City of Capitola

Monarch Cove Hotel Project

Draft

Environmental Impact Report

SCH # 2013082080

Volume II: Appendices

May 2014

rincon

Environmental Scientists Planners Engineers

Monarch Cove Hotel Project

Draft
Environmental Impact Report

Volume II: Appendices

SCH # 2013082080

Prepared for:
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May 2014

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Monarch Cove Hotel Project

Draft
Environmental Impact Report

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Initial Study

August 2013

rincon

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Initial Study

Monarch Cove Hotel

Prepared by:

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August 2013

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MONARCH COVE HOTEL

INITIAL STUDY

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INITIAL STUDY

PROJECT TITLE

Monarch Cove Hotel

LEAD AGENCY AND CONTACT PERSON

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PROJECT SITE CHARACTERISTICS

Project Location:

The project site is an irregularly-shaped, 1.4-acre property at 620 El Salto Drive on Depot Hill in the City of Capitola. The property encompasses four assessor's parcels: APNs 036-142-27, 036-142-28(partial), 036-143-31, and 036-143-36. Site access is currently taken from the eastern terminus of El Salto Drive, just east of its intersection with Livermore Avenue. Figure 1 illustrates the project site's location.

General Plan Designation:

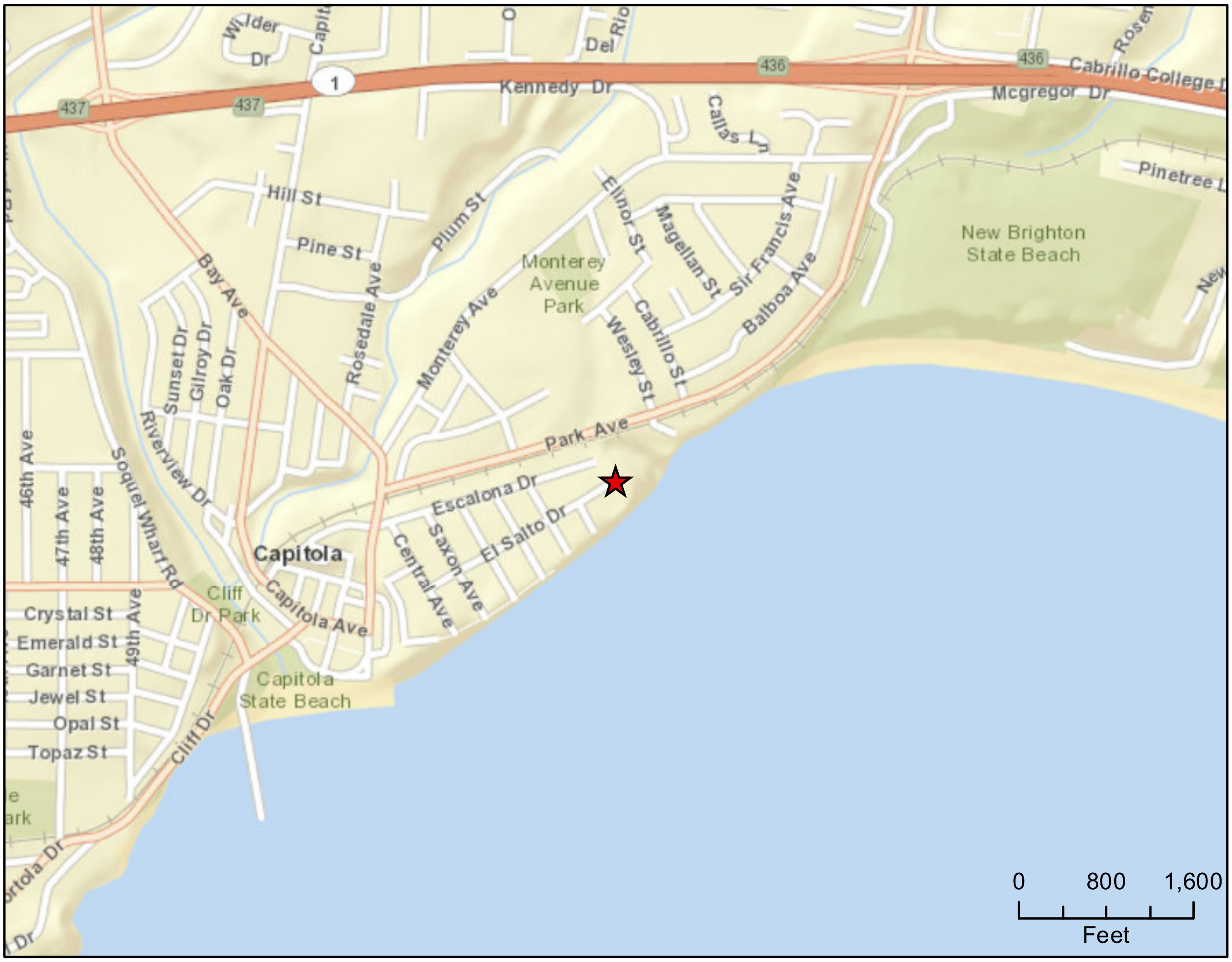
Visitor Serving

Zoning:

Visitor Serving

PROJECT DESCRIPTION

The project is a proposed 41-room hotel located at the Monarch Cove Inn site. The project site is currently developed with the Monarch Cove Inn, which is partially housed in an historic Victorian structure. The existing facility accommodates 11 guest rooms and features an outdoor event deck, which is used to host special events.



