue opposite T Street, one new driveway on U Street, and one new driveway on the alleyway on the south side of the site.

The following analysis evaluates potential impacts of the Project assuming development of the health clinic only on the southern portion of the site with access via the new driveway on U Street and the new driveway on the alleyway (and no access via the new driveway on Ocean Avenue).

Trip Generation

Table 1 presents the trip generation estimates for the health clinic, as taken from the October 2017 traffic study prepared for the Project.

Table 1
Project Trip Generation

Land Use	Size	ADT		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Health Center	28.0 KSF	36.13	1,012	2.39	67	3.57	100

Notes: Rates are per 1,000 SF of building area.

As shown in Table 1, the health center is forecast to generate 1,012 average daily trips, with 67 trips occurring during the AM peak hour and 100 trips occurring during the PM peak hour.

Potential Impacts

The October 2017 traffic impact study found that development of the entire project (28,000 SF medical clinic + 19,750 SF commercial use) would generate1,887 average daily trips, with 93 trips occurring during the AM peak hour and 154 trips occurring during the PM peak hour. The traffic study found that the study-area intersections would operate at LOS C or better during the AM and PM peak hour periods under Existing + Project and Cumulative + Project conditions. Thus, the addition of Project traffic was found to be insignificant based on City's and Caltrans' LOS C standard.

Since development of the clinic only would result in less traffic generation, it can be assumed that the study-area intersections would also operate at LOS C or better during the AM and PM peak hour periods under Existing + Project and Cumulative + Project conditions. Thus, traffic generated by the clinic only would be insignificant based on the City's and Caltrans' LOS C standard.

The access system evaluated in the October 2017 traffic study assumed one new driveway on Ocean Avenue opposite T Street, one new driveway on U Street, and one new driveway on the alleyway on the south side of the site. Development of the clinic only would provide access via the new driveway on U Street and the new driveway on the alleyway – with no access provided on Ocean Avenue.

Since access via the new driveway on Ocean Avenue opposite T Street would not be available until the northern parcel is development, there would be some additional traffic loading at the Ocean Avenue/U Street intersection during the interim period prior to construction of the new Ocean Avenue driveway. Traffic generated by the clinic only was distributed to the Ocean Avenue/U Street intersection to evaluate Existing + Project and Cumulative + Project operations during the interim period prior to development of the commercial uses and construction of the new Ocean Avenue driveway.

Table 2 lists the Existing + Project and Cumulative + Project levels of service for the Ocean Avenue/U Street intersection assuming traffic generated by the clinic only and access via the driveway on U Street and the driveway on the alleyway (LOS worksheets showing the traffic forecasts are attached for reference).

Table 2
Ocean Avenue/U Street Operations – Clinic Traffic Only – No Ocean Avenue Access

Intersection	Delay/LOS			
	Existing + Project		Cumulative + Project	
	AM Peak	PM Peak	AM Peak	PM Peak
Ocean Avenue/U Street	13.0 Sec. / LOS B	11.2 Sec. / LOS B	13.1 Sec. / LOS B	11.3 Sec. / LOS B

As shown, the Ocean Avenue/U Street intersection is forecast to operate at LOS B under Existing + Project and Cumulative + Project conditions assuming traffic generated by the clinic only, which meets the City's and Caltrans' LOS C standard. Thus, traffic generated by the clinic only would not significantly impact the study-area intersections based on City and Caltrans standards assuming the revised access system.

This concludes our supplemental analysis for the Community Health Center Project.

Associated Transportation Engineers,

Dan Dawson, PTP
Supervising Transportation Planner

DLD

Attachments

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	307	21	52	339	47	41
Future Vol, veh/h	307	21	52	339	47	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	394	27	67	435	60	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	421	0	758	210
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	351	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1135	-	343	796
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1135	-	323	796
Mov Cap-2 Maneuver	-	-	-	-	323	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	447	-	-	1135	-
HCM Lane V/C Ratio	0.252	-	-	0.059	-
HCM Control Delay (s)	15.8	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-

→ AWD = 13.0 SEC = LOS B

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	326	56	55	239	30	72
Future Vol, veh/h	326	56	55	239	30	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	379	65	64	278	35	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	444	0	679	222
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1112	-	385	782
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1112	-	363	782
Mov Cap-2 Maneuver	-	-	-	-	363	-
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	584	-	-	1112	-
HCM Lane V/C Ratio	0.203	-	-	0.058	-
HCM Control Delay (s)	12.7	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

→ AWD = 11.2 SEC = LOS B

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	312	21	52	345	47	41
Future Vol, veh/h	312	21	52	345	47	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	27	67	442	60	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	427	0	767	213
Stage 1	-	-	-	-	413	-
Stage 2	-	-	-	-	354	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1129	-	339	792
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1129	-	319	792
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	442	-	-	1129	-
HCM Lane V/C Ratio	0.255	-	-	0.059	-
HCM Control Delay (s)	15.9	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-

→ AWD = 13.1 SEC = LOS B

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	333	57	55	244	30	72
Future Vol, veh/h	333	57	55	244	30	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	387	66	64	284	35	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	453	0	690	227
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1104	-	379	776
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1104	-	357	776
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	-	-	1104	-
HCM Lane V/C Ratio	0.206	-	-	0.058	-
HCM Control Delay (s)	12.8	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-

→ AWD = 11.3 SEC = LOS B

SECOR

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INTERNATIONAL
INCORPORATED

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Redlands, California 92374
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May 20, 2005

Ms. Chandra Pesheck
The Olson Company
333 Lantana St. #277
Camarillo, CA 93010

RE: PHASE II ENVIRONMENTAL SITE ASSESSMENT
Approximately 6.49 Acres of Land
1212 West Ocean Avenue and 1038 West Ocean Avenue
Lompoc, California
SECOR Project No.: 04OT.29220.32

Dear Ms. Pesheck:

At the request and authorization of the Olson Company, SECOR International Incorporated (SECOR) is pleased to present this report detailing the findings of the Phase II Environmental Site Assessment (ESA) conducted at the subject Site. This investigation was conducted in accordance with SECOR's proposal dated April 22, 2005 and in accordance with the terms provided in The Olson Company's Master Consulting Services Agreement dated November 28, 2001. The findings of the SECOR Phase II ESA are contained in the attached document. In addition, SECOR has provided below for your review, a brief summary of the findings of the completed assessment.