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★ Project Location

N

Regional Location Map

Figure 1

The proposed project would involve demolition of two existing small cottages, the existing L-shaped building, and the outdoor deck. These structures would be replaced by a proposed new hotel that would include three buildings: two new buildings, and an existing building to remain, as described further below and shown in Figure 2, Proposed Site Plan. A two-level, below grade parking garage (8,322 square feet on each level) with 56 parking stalls and 27 bicycle parking spaces is also proposed. A separate bicycle entrance would be included to the below grade parking garage. Four additional surface parking spaces would be included near the entrance to the main building.

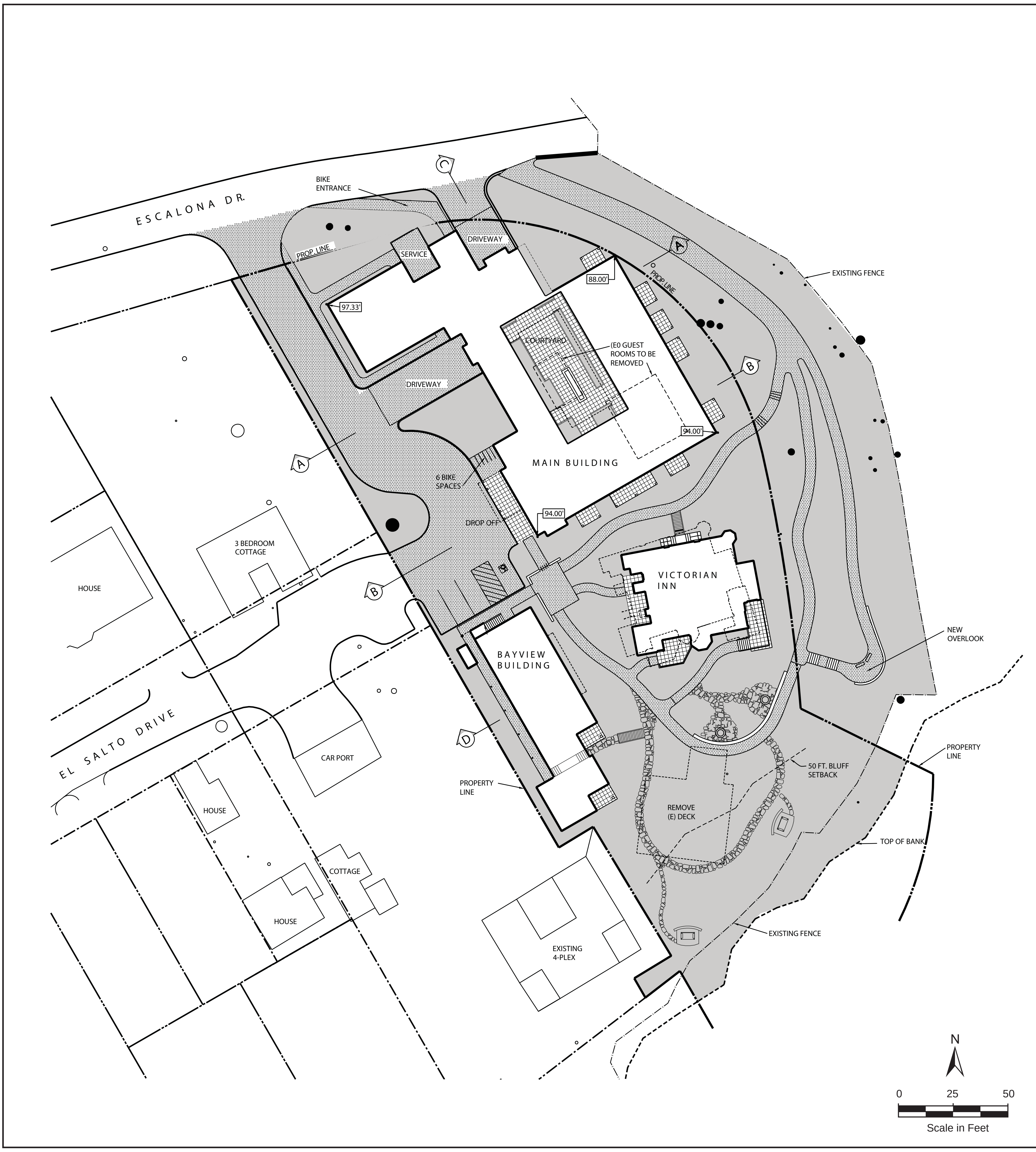
The proposed main building would be a 16,729 square foot, two-story building containing 22 guest rooms, two meeting rooms, kitchen facilities for catering and internal use, and a courtyard. The second building would be a two-story, 5,894 square foot building with 10 guest rooms, located along the western property line. The heights of the proposed new buildings would be a maximum of approximately 30 feet above average grade. The proposed project also includes renovation of an existing Victorian building on the site, including seismic improvements, construction of a new foundation and a slight reorientation of the structure. The existing nine rooms in the Victorian house would be retained as guest rooms. In total, the proposed hotel would include 41 guest rooms (nine existing guest rooms and 32 new guest rooms), an increase of 30 rooms.

Access to the proposed project would be taken from both El Salto Drive and Escalona Drive, with the primary entrance from El Salto Drive, which opens into the proposed entry and reception area. The upper level of the parking structure would be accessed from the west side of the proposed main building, while the lower level would be accessed from the north side along Escalona Drive. Neighborhood access would be incorporated to and through the site via ADA accessible pathways and benches for scenic overlooks.

The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site. The project also includes drainage improvements, including water quality and stormwater management systems. Stormwater control methods would consist of the use of porous paving with perforated sub-drain pipes on the paved entry drive and a 450 square foot water detention "rain garden." New landscaping would include new gardens, ADA accessible pathways and overlook seating areas, and landscape screening of adjacent properties. In order to enhance Monarch butterfly habitat, proposed landscaping would be Monarch-supportive and include improvements to the woodland edge.

Approximately 14 trees and large shrubs would be removed from the property. Most tree removal would occur near the southwest project boundary, south of El Salto Drive.

The proposed project intends to continue many of the conditions as required by the current Conditional Use Permit (CUP). These conditions include, but are not limited to: limiting events to a maximum of 40 guests Monday through Thursday and 75 guests Friday through Sunday; using shuttles from an off-site parking area for larger events; limiting weddings or events to no more than one per day, two per week, and six per month; adhering to the City Municipal Code standards for noise limits and use of amplified sound; and requiring a security guard to be present on-site during all events to control traffic, parking, and guests.



Legend

- Property Line
- Existing Fence
- Areas to be Moved/Removed
- Patios, Courtyards, Terraces
- Driveway/Walkway

Base drawing source: Thacher & Thompson Architects, 2011.

Proposed Site Plan

Figure 2

SURROUNDING LAND USES AND SETTING

The project site is surrounded by single-family residences to the north and west, and the Pacific Ocean (Soquel Cove) to the south. Directly to the east is the Escalona Gulch Monarch Butterfly Grove Habitat Reserve, and multi-family residential buildings beyond at the terminus of Grove Lane. Escalona Gulch is a steep sided, deeply incised ravine with a small intermittent stream. A dense stand of eucalyptus trees with some Monterey pines and Monterey cypress fills the gulch.