EXECUTIVE SUMMARY

At the request and authorization of the Olson Company, SECOR conducted a Phase II ESA at the subject site. The Phase II ESA was conducted based on the results of the Phase I ESA dated April 22, 2005. Specifically, the Phase I ESA made the following observations and recommendations:

The results of the Draft Phase I ESA investigation recommended that the following issues be addressed prior to Site Development:

- The Site appeared to have been used for agriculture purposes from at least 1928 through at least 1967. As a result of this use, the potential may exist for the presence of pesticide residues in the soil at the Site. SECOR observed no staining or evidence of pesticide release on the property. However, the historical pesticide use is an REC and SECOR recommended testing the soil on the property to determine the potential impact at the Site.

- A former Exxon Mobil gas station, currently an auto glass shop, is located adjacent to the Site's northern and western property lines. SECOR observed no staining or evidence of petroleum release on the property. However, the historical use of the adjacent site as a gas station is an REC and SECOR recommended testing the soil and groundwater at the property line closest to the former service station to determine the potential impact on the Site.

- Robinson's Drycleaners is located at 1202 W. Ocean Avenue, adjacent to the Site's eastern property line. Robinson's Drycleaners is cross-referenced under the FINDS, HAZNET, and DRYCLEANERS databases. The HAZNET database reports manifests from this site for liquids with halogenated organic compounds and halogenated solvent disposals. Given that

the dry cleaners is adjacent to the property, SECOR recommended that soil gas samples be collected on the Site adjacent to this dry cleaners to determine if any release has occurred that would affect human health or development in that area.

Based on the above recommendations SECOR developed a scope of work to address each of the identified environmental concerns stated above. The description of work completed and the results of that investigation are provided below.

SECOR conducted a Phase II subsurface soils and vapor investigation of the Site on May 9, 2005. SECOR's investigation of the property consisted of: 8 shallow exploratory hand auger borings (HA-1 through HA-8) in areas at the Site where pesticides may have been used or accumulated; 3 borings (SB-2, SB-3, and SB-4) in the area adjacent to the former gas station; and one boring (SB-1) in the area adjacent to the dry cleaner.

A summary of the results and recommendations of SECOR's Phase II ESA soil and soil gas investigation are as follows:

- Chemical analysis of selected soil gas samples, collected from near the former gas station, reported methane concentrations of 52 ppmV, 51 ppmV, and 50 ppmV from soil borings SB-2, SB-3, and SB-4, respectively. Based on the results of this investigation, methane has been reported well below typical regulatory action levels at the subject Site. For example, Orange County Fire Authority stipulates an action level of 5,000ppmV. Since methane levels are found not to exceed typical regulatory actions levels, SECOR recommends that no further methane assessment is necessary at this time.

- Chemical analysis of selected soil samples, collected from near the former gas station, reported a concentration of diesel range hydrocarbons in soil boring SB-4@10 (37 mg/Kg). This detected concentration indicated a minor impact that does not require further assessment. As a result, no further investigation is recommended at this time.

- Groundwater was not encountered to the maximum explored depth of 40 feet bgs, as a result, no groundwater sample was collected for laboratory analysis. Although no sample was collected, the soil and soil vapor sample results indicate minor to no detected release from the former gas station. As a result, SECOR feels any potential releases from the former gas station have been addressed by this investigation and no further work is recommended at this time.

- VOCs were not detected above laboratory method reporting limits for all soil gas samples, collected adjacent to the dry cleaner, submitted for analysis. As a result, no further investigation is recommended at this time.

- A summary of the pesticide analytical results is as follows:

    - 4,4'-DDE was detected at concentrations of 0.019 mg/kg, 0.009 mg/kg, 0.009 mg/kg, and 0.085 mg/kg in borings HA-1, HA-2, HA-3, and HA-6, respectively;

    - 4,4'-DDT was detected at concentrations of 0.032 mg/kg, 0.010 mg/kg, 0.009 mg/kg, 0.011 mg/kg, and 0.11 mg/kg in borings HA-1, HA-2, HA-3, HA-4, and HA-6, respectively;

- Toxaphene was detected at concentrations of 0.027 mg/kg and 0.078 mg/kg in borings HA-1 and HA-6, respectively.

- The detected concentrations of 4,4-DDE, 4,4-DDT, and Toxaphene were reported well below their USEPA Preliminary Remediation Goals of 1.7 mg/kg, 1.7 mg/kg, and 0.44 mg/kg, respectively. In addition, the detected concentrations were below the State of California hazardous waste level of 1.0 mg/kg (for DDE and DDT) and 8.0 mg/kg (for toxaphane). As a result, no further investigation is recommended at this time.

All RECs have been addressed by this investigation and no further work is recommended.

It has been a pleasure to provide environmental consulting services for you on this project and we look forward to working with you in the future. Should there be any questions regarding the information provided within the accompanying report, please do not hesitate to contact the undersigned at (909) 335-6116.

Respectfully submitted,
SECOR International Incorporated

Anne E. Perez
Project Geologist

Kyle D. Emerson, CEG 1271
Senior Vice President

cc: Mr. Perry Hughes
Cox, Castle & Nicholson, LLP
20490 Century Park East, 28TH Floor
Los Angeles, California 90067

6.0 CONCLUSIONS AND RECOMMENDATIONS

At the request and authorization of the Olson Company, SECOR conducted a Phase II ESA at the subject site. The Phase II ESA was conducted based on the results of the Phase I ESA dated April 22, 2005. Specifically, the Phase I ESA made the following observations and recommendations:

The results of the Draft Phase I ESA investigation recommended that the following issues be addressed prior to Site Development:

- The Site appeared to have been used for agriculture purposes from at least 1928 through at least 1967. As a result of this use, the potential may exist for the presence of pesticide residues in the soil at the Site. SECOR observed no staining or evidence of pesticide release on the property. However, the historical pesticide use is an REC and SECOR recommended testing the soil on the property to determine the potential impact at the Site.

- A former Exxon Mobil gas station, currently an auto glass shop, is located adjacent to the Site's northern and western property lines. SECOR observed no staining or evidence of petroleum release on the property. However, the historical use of the adjacent site as a gas station is an REC and SECOR recommended testing the soil and groundwater at the property line closest to the former service station to determine the potential impact on the Site.

- Robinson's Drycleaners is located at 1202 W. Ocean Avenue, adjacent to the Site's eastern property line. Robinson's Drycleaners is cross-referenced under the FINDS, HAZNET, and DRYCLEANERS databases. The HAZNET database reports manifests from this site for liquids with halogenated organic compounds and halogenated solvent disposals. Given that the dry cleaners is adjacent to the property, SECOR recommended that soil gas samples be collected on the Site adjacent to this dry cleaners to determine if any release has occurred that would affect human health or development in that area.

Based on the above recommendations SECOR developed a scope of work to address each of the identified environmental concerns stated above. The description of work completed and the results of that investigation are provided below.