The site is partially paved, partially landscaped, and developed with the existing structures of the Monarch Cove Inn, including an historic Victorian structure. The existing hotel facility accommodates 11 guest rooms (nine in the Victorian and one in each cottage) and features an outdoor event deck, which is used to host special events. A number of native and non-native trees are located on the project site. The trees are dispersed across the site and along the periphery.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The following discretionary approvals by the City of Capitola Architectural and Site Committee and the City of Capitola Planning Commission would be required:

- *Conditional Use Permit*
- *Coastal Development Permit*
- *Tree Removal Permit*
- *Design Permit*
- *Excavation Permit*

In addition, approval from these other agencies may be required prior to project construction:

- *California Regional Water Quality Control Board: Review Notice of Intent and Storm Water Pollution Prevent Plan.*
- *California Coastal Commission: Coastal Development Permit*
- *Santa Cruz County Sanitation District: Review Sewer Connection Plans*
- *Santa Cruz County Flood Control and Water Conservation District Zone 5: Approval of Drainage Plan.*

In addition, the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and/or the Regional Water Quality Control Board may require consultation and approval, depending on the resources impacted.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

On the basis of this initial evaluation:

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

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

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

☐ I find that a previous EIR or negative Declaration may be utilized for this project – refer to Section E.

Signature

8.23.13
Date

Richard Grunow
Printed Name

Community Development Director
Title

ENVIRONMENTAL CHECKLIST

I. AESTHETICS

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

a) The proposed project is a 41 room hotel located on a coastal bluff in the City of Capitola, surrounded by a developed residential area. The closest established "vista point," as designated by the City's General Plan, is located 0.25 miles west of the site at the south end of Oakland Avenue where it meets Grand Avenue. The project site is not visible from this vista point, nor is it located within a City-designated scenic vista. However, the project site may be visible from New Brighton State Beach, located approximately 0.25 miles northeast of the site. The increase in building size from the existing Monarch Inn to the proposed Monarch Cove Hotel may have an adverse effect on scenic views from this public viewing location. Impacts are **potentially significan**t, and the EIR will further consider potential impacts to scenic vistas in the project site area.

b) There are no officially designated state scenic highways in Santa Cruz County. However, Highway 1, which is located approximately 0.55 miles north of the project site, is listed as an eligible state scenic highway by the California Department of Transportation. The project site is not visible from the highway because of intervening vegetation and structures. Therefore, there would be **no impact** on scenic resources within a state scenic highway.

c) The proposed project would increase the intensity of development on the project site and would include tree removal as well as grading. These changes have the potential to degrade the existing visual character or quality of the site. Therefore, visual character impacts would be **potentially significant** and will be discussed further in the EIR.

d) The project would include lighting fixtures in certain locations, would generate additional traffic, and increase the number of guest rooms, which include indoor light fixtures. Fixtures are expected to be directed downward without releasing light upwards into the atmosphere or outward past the intended projected path. However, the additional lights may be visible to nearby residents and may alter existing dark sky conditions. Additionally, the increase in windows and cars could increase glare from the proposed project site. Impacts regarding new sources of light and glare would be **potentially significant** and will be discussed further in the EIR.

II. AGRICULTURAL AND FOREST RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a-e) The project site is located in a developed residential area. The project site is not in agricultural production or located adjacent to or near agricultural uses. The project site, as all of the City of Capitola, is designated "urban and built-up" by the California Department of Conservation Farmland Mapping and Monitoring Program (2010). Similarly, the project site is not designated for timber resource production (City of Capitola, 2008) and does not support viable commercial timber. Although 14 trees would be removed as part of the project, the project site is not located in a forested area. As such, no land designated as prime agricultural, farmland, timber resources, or under Williamson Act contract would be directly or indirectly converted to non-agricultural use. The proposed project would have **no impact** on agricultural or forest resources.

III. AIR QUALITY

Where available, the significance criteria established by the Monterey Bay Unified Air Pollution Control District may be relied upon to make the following determinations.

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

a) According to the Monterey Bay Unified Air Pollution Control District (MBUAPCD) *CEQA Air Quality Guidelines* (MBUAPCD, February 2008), projects that are consistent with the Air Quality Management Plan (AQMP) (MBPUACD, August 2008) would not result in cumulative impacts as regional emissions have been factored into the Plan. The MBUAPCD prepares air quality plans, which address attainment of the state and federal emission standards. These plans accommodate growth by projecting growth in emissions based on different indicators. For example, population forecasts adopted by AMBAG are used to forecast population-related emissions. These forecasts are then accommodated within the AQMP. The project is a proposed 41 room hotel that would not result in new population growth (refer to Section XIII, *Population and Housing)*. Therefore, the project would not conflict with the adopted AQMP for the region. Impacts would be **less than significant** and will not require further analysis in an EIR**.**

b, c) The proposed project would be located within the North Central Coast Air Basin (NCCAB) and falls under the jurisdiction of the MBUAPCD. As of January 2013, the NCCAB is in attainment or unclassifiable of all federal ambient air quality standards (AAQS), it is designated as non-attainment with respect to the more stringent state PM_{10} standard and the state's eight-hour ozone standard.

During construction, grading would occur on the project site. Grading and excavation activities could result in generation of dust and PM_{10} emissions as well as VOCs and ozone from construction equipment. According to the MBUAPCD *CEQA Air Quality Guidelines*, up to 2.2 acres could be graded and excavated without exceeding the MBUAPCD's direct emissions threshold of 82 lbs/day of PM_{10}, VOCs, or ozone (MBUAPCD, February 2008). The project site is 1.4 acres. Therefore, the proposed grading activities would be less than the MBUAPCD threshold of significance direct emissions threshold of 82 lbs/day of PM_{10}, VOCs, or ozone.

According to the MBUAPCD's *CEQA Air Quality Guidelines*, the proposed number of hotel rooms (41 rooms) is below the District's screening level of 880 rooms for potential significant ozone impacts for hotels, which includes increases in vehicular trips and daily operational activities. The project would not violate current air quality standards related to ozone. However, air quality modeling would be required to determine whether construction or operation of the proposed project may violate other air quality standards. Therefore, impacts would be **potentially significant** and will be discussed further in the EIR.

d) MBUAPCD generally defines a sensitive receptor as any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. The project site is located within a developed area of the City of Capitola and is surrounded primarily by residential development.

Project grading and construction would involve the use of diesel trucks and equipment that emit diesel exhaust, including diesel particulate matter, which is classified as a toxic air contaminant. Adjacent residents would be exposed to construction-related diesel emissions, but activities that would use diesel equipment would be of limited extent, temporary and of short-term duration. The California Air Resource Board (CARB) has identified diesel exhaust particulate matter as a toxic air contaminant, and assessment of toxic air contaminant cancer risks is typically based upon a 70-year exposure period. Project excavation and construction activities that would utilize diesel-powered equipment would expose receptors to possible diesel exhaust temporarily. Because exposure to diesel exhaust would be well below the 70-year exposure period, and given the limited and short-term duration of activities that would use diesel equipment, construction related diesel emissions are not expected to be significant. Furthermore, the State is implementing emission standards for different classes of on- and off-road diesel vehicles and equipment that applies to off-road diesel fleets and includes measures such as retrofits. Additionally, Title 13 of the California Code of Regulations (section 2485(c)(1)) prohibits idling of a diesel engine for more than five minutes in any location. With compliance with these requirements, the project would further reduce the potential of exposure to substantial pollutant concentrations and diesel emissions.

CARB, in the *Air Quality and Land Use Handbook: A Community Health Perspective* (June 2005), recommends avoiding siting new sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. Additional non-cancer health risk attributable to proximity to freeways was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70% drop-off in particulate pollution levels at 500 feet (CARB, 2005). The project site is approximately 0.65 miles (3,500 feet) south of Highway 1. Therefore, the proposed residences closest to the highway would not be significantly impacted by particulate pollution levels. No other local roadways carry traffic in excess of 50,000 vehicles/day; therefore, proposed residences would not be significantly impacted by diesel particulate pollution from any local or area roadways or highways. This impact would be **less than significant** and will not require further analysis in an EIR.

e) Construction activities may generate some odors associated with paving or painting activities. However, these activities would be temporary and would not affect a substantial number of people. The operation of the proposed project would not produce any foul odors. Therefore, impacts would be **less than significant**.