SECOR conducted a Phase II subsurface soils and vapor investigation of the Site on May 9, 2005. SECOR's investigation of the property consisted of: 8 shallow exploratory hand auger borings (HA-1 through HA-8) in areas at the Site where pesticides may have been used or accumulated; 3 borings (SB-2, SB-3, and SB-4) in the area adjacent to the former gas station; and one boring (SB-1) in the area adjacent to the dry cleaner.

A summary of the results and recommendations of SECOR's Phase II ESA soil and soil gas investigation are as follows:

- Chemical analysis of selected soil gas samples, collected from near the former gas station, reported methane concentrations of 52 ppmV, 51 ppmV, and 50 ppmV from soil borings SB-2, SB-3, and SB-4, respectively. Based on the results of this investigation, methane has been reported well below typical regulatory action levels at the subject Site. For example, Orange County Fire Authority stipulates an action level of 5,000ppmV. Since methane levels are found

not to exceed typical regulatory actions levels, SECOR recommends that no further methane assessment is necessary at this time.

- Chemical analysis of selected soil samples, collected from near the former gas station, reported a concentration of diesel range hydrocarbons in soil boring SB-4@10 (37 mg/Kg). This detected concentration indicated a minor impact that does not require further assessment. As a result, no further investigation is recommended at this time.

- Groundwater was not encountered to the maximum explored depth of 40 feet bgs, as a result, no groundwater sample was collected for laboratory analysis. Although no sample was collected, the soil and soil vapor sample results indicate minor to no detected release from the former gas station. As a result, SECOR feels any potential releases from the former gas station have been addressed by this investigation and no further work is recommended at this time.

- VOCs were not detected above laboratory method reporting limits for all soil gas samples, collected adjacent to the dry cleaner, submitted for analysis. As a result, no further investigation is recommended at this time.

- A summary of the pesticide analytical results is as follows:

    - 4,4'-DDE was detected at concentrations of 0.019 mg/kg, 0.009 mg/kg, 0.009 mg/kg, and 0.085 mg/kg in borings HA-1, HA-2, HA-3, and HA-6, respectively;

    - 4,4'-DDT was detected at concentrations of 0.032 mg/kg, 0.010 mg/kg, 0.009 mg/kg, 0.011 mg/kg, and 0.11 mg/kg in borings HA-1, HA-2, HA-3, HA-4, and HA-6, respectively;

    - Toxaphene was detected at concentrations of 0.027 mg/kg and 0.078 mg/kg in borings HA-1 and HA-6, respectively.

    - The detected concentrations of 4,4-DDE, 4,4-DDT, and Toxaphene were reported well below their USEPA Preliminary Remediation Goals of 1.7 mg/kg, 1.7 mg/kg, and 0.44 mg/kg, respectively. In addition, the detected concentrations were below the State of California hazardous waste level of 1.0 mg/kg (for DDE and DDT) and 8.0 mg/kg (for toxaphane). As a result, no further investigation is recommended at this time.

All RECs have been addressed by this investigation and no further work is recommended.

Rincon Consultants, Inc.
Environmental Scientists Planners Engineers
www.rinconconsultants.com

Ambient Noise Survey Data Sheet

Instructions: Document noise measurement locations with a photo of the site, including the noise meter. Additionally, take notes on general and secondary noise sources, including the instantaneous noise level if possible. As a reminder, A/C weighting should be set to "A" and generally response time should be set to "fast." For additional information, please review the *Noise Measurement Protocol* in the pelican case.

Project Name: LOMPOC CHC **Job Number:** 17-04844

Date: 10/25/17 **Operator Name:** SARQUILLA

Measurement #1

Location: 1 **Begin time:** 4:13 **Finish time:** 4:28

Measurement No.: 1 **Wind (mph):** 2 **Direction:** E

Cloud Cover Class: Overcast (>80%) ○ Light (20-80%) ○ Sunny (<20%) ⊗

Calibration (dB): Start: 94.1 End: 94.2

Primary Noise Sources: Ocean Blvd **Distance:** ~~See map~~ 490 ft to centerline of Ocean

Secondary Noise Sources: U St. / Vehicles on adjacent residential lot

Notes:

Traffic Count: Passenger Cars: 213 on ocean

Medium to Heavy Duty Trucks (3 axles): 0 Heavy Duty Trucks (4+ axles): 0

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.): people on bikes @ 4:24 PM

Leq:	50.7	SEL:	80.2	Lmax:	69.4	Lmin:	42.2	PK:	86.3
L(05):	53.5	L(10):	52.8	L(50):	50.0	L(90):	47.4	L(95):	46.3

Response: Slow ○ Fast ⊗ Peak ○ Impulse ○ 40 to 100

Measurement #2

Location: 2 **Begin time:** 4:35 **Finish time:** 4:50

Measurement No.: 2 **Wind (mph):** 3 **Direction:** E

Cloud Cover Class: Overcast (>80%) ○ Light (20-80%) ○ Sunny (<20%) ⊗

Calibration (dB): Start: 94.1 End: 94.3

Primary Noise Sources: Ocean Blvd **Distance:** 40 ft to centerline of ocean

Secondary Noise Sources: U. St, Residences across Ocean

Notes:

Traffic Count: Passenger Cars: 195 on ocean

Medium to Heavy Duty Trucks (3 axles): 1 Heavy Duty Trucks (4+ axles): 3

Instantaneous Noise Sources/Levels (e.g., airplane, bus airbrake, etc.):

Leq:	70	SEL:	99.5	Lmax:	86.6	Lmin:	46.5	PK:	112.2
L(05):	75.1	L(10):	73.5	L(50):	66.6	L(90):	56.5	L(95):	53.0

Response: Slow ○ Fast ⊗ Peak ○ Impulse ○ 40 to 100

- Freq Weight : A
- Time Weight : FAST
- Level Range : 40-100
- Max dB : 69.4 - 2017/10/25 16:23:56
- Level Range : 40-100
- SEL : 80.2
- Leq : 50.7
-

No.s	Date Time	(dB)				
1	2017/10/25 16:13:20	49.1	49.0	48.2	48.0	48.8
6	2017/10/25 16:13:25	50.8	50.7	52.6	51.4	50.9
11	2017/10/25 16:13:30	51.8	52.1	51.9	51.7	51.8
16	2017/10/25 16:13:35	50.3	48.8	48.7	48.4	49.2
21	2017/10/25 16:13:40	48.8	49.2	49.9	49.7	50.1
26	2017/10/25 16:13:45	50.2	51.4	50.3	50.5	50.7
31	2017/10/25 16:13:50	51.6	51.3	51.6	50.7	50.9
36	2017/10/25 16:13:55	51.7	51.5	49.6	50.4	49.3
41	2017/10/25 16:14:00	50.2	50.4	50.2	50.4	50.8
46	2017/10/25 16:14:05	49.7	49.4	50.5	50.2	49.2
51	2017/10/25 16:14:10	49.8	49.0	49.3	49.9	50.9
56	2017/10/25 16:14:15	50.8	50.4	51.1	51.7	51.3
61	2017/10/25 16:14:20	51.8	50.8	50.1	50.0	48.8
66	2017/10/25 16:14:25	50.6	49.4	51.8	52.6	54.8
71	2017/10/25 16:14:30	53.8	52.4	49.2	50.0	49.5
76	2017/10/25 16:14:35	51.3	47.8	49.1	51.6	50.2
81	2017/10/25 16:14:40	48.4	47.9	49.7	48.6	48.0
86	2017/10/25 16:14:45	49.5	51.1	49.5	49.4	49.0
91	2017/10/25 16:14:50	48.5	47.3	48.8	49.6	49.6
96	2017/10/25 16:14:55	47.4	47.4	48.3	49.0	48.9
101	2017/10/25 16:15:00	48.9	49.8	50.1	50.8	51.3
106	2017/10/25 16:15:05	50.9	52.3	50.1	50.1	49.0
111	2017/10/25 16:15:10	48.6	49.5	50.3	49.5	49.5
116	2017/10/25 16:15:15	49.1	50.4	49.9	50.5	49.6
121	2017/10/25 16:15:20	48.6	47.8	48.9	48.6	48.2
126	2017/10/25 16:15:25	50.8	53.9	52.8	54.4	55.4
131	2017/10/25 16:15:30	52.8	50.8	51.6	50.1	50.6
136	2017/10/25 16:15:35	50.5	51.6	53.5	56.9	51.3
141	2017/10/25 16:15:40	54.0	54.2	55.5	55.1	51.5
146	2017/10/25 16:15:45	52.0	51.5	51.9	51.2	51.3
151	2017/10/25 16:15:50	50.3	49.4	47.7	47.9	48.1
156	2017/10/25 16:15:55	47.2	50.6	49.8	49.2	49.6
161	2017/10/25 16:16:00	48.5	50.6	50.8	50.9	51.7
166	2017/10/25 16:16:05	51.1	51.1	51.7	51.5	51.6
171	2017/10/25 16:16:10	53.4	52.9	52.7	51.3	51.3
176	2017/10/25 16:16:15	51.8	53.1	53.6	53.2	54.1
181	2017/10/25 16:16:20	53.6	52.6	50.7	51.0	52.2
186	2017/10/25 16:16:25	50.5	49.7	50.4	50.3	52.1
191	2017/10/25 16:16:30	50.7	50.5	50.5	50.5	49.4
196	2017/10/25 16:16:35	48.8	48.3	49.3	48.3	47.9
201	2017/10/25 16:16:40	47.8	47.3	45.7	46.8	50.4
206	2017/10/25 16:16:45	48.0	47.1	47.4	47.5	48.1
211	2017/10/25 16:16:50	47.8	47.3	47.1	46.0	47.8
216	2017/10/25 16:16:55	47.7	46.8	47.1	47.5	48.9
221	2017/10/25 16:17:00	48.6	49.8	50.4	50.7	51.4
226	2017/10/25 16:17:05	50.3	50.9	51.6	52.3	50.9
231	2017/10/25 16:17:10	51.6	51.4	50.3	50.7	50.2
236	2017/10/25 16:17:15	50.3	50.2	50.2	49.3	51.3
241	2017/10/25 16:17:20	50.7	50.7	49.5	48.6	48.4
246	2017/10/25 16:17:25	50.1	49.3	49.0	49.7	49.6
251	2017/10/25 16:17:30	48.8	48.1	47.5	47.4	48.2
256	2017/10/25 16:17:35	48.2	47.7	47.7	48.9	48.7
261	2017/10/25 16:17:40	47.8	46.4	46.1	46.0	45.5
266	2017/10/25 16:17:45	49.5	47.8	46.7	47.1	47.6
271	2017/10/25 16:17:50	46.8	47.9	47.4	48.2	47.9
276	2017/10/25 16:17:55	48.7	47.2	49.6	48.4	50.4
281	2017/10/25 16:18:00	49.8	48.6	49.0	49.0	48.5
286	2017/10/25 16:18:05	48.8	49.7	49.0	49.3	49.6
291	2017/10/25 16:18:10	49.4	51.6	50.7	50.0	51.3
296	2017/10/25 16:18:15	50.7	50.8	51.7	50.5	50.8
301	2017/10/25 16:18:20	50.9	51.6	52.0	49.9	49.8
306	2017/10/25 16:18:25	50.0	48.7	48.2	48.0	48.6
311	2017/10/25 16:18:30	50.7	50.7	51.4	53.0	51.2
316	2017/10/25 16:18:35	51.1	51.7	50.4	49.5	48.9
321	2017/10/25 16:18:40	48.5	49.6	50.0	48.1	47.5
326	2017/10/25 16:18:45	47.2	48.4	47.8	47.6	47.4
331	2017/10/25 16:18:50	50.4	48.4	47.3	47.6	47.0
336	2017/10/25 16:18:55	48.8	48.7	49.3	49.0	48.9
341	2017/10/25 16:19:00	48.7	49.5	50.5	52.1	52.5
346	2017/10/25 16:19:05	51.4	51.0	50.4	49.7	48.7
351	2017/10/25 16:19:10	49.7	50.0	51.2	50.4	52.0
356	2017/10/25 16:19:15	52.0	51.1	50.6	52.8	51.9
361	2017/10/25 16:19:20	52.0	52.7	51.5	50.3	50.1
366	2017/10/25 16:19:25	49.4	50.1	49.0	49.1	48.8
371	2017/10/25 16:19:30	48.8	48.1	50.1	48.9	48.6
376	2017/10/25 16:19:35	49.1	48.6	47.5	49.6	49.8
381	2017/10/25 16:19:40	49.5	49.6	49.7	51.2	49.5
386	2017/10/25 16:19:45	49.0	48.3	46.8	47.0	47.0
391	2017/10/25 16:19:50	47.4	47.8	47.4	47.7	47.4
396	2017/10/25 16:19:55	49.4	49.6	50.2	50.5	53.7
401	2017/10/25 16:20:00	52.3	53.1	49.5	49.3	49.9
406	2017/10/25 16:20:05	50.3	49.8	48.8	50.2	50.8
411	2017/10/25 16:20:10	49.9	49.2	49.9	50.1	50.7
416	2017/10/25 16:20:15	50.0	51.7	51.2	52.9	51.9
421	2017/10/25 16:20:20	53.3	54.8	54.1	54.7	53.2