IV. BIOLOGICAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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?	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on 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?	☒	☐	☐	☐

IV. BIOLOGICAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

a) The project site is currently developed with an 11-room hotel, and is primarily comprised of landscaped ornamental habitat. However, the eastern and northern portion of the property is near Escalona Gulch, which contains Monarch butterfly habitat, and is designated as environmentally sensitive habitat by the City of Capitola (Capitola Municipal Code Section 19.95.061, *Escalona Gulch Monarch Butterfly Habitat*). In addition, the project site is adjacent to riparian and coastal habitats. A biological site reconnaissance would be required to more specifically identify and characterize on-site habitats. Such a reconnaissance will be completed as part of the EIR process.

Hotel construction activities, such as grading and paving, could result in habitat disturbances or direct loss of habitat. Additionally, 14 on-site trees and large shrubs would be removed due to construction and development activities. Based on the habitat types presumed to occur on or near the subject property, sensitive plant and animal species may also occur on-site. Based on a search of the California Natural Diversity Database (CNDDB), the following sensitive animal species have potential to be present on the property: pallid bat, great blue heron, Santa Cruz long-toed salamander, monarch butterfly, white-tailed kite, hoary bat, California red-legged frog, and/or foothill yellow-legged frog. The following special status plants may also be present: robust spineflower, Santa Cruz tarplant, and/or Monterey pine. A biological site reconnaissance and a complete biological resources impact analysis would be required to determine the potential for these species occur on and adjacent to the project site, and to characterize potential impacts from project development. Therefore, impacts to sensitive biological resources would be **potentially significant** and will be analyzed further in the EIR.

b) The project site is adjacent to riparian and coastal habitats, as well as the Escalona Gulch Monarch Butterfly Habitat. The Monarch butterfly is not a State or Federally listed endangered or threatened species. However, under the City of Capitola's Local Coastal Program (LCP), the Monarch butterfly is treated as a sensitive species due to the restricted geographic range of its wintering habitat and its status as a California Department of Fish and Wildlife (CDFW) "species of special concern." Currently occupied and formerly occupied Monarch butterfly overwintering sites are also identified in the City's LCP as potential sensitive habitat.

Although the project would be required to comply with the applicable requirements of the Capitola Municipal Code, and would also include woodland improvements to the butterfly habitat, construction activities and operation could nevertheless have a **potentially significant** impact to the Monarch butterfly and the associated sensitive habitat. Impacts to this and other sensitive habitats on and near the subject property will be analyzed further in the EIR.

c) According to the City's General Plan and the National Wetlands Inventory (NWI) (USFWS, 2013), the proposed Monarch Cove Hotel is not located in an area with designated riparian corridors, creeks, or wetlands. However, the project site is on a bluff top directly adjacent to the Pacific Ocean, and riparian habitat may be located adjacent to the property. A biological site reconnaissance would be required to more specifically identify and characterize on-site and adjacent habitats. Such a reconnaissance will be completed as part of the EIR process. Impacts are therefore considered **potentially significant** and will be analyzed further in the EIR.

d) As discussed above, the project site contains Monarch butterfly habitat. Monarch butterflies use trees located on and adjacent to the project site as overwintering habitat following the annual migration of up to and over 1,000 miles from throughout the Rocky Mountains, western United States, and southern Canada. The butterflies arrive in Santa Cruz County around mid-October and stay through mid-February. Small and isolated groves of pine and eucalyptus trees in Santa Cruz, Monterey and San Luis Obispo counties provide limited and therefore important winter hibernation habitat for this species. Monarchs return to the same overwintering groves and to the same specific trees each year. The project could impact those trees used by Monarch butterflies on and adjacent to the project site and therefore disrupt hibernation, and potentially impact migration patterns. Other species that use the site for dispersal could be impacted due to the increased infrastructure, construction, operations, and new landscaping. Impacts related to wildlife movement are **potentially significant** and will be analyzed further in the EIR.