426	2017/10/25	16:20:25	53.5	52.5	52.6	52.2	51.8
431	2017/10/25	16:20:30	52.3	52.0	52.7	53.4	56.1
436	2017/10/25	16:20:35	57.8	58.2	58.0	54.7	52.7
441	2017/10/25	16:20:40	52.4	51.6	49.8	50.1	50.2
446	2017/10/25	16:20:45	48.2	47.5	46.3	45.8	46.5
451	2017/10/25	16:20:50	45.9	47.0	47.9	49.4	51.0
456	2017/10/25	16:20:55	50.3	48.4	51.3	50.1	50.5
461	2017/10/25	16:21:00	49.7	50.4	49.8	49.1	48.0
466	2017/10/25	16:21:05	48.0	47.5	47.4	46.5	47.7
471	2017/10/25	16:21:10	48.1	48.8	49.1	47.7	47.3
476	2017/10/25	16:21:15	48.5	48.6	48.3	48.6	46.3
481	2017/10/25	16:21:20	47.0	46.1	46.0	46.2	47.5
486	2017/10/25	16:21:25	47.8	49.0	50.4	49.6	51.1
491	2017/10/25	16:21:30	52.1	51.8	53.5	53.2	53.6
496	2017/10/25	16:21:35	52.5	51.7	50.2	49.7	49.2
501	2017/10/25	16:21:40	48.9	49.0	50.2	47.8	48.6
506	2017/10/25	16:21:45	47.7	47.6	47.4	48.3	48.1
511	2017/10/25	16:21:50	49.0	50.2	50.3	51.6	50.8
516	2017/10/25	16:21:55	49.4	50.0	50.7	49.2	48.0
521	2017/10/25	16:22:00	50.3	51.0	51.4	51.1	52.2
526	2017/10/25	16:22:05	51.3	49.5	49.6	50.5	50.5
531	2017/10/25	16:22:10	50.0	50.6	50.8	50.6	50.8
536	2017/10/25	16:22:15	51.6	52.0	52.9	52.1	50.8
541	2017/10/25	16:22:20	50.8	51.3	49.8	47.8	48.5
546	2017/10/25	16:22:25	49.1	52.1	50.7	51.1	52.8
551	2017/10/25	16:22:30	51.7	54.0	54.0	52.5	53.2
556	2017/10/25	16:22:35	57.3	53.4	52.5	52.3	53.1
561	2017/10/25	16:22:40	51.3	51.5	50.5	57.8	51.0
566	2017/10/25	16:22:45	50.3	50.2	51.1	54.9	53.3
571	2017/10/25	16:22:50	55.5	52.1	52.2	53.2	51.5
576	2017/10/25	16:22:55	52.0	52.8	50.1	50.7	53.6
581	2017/10/25	16:23:00	52.1	52.8	52.6	53.0	54.5
586	2017/10/25	16:23:05	53.7	53.1	53.3	53.0	53.1
591	2017/10/25	16:23:10	52.6	52.6	51.7	52.6	51.8
596	2017/10/25	16:23:15	50.6	52.0	51.9	51.8	52.2
601	2017/10/25	16:23:20	50.5	54.1	52.3	51.4	52.8
606	2017/10/25	16:23:25	53.5	52.6	51.1	49.5	49.8
611	2017/10/25	16:23:30	48.7	48.7	48.6	49.3	50.8
616	2017/10/25	16:23:35	49.0	48.5	50.1	51.6	51.5
621	2017/10/25	16:23:40	51.2	53.0	50.4	52.4	51.7
626	2017/10/25	16:23:45	50.4	53.4	53.1	53.1	53.3
631	2017/10/25	16:23:50	53.8	52.9	51.9	49.9	55.4
636	2017/10/25	16:23:55	54.0	55.5	56.5	55.7	53.2
641	2017/10/25	16:24:00	50.4	51.1	51.4	53.3	53.6
646	2017/10/25	16:24:05	52.5	52.5	52.2	52.0	51.1
651	2017/10/25	16:24:10	51.9	51.1	51.3	51.3	51.1
656	2017/10/25	16:24:15	53.0	52.0	52.7	54.1	54.8
661	2017/10/25	16:24:20	53.8	54.0	55.4	53.8	52.5
666	2017/10/25	16:24:25	52.8	52.4	50.8	49.4	49.0
671	2017/10/25	16:24:30	49.0	49.6	48.0	48.8	48.6
676	2017/10/25	16:24:35	49.6	47.9	47.7	47.0	48.1
681	2017/10/25	16:24:40	48.6	49.6	48.7	50.3	49.8
686	2017/10/25	16:24:45	50.7	50.3	50.5	50.7	50.4
691	2017/10/25	16:24:50	49.7	49.2	49.4	49.0	48.6
696	2017/10/25	16:24:55	47.3	47.6	46.1	46.4	46.1
701	2017/10/25	16:25:00	44.0	44.8	43.7	43.2	43.3
706	2017/10/25	16:25:05	42.7	42.9	43.6	43.7	46.1
711	2017/10/25	16:25:10	47.0	45.9	49.6	49.9	49.6
716	2017/10/25	16:25:15	49.2	49.8	48.3	48.3	52.4
721	2017/10/25	16:25:20	51.6	49.0	49.5	48.6	48.4
726	2017/10/25	16:25:25	47.5	48.1	49.8	48.2	48.0
731	2017/10/25	16:25:30	47.4	48.5	48.9	48.4	49.8
736	2017/10/25	16:25:35	49.8	49.9	49.1	49.2	57.5
741	2017/10/25	16:25:40	49.8	50.5	51.3	50.2	50.6
746	2017/10/25	16:25:45	50.4	49.7	50.7	50.6	51.1
751	2017/10/25	16:25:50	51.6	51.8	51.3	50.7	51.0
756	2017/10/25	16:25:55	53.3	54.3	52.8	51.6	52.0
761	2017/10/25	16:26:00	51.7	51.5	51.0	50.6	52.6
766	2017/10/25	16:26:05	52.1	51.4	50.2	49.9	49.5
771	2017/10/25	16:26:10	49.6	48.2	47.9	48.2	49.5
776	2017/10/25	16:26:15	49.6	49.5	49.4	48.7	48.8
781	2017/10/25	16:26:20	48.4	47.2	47.6	47.6	48.0
786	2017/10/25	16:26:25	48.5	48.2	47.6	46.9	46.9
791	2017/10/25	16:26:30	44.7	43.7	43.6	44.2	43.4
796	2017/10/25	16:26:35	43.8	42.8	43.1	43.9	44.2
801	2017/10/25	16:26:40	44.8	46.3	46.5	46.0	47.8
806	2017/10/25	16:26:45	49.3	52.0	50.9	52.0	50.9
811	2017/10/25	16:26:50	51.2	51.8	51.3	53.5	52.6
816	2017/10/25	16:26:55	52.5	53.1	52.6	54.1	52.6
821	2017/10/25	16:27:00	51.9	52.8	51.7	50.2	51.2
826	2017/10/25	16:27:05	50.5	51.0	48.7	48.4	48.3
831	2017/10/25	16:27:10	49.4	49.0	48.5	47.9	48.9
836	2017/10/25	16:27:15	47.9	48.6	48.4	48.3	47.1
841	2017/10/25	16:27:20	49.4	49.2	48.4	48.4	46.3
846	2017/10/25	16:27:25	47.3	48.1	52.2	50.6	49.0
851	2017/10/25	16:27:30	49.9	47.6	48.5	49.0	49.0
856	2017/10/25	16:27:35	49.8	50.0	50.7	50.5	50.6
861	2017/10/25	16:27:40	51.1	50.3	49.1	50.2	50.8
866	2017/10/25	16:27:45	50.9	51.2	53.6	53.0	53.1
871	2017/10/25	16:27:50	54.8	52.5	53.8	53.4	53.4
876	2017/10/25	16:27:55	52.2	50.7	50.2	49.6	50.2
881	2017/10/25	16:28:00	50.2	49.1	48.7	49.2	47.4
886	2017/10/25	16:28:05	48.8	50.8	49.1	48.0	50.2
891	2017/10/25	16:28:10	46.4	47.6	46.8	47.9	48.7
896	2017/10/25	16:28:15	48.0	47.1	49.7	47.6	48.7

- Freq Weight : A
- Time Weight : FAST
- Level Range : 40-100
- Max dB : 86.6 - 2017/10/25 16:47:34
- Level Range : 40-100
- SEL : 99.5
- Leq : 70.0
-

No.s	Date Time	(dB)				
1	2017/10/25 16:34:00	49.8	50.3	52.7	54.5	53.0
6	2017/10/25 16:34:05	53.7	54.4	57.1	57.9	59.5
11	2017/10/25 16:34:10	62.8	67.1	68.9	68.2	69.0
16	2017/10/25 16:34:15	68.3	68.9	69.6	67.4	64.2
21	2017/10/25 16:34:20	60.7	60.5	61.6	63.8	64.1
26	2017/10/25 16:34:25	62.6	59.7	57.9	58.0	62.0
31	2017/10/25 16:34:30	65.7	70.2	77.9	73.8	77.0
36	2017/10/25 16:34:35	81.6	75.2	73.2	69.1	66.5
41	2017/10/25 16:34:40	65.7	65.6	64.8	64.7	65.8
46	2017/10/25 16:34:45	68.6	70.9	74.2	78.1	82.9
51	2017/10/25 16:34:50	78.6	74.7	73.7	75.9	70.8
56	2017/10/25 16:34:55	68.4	67.5	68.5	69.2	71.8
61	2017/10/25 16:35:00	72.9	71.6	69.4	66.4	65.3
66	2017/10/25 16:35:05	64.4	63.8	65.0	68.2	72.1
71	2017/10/25 16:35:10	71.7	67.7	68.1	70.3	69.0
76	2017/10/25 16:35:15	66.9	73.7	72.9	71.8	69.6
81	2017/10/25 16:35:20	69.9	76.0	78.3	72.9	68.2
86	2017/10/25 16:35:25	72.3	76.9	70.8	68.1	67.2
91	2017/10/25 16:35:30	67.7	72.3	73.4	67.9	66.0
96	2017/10/25 16:35:35	65.8	64.6	64.3	65.6	68.3
101	2017/10/25 16:35:40	68.8	67.0	66.8	71.7	74.3
106	2017/10/25 16:35:45	68.2	64.8	64.7	66.6	66.4
111	2017/10/25 16:35:50	64.9	63.1	62.2	63.3	64.3
116	2017/10/25 16:35:55	66.5	68.4	71.1	74.4	71.2
121	2017/10/25 16:36:00	66.8	63.9	62.8	64.3	66.8
126	2017/10/25 16:36:05	70.4	68.9	67.2	69.6	72.3
131	2017/10/25 16:36:10	74.6	78.9	76.2	70.5	66.5
136	2017/10/25 16:36:15	63.6	61.2	61.0	64.5	70.9
141	2017/10/25 16:36:20	74.2	71.7	67.7	73.5	77.3
146	2017/10/25 16:36:25	75.8	75.8	71.9	71.8	75.3
151	2017/10/25 16:36:30	75.2	74.5	69.1	67.6	64.8
156	2017/10/25 16:36:35	62.7	63.0	63.8	68.6	70.7
161	2017/10/25 16:36:40	69.8	67.2	66.2	66.6	68.1
166	2017/10/25 16:36:45	70.6	72.4	69.6	67.2	65.3
171	2017/10/25 16:36:50	66.4	68.8	69.5	72.3	75.4
176	2017/10/25 16:36:55	75.4	77.5	71.6	70.9	70.8
181	2017/10/25 16:37:00	68.9	67.9	68.6	72.4	71.6
186	2017/10/25 16:37:05	70.2	72.2	69.9	70.0	70.8
191	2017/10/25 16:37:10	72.1	72.3	71.3	72.9	73.1
196	2017/10/25 16:37:15	68.0	64.3	63.8	63.3	61.6
201	2017/10/25 16:37:20	59.9	60.6	61.6	61.5	61.1
206	2017/10/25 16:37:25	59.2	57.3	55.9	56.0	53.0
211	2017/10/25 16:37:30	55.1	58.5	63.3	70.8	76.0
216	2017/10/25 16:37:35	73.5	71.5	67.5	64.7	63.6
221	2017/10/25 16:37:40	63.0	62.9	61.8	61.0	57.9
226	2017/10/25 16:37:45	57.4	58.1	61.3	63.6	66.9
231	2017/10/25 16:37:50	74.3	79.4	72.2	70.8	70.9
236	2017/10/25 16:37:55	68.0	65.4	64.9	61.6	58.9
241	2017/10/25 16:38:00	57.4	56.3	54.9	55.3	50.9
246	2017/10/25 16:38:05	49.4	50.0	50.1	48.0	51.1
251	2017/10/25 16:38:10	56.4	59.7	52.5	59.2	62.8
256	2017/10/25 16:38:15	61.5	63.3	61.6	60.0	58.8
261	2017/10/25 16:38:20	59.4	61.7	60.7	62.5	63.4
266	2017/10/25 16:38:25	64.3	66.2	64.2	65.4	67.9
271	2017/10/25 16:38:30	64.7	62.5	59.5	60.4	62.6
276	2017/10/25 16:38:35	64.8	65.7	66.6	67.2	66.5
281	2017/10/25 16:38:40	64.4	62.0	60.5	63.1	63.9
286	2017/10/25 16:38:45	60.1	58.8	55.1	55.0	56.3
291	2017/10/25 16:38:50	58.8	63.7	69.1	73.4	76.0
296	2017/10/25 16:38:55	71.0	65.6	63.9	62.6	64.0
301	2017/10/25 16:39:00	64.0	63.6	63.2	65.6	69.7
306	2017/10/25 16:39:05	71.3	64.4	61.4	59.5	57.9
311	2017/10/25 16:39:10	58.9	61.5	68.3	70.0	69.1
316	2017/10/25 16:39:15	64.1	61.0	60.6	61.6	62.4
321	2017/10/25 16:39:20	61.2	61.1	63.2	66.1	66.7
326	2017/10/25 16:39:25	66.5	67.3	69.1	69.9	68.2
331	2017/10/25 16:39:30	67.1	64.2	63.3	62.6	58.8
336	2017/10/25 16:39:35	55.8	53.2	53.4	57.1	64.0
341	2017/10/25 16:39:40	56.6	47.7	50.9	48.6	50.1
346	2017/10/25 16:39:45	50.9	59.0	62.2	61.3	56.5
351	2017/10/25 16:39:50	55.6	54.5	54.7	54.5	55.1
356	2017/10/25 16:39:55	55.5	55.7	58.1	63.0	71.0
361	2017/10/25 16:40:00	75.1	67.5	64.2	61.6	59.2
366	2017/10/25 16:40:05	58.6	59.1	60.6	61.7	65.0
371	2017/10/25 16:40:10	67.9	69.4	70.4	69.2	66.6
376	2017/10/25 16:40:15	64.7	63.7	63.0	67.9	74.7
381	2017/10/25 16:40:20	75.1	67.8	65.9	63.2	62.2
386	2017/10/25 16:40:25	59.7	63.5	60.6	62.1	67.5
391	2017/10/25 16:40:30	71.0	72.4	70.7	66.5	64.6
396	2017/10/25 16:40:35	65.2	63.5	64.1	66.5	71.1
401	2017/10/25 16:40:40	67.3	64.1	67.5	74.0	73.4
406	2017/10/25 16:40:45	69.3	66.6	63.9	62.4	60.6
411	2017/10/25 16:40:50	61.6	61.1	59.6	57.4	56.6
416	2017/10/25 16:40:55	58.4	60.8	65.6	68.7	68.9
421	2017/10/25 16:41:00	71.0	74.9	67.6	66.7	66.5

426	2017/10/25	16:41:05	66.7	67.0	67.0	67.5	67.8
431	2017/10/25	16:41:10	70.9	70.0	67.2	63.8	62.7
436	2017/10/25	16:41:15	62.4	63.3	60.8	58.6	57.6
441	2017/10/25	16:41:20	57.8	59.5	64.3	66.6	66.1
446	2017/10/25	16:41:25	67.5	68.6	71.0	71.5	76.7
451	2017/10/25	16:41:30	71.4	73.4	73.2	75.1	79.5
456	2017/10/25	16:41:35	73.3	69.8	71.1	72.4	73.2
461	2017/10/25	16:41:40	70.7	72.1	74.5	68.2	66.6
466	2017/10/25	16:41:45	64.2	62.8	60.5	59.7	56.5
471	2017/10/25	16:41:50	56.0	52.8	51.4	51.9	52.7
476	2017/10/25	16:41:55	55.1	59.7	62.9	70.6	77.3
481	2017/10/25	16:42:00	69.4	64.8	63.0	62.8	66.0
486	2017/10/25	16:42:05	73.1	72.5	65.8	63.6	65.8
491	2017/10/25	16:42:10	66.8	65.9	64.7	62.1	59.7
496	2017/10/25	16:42:15	58.7	54.1	54.2	53.2	54.1
501	2017/10/25	16:42:20	55.4	57.3	62.7	65.9	68.7
506	2017/10/25	16:42:25	71.8	74.2	74.2	70.9	66.5
511	2017/10/25	16:42:30	64.4	61.8	62.7	64.8	67.1
516	2017/10/25	16:42:35	67.6	66.6	66.4	66.0	67.2
521	2017/10/25	16:42:40	68.7	70.7	67.9	66.3	64.4
526	2017/10/25	16:42:45	65.5	66.9	67.0	61.7	60.4
531	2017/10/25	16:42:50	57.8	58.5	64.5	70.8	69.4
536	2017/10/25	16:42:55	65.7	64.3	66.6	70.1	71.4
541	2017/10/25	16:43:00	74.9	72.5	73.2	70.0	66.8
546	2017/10/25	16:43:05	64.5	62.8	62.6	60.3	59.6
551	2017/10/25	16:43:10	59.7	62.6	70.9	80.5	75.1
556	2017/10/25	16:43:15	70.5	71.5	71.7	73.8	71.0
561	2017/10/25	16:43:20	68.8	73.5	71.9	69.5	67.4
566	2017/10/25	16:43:25	66.8	67.6	71.4	75.4	74.6
571	2017/10/25	16:43:30	76.0	72.8	73.6	76.8	70.6
576	2017/10/25	16:43:35	73.6	74.7	71.7	72.8	73.7
581	2017/10/25	16:43:40	76.7	72.2	68.2	66.7	66.7
586	2017/10/25	16:43:45	72.4	71.3	67.4	65.4	62.9
591	2017/10/25	16:43:50	62.9	61.0	59.4	60.0	58.0
596	2017/10/25	16:43:55	58.3	56.8	58.6	57.1	59.8
601	2017/10/25	16:44:00	61.1	65.7	66.7	69.1	69.9
606	2017/10/25	16:44:05	68.9	66.6	66.9	66.0	64.2
611	2017/10/25	16:44:10	62.1	60.7	58.9	58.2	59.3
616	2017/10/25	16:44:15	59.0	59.0	60.7	63.8	68.8
621	2017/10/25	16:44:20	74.9	74.6	74.5	73.9	74.0
626	2017/10/25	16:44:25	71.7	69.5	71.5	74.8	71.0
631	2017/10/25	16:44:30	68.5	65.7	65.3	65.1	67.4
636	2017/10/25	16:44:35	71.1	76.5	72.5	71.6	74.0
641	2017/10/25	16:44:40	74.3	71.8	67.4	71.4	77.1
646	2017/10/25	16:44:45	78.2	74.8	70.4	69.3	70.9
651	2017/10/25	16:44:50	72.7	73.0	71.6	74.4	75.6
656	2017/10/25	16:44:55	71.6	69.5	69.1	68.7	67.7
661	2017/10/25	16:45:00	66.6	65.6	67.6	72.1	70.8
666	2017/10/25	16:45:05	69.2	68.5	67.3	66.3	65.1
671	2017/10/25	16:45:10	65.2	63.9	65.2	66.6	68.6
676	2017/10/25	16:45:15	70.3	70.4	68.4	69.8	70.1
681	2017/10/25	16:45:20	68.8	67.7	69.0	66.9	65.7
686	2017/10/25	16:45:25	66.7	70.8	76.5	73.3	70.3
691	2017/10/25	16:45:30	71.7	74.8	72.3	71.2	71.4
696	2017/10/25	16:45:35	73.6	79.1	73.4	71.1	71.9
701	2017/10/25	16:45:40	71.4	75.0	73.9	67.4	64.3
706	2017/10/25	16:45:45	63.6	64.2	66.9	70.3	69.7
711	2017/10/25	16:45:50	67.1	66.2	69.0	76.1	77.0
716	2017/10/25	16:45:55	68.8	64.4	65.1	68.3	70.2
721	2017/10/25	16:46:00	69.8	66.1	64.3	62.8	60.8
726	2017/10/25	16:46:05	62.9	63.9	67.0	67.9	66.8
731	2017/10/25	16:46:10	66.8	64.2	62.0	61.9	62.3
736	2017/10/25	16:46:15	65.0	68.1	72.5	75.6	71.8
741	2017/10/25	16:46:20	68.5	69.9	73.6	79.2	82.7
746	2017/10/25	16:46:25	77.9	73.4	69.6	71.6	71.9
751	2017/10/25	16:46:30	66.9	62.8	62.8	61.4	61.2
756	2017/10/25	16:46:35	62.8	62.3	62.9	67.3	71.4
761	2017/10/25	16:46:40	66.2	60.8	57.9	57.6	55.3
766	2017/10/25	16:46:45	52.2	51.6	52.4	53.7	57.2
771	2017/10/25	16:46:50	59.9	64.8	70.4	71.7	70.8
776	2017/10/25	16:46:55	71.5	68.4	66.7	65.3	67.0
781	2017/10/25	16:47:00	68.1	68.5	66.9	65.7	63.6
786	2017/10/25	16:47:05	66.1	72.9	78.1	70.0	68.0
791	2017/10/25	16:47:10	72.4	73.3	70.7	66.6	65.0
796	2017/10/25	16:47:15	64.6	63.7	63.3	64.2	63.2
801	2017/10/25	16:47:20	63.2	59.1	58.4	56.3	54.4
806	2017/10/25	16:47:25	52.7	53.0	52.3	54.8	54.4
811	2017/10/25	16:47:30	56.7	62.4	65.8	70.3	77.2
816	2017/10/25	16:47:35	84.4	79.3	74.0	73.4	73.1
821	2017/10/25	16:47:40	71.5	73.9	77.1	82.0	80.4
826	2017/10/25	16:47:45	72.7	72.2	70.6	67.7	65.1
831	2017/10/25	16:47:50	63.7	61.7	64.4	69.0	70.6
836	2017/10/25	16:47:55	72.7	72.8	72.3	70.4	66.2
841	2017/10/25	16:48:00	66.6	67.2	66.3	66.2	65.2
846	2017/10/25	16:48:05	63.8	66.1	67.3	68.9	67.2
851	2017/10/25	16:48:10	65.7	61.9	59.4	57.9	53.5
856	2017/10/25	16:48:15	51.1	52.5	54.1	54.8	57.9
861	2017/10/25	16:48:20	61.6	67.0	72.6	70.1	66.4
866	2017/10/25	16:48:25	63.2	64.2	64.8	67.9	70.9
871	2017/10/25	16:48:30	72.9	75.1	73.4	70.8	70.2
876	2017/10/25	16:48:35	67.8	68.1	67.1	68.8	71.7
881	2017/10/25	16:48:40	75.0	70.3	67.9	66.4	64.3
886	2017/10/25	16:48:45	60.9	58.7	57.4	56.0	54.9
891	2017/10/25	16:48:50	55.6	53.2	51.5	51.6	48.4
896	2017/10/25	16:48:55	49.3	48.0	47.6	48.2	48.2

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Lompoc CHC (Existing)
Record Date	11/02/2017
User's Name	Chris Bersbach

Road # 1 Name:	**Ocean Avenue between V Street and R Street**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	150	150	150
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	6261	165	165
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56.3	40.5	58.3
Calculate Road #1 DNL	60.4	Reset	

Road # 2 Name:	**U Street between Ocean Avenue and back alleyway**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	100	100	100
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	836	22	22

Average Daily Trips (ADT)	836	22	22
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	46.1	30.3	52.2
Calculate Road #2 DNL	53.2	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No

Combined DNL for all Road and Rail sources	**61.2**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

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- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Lompoc CHC (Existing+Project)
Record Date	11/02/2017
User's Name	Chris Bersbach

Road # 1 Name:	**Ocean Avenue between V Street and R Street**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	150	150	150
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	6762	178	178
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56.6	40.8	58.7
Calculate Road #1 DNL	60.8	Reset	

Road # 2 Name:	**U Street between Ocean Avenue and back alleyway**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	100	100	100
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	903	24	24

Average Daily Trips (ADT)	903	24	24
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	46.4	30.7	52.6
Calculate Road #2 DNL	53.6	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No

Combined DNL for all Road and Rail sources	**61.6**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

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DNL Calculator

Site ID	Lompoc CHC (Cumulative)
Record Date	11/02/2017
User's Name	Chris Bersbach

Road # 1 Name:	**Ocean Avenue between V Street and R Street**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	150	150	150
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	6498	171	171
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56.4	40.6	58.5
Calculate Road #1 DNL	60.6	Reset	

Road # 2 Name:	**U Street between Ocean Avenue and back alleyway**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	100	100	100
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	841	22	22

Average Daily Trips (ADT)	841	22	22
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	46.1	30.3	52.2
Calculate Road #2 DNL	53.2	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No
Combined DNL for all Road and Rail sources	**61.3**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
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  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
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  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

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Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

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- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Lompoc CHC (Cumulative+Project)
Record Date	11/02/2017
User's Name	Chris Bersbach

Road # 1 Name:	**Ocean Avenue between V Street and R Street**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	150	150	150
Distance to Stop Sign			
Average Speed	40	40	40
Average Daily Trips (ADT)	6833	180	180
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56.7	40.9	58.7
Calculate Road #1 DNL	60.8	Reset	

Road # 2 Name:	**U Street between Ocean Avenue and back alleyway**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	100	100	100
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	907	24	24

Average Daily Trips (ADT)	907	24	24
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	46.4	30.7	52.6
Calculate Road #2 DNL	53.6	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No

Combined DNL for all Road and Rail sources	**61.6**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)