e, f) Impacts regarding consistency with habitat and natural community policies would be **potentially significant**. Although no adopted Habitat Conservation Plan or Natural Community Conservation Plan is applicable for the project site, the City of Capitola General Plan and Local Coastal Plan contain biological resources policies for resources within and adjacent to the project site. The proposed Monarch Cove Hotel's consistency with local policies regarding sensitive species, habitats, and tree removal will be analyzed in the EIR.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a) Cause a substantial adverse change in the significance of an 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?	☒	☐	☐	☐

a-d) The proposed project would be located in the City of Capitola, which is a region rich in historical, cultural, and archaeological resources related to California's history and prehistory. The proposed project would include demolition of three existing on-site structures and renovation and reorientation of an existing Victorian structure in order to construct a new 41 room hotel. The project site is located in the City's first residential subdivision , which occurred in 1888 (City of Capitola, 2004). Demolition and renovation activities may cause a substantial adverse change in the significance of an historical resource. In addition, there is a potential that existing cultural, archaeological, and paleontological resources are present in undisturbed areas of the project site, and that grading and construction activities could have adverse impacts on existing identified and previously unidentified historical, archaeological or paleontological resources, or other archaeological features. Impacts to cultural resources would be **potentially significant**, and will be further discussed in the EIR.

VI. GEOLOGY/SOILS

Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) Be located on a 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?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a.i) There are no Alquist-Priolo Earthquake Fault zones in the City of Capitola. There is no potential risk for surface rupture on the proposed Monarch Cove Hotel project site, and there would be **no impact**.

a.ii) The project site is located in a seismically active region of California. There are no active faults which underlie the City of Capitola, but active faults are located nearby in the Santa Cruz Mountains and offshore in Monterey Bay (City of Capitola, 2013). The regional faults of significance potentially affecting Capitola include the San Andreas Fault (nine miles northeast of Capitola), the Zayante Fault (five miles northeast of Capitola), and the Palo Colorado-San Gregorio Fault (14 miles southwest of Capitola). An earthquake along any of these faults could induce seismic ground shaking at the proposed project site. The impacts related to seismic ground shaking would be **potentially significant** and will be discussed further in the EIR.

a.iii) Liquefaction is a temporary, but substantial, loss of shear strength in water-saturated sediment (such as granular solids, including sand, silt, or gravel), usually occurring during or after a major earthquake. Liquefaction is most likely to occur in unconsolidated, sandy sediments which are water-saturated within less than 30 feet of the ground surface. As indicated in the City's Local Hazards Mitigation Plan (2013), soils in the vicinity of the project site have a low potential for liquefaction. Additionally, the geotechnical report completed by Haro, Kasunich, and Associates, Inc. (2013) identified the site as low potential for liquefaction due to the dense to very dense bedrock located beneath the site. Therefore, impacts would be **less than significant.**

a.iv) Landslides typically occur in areas where steep slopes exist, such as hillsides or mountain regions. The proposed Monarch Cove Hotel would be located on a site with gently sloping topography that is currently developed. However, the site is situated at the top of a 95-foot high coastal bluff subject to wave action at the toe (Haro, Kasunich and Associates, Inc., August 2013). The blufftoe and bluff face will continue to recede landward until a seawall and bluff stabilization system are permitted and installed (*ibid*). Therefore, impacts related to landslides would be **potentially significant** and will be discussed further in the EIR.

b, c) The proposed Monarch Cove Hotel is located in an area of high bluff erosion, as indicated by the City's Local Hazards Mitigation Plan (2013). The proposed project is located in the Depot Hill Neighborhood on top of cliffs characterized by gently dipping, late Tertiary sedimentary rocks that are generally overlain by nearly horizontal, quaternary terrace deposits. The local shoreline is nearly parallel to the dominant direction of approach for refracted waves. As a result, littoral drift is rapid, inhibiting formation of a continuous protective beach. Instead, a series of pocket beaches, which are sensitive to seasonal changes and human intervention, have formed. The Depot Hill neighborhood portion is unprotected.

The bluff recession rate between 1928 and 1990 was estimated to be 1.1 feet per year (Haro, Kasunich, and Associates, Inc., 2013). Assuming this constant rate of retreat, the first houses in the Depot Hill Neighborhood would be threatened or damaged in approximately 50 years, and most would be damaged or destroyed within approximately 75 years and after 100 years. (Local Hazards Mitigation Plan, 2013). The Bayview building and Victorian structure would be located approximately 90 feet from the blufftop and would be considered first-line houses (Haro, Kasunich, and Associates, Inc., 2013). Some of the second-line houses could be threatened, which could include the main building (Local Hazards Mitigation Plan, 2013). Additionally, the project would involve grading activity that would increase the loss of topsoil and therefore increase the potential for erosion. Impacts related to loss of topsoil and erosion would be **potentially significant** and will be discussed further in the EIR.

d) Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they become wet). In general, the project site is underlain by sandy loam soils, which are not classified as expansive soils (Natural Resource Conservation Service [NRCS], 2013). The Local Hazards Mitigation Plan (2013) identifies low potential for impacts from expansive soils throughout the City of Capitola. Based on a review of soils present at the site, the City's Local Hazards Mitigation Plan, and the lack of past occurrences of expansive soil related impacts, the potential impacts related to expansive soils at the proposed Monarch Cove Hotel would low. In addition, the project would be required to comply with standard engineering practices in the California Building Code (CBC), which would help ensure that impacts related to expansive soils remain **less than significant**.

e) The proposed project would connect to the City of Capitola Sanitary Sewer system, operated by the Santa Cruz County Sanitation District. The use or construction of a septic system is not proposed. Therefore, there would be **no impact** associated septic disposal.

VII. GREENHOUSE GAS EMISSIONS

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

a) Construction of the proposed project would generate temporary emissions, primarily from construction equipment emissions and paving, but also through the use of motorized transportation to deliver materials and laborers to the construction site. The project would also produce operational GHG emissions from an increase in energy demand and vehicular trips to and from the hotel. As these impacts would be **potentially significant**, they will be discussed further in the EIR.

b) The State of California Assembly Bill (AB) 32 and California's Executive Order S-3-05 require a reduction in per capita greenhouse gas emissions to 1990 levels by 2020. Executive order S-3-05 further requires an 80% reduction below 1990 levels by 2050. The project generating emissions, including vehicular trips, could potentially hinder meeting these targets.

The City of Capitola is in the process of updating its General Plan, which will include preparation of a Climate Action Plan. In addition, the Association of Monterey Bay Area

Governments (AMBAG) is currently preparing a regional Sustainable Communities Strategy (SCS). Although these documents may not be complete prior to completion of the EIR, the proposed project's consistency with these ongoing climate planning efforts will be discussed further in the EIR.

VIII. HAZARDS AND HAZARDOUS MATERIALS

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐

VIII. HAZARDS AND HAZARDOUS MATERIALS

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
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?	☐	☐	☒	☐

a) Hazardous materials include solids, liquids, or gaseous materials which, because of their quantity, concentration or physical, chemical or infectious characteristics may: (1) cause or contribute to an increase in mortality or serious illness; or (2) pose a substantial present or potential harm to human health or the environment when improperly handled, used, transported, stored or disposed. The construction and operation of the proposed hotel would not involve the routine transport, use, or disposal of hazardous materials except for relatively small amounts related to construction machinery, cleaning and landscape maintenance. Existing regulations including U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) guidelines for such materials and Fire Department oversight of materials storage and use would ensure that such materials are transported, handled and stored properly. Impacts would be potentially **less than significant** and will not require further discussion in the EIR.

b) Daily operation of the hotel would not be expected to involve transportation hazardous materials outside of small quantities used for routine cleaning operations and landscape maintenance. As such, daily operation would not result in the release of hazardous materials into the environment. Based on the primarily residential and visitor-serving historical on-site and surrounding land uses, soil or groundwater contamination is not expected to be present and grading activities would therefore not be expected to result in the release of or exposure to toxic materials. Impacts would be **less than significant** and will not require further analysis in the EIR.

c) Two schools are located within 0.25 of the project site: New Brighton Middle School and Capitola Elementary School, both located 0.17 miles northwest of the project site. However, as discussed above in Section VIII.b, the project would not be expected to generate or store any hazardous materials that would result in the release of hazardous material into the environment. The only use of hazardous materials would include construction and landscaping maintenance. These materials would be limited in quantity and the impacts on surrounding schools would be **less than significant** and will not require further analysis in the EIR.

d) The proposed Monarch Cove Hotel is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Department of Toxic Substance Control 2013). Based on historical operations on the project site and surrounding historical residential properties, no hazardous materials would be expected to be in the soil on site. As such, grading and other ground disturbance activity associated with construction would not expose the public or environment to hazardous materials and **no impact** would occur.

e, f) The closest public airport to the proposed hotel is the Watsonville Municipal Airport, which is located approximately 10 miles southeast of the project. No portion of the project site is located within the airport safety zone. A private air strip, Monterey Bay Academy, is also located approximately six miles southeast of the proposed project. The project would not expose guests to airport-related hazards or facilitate activities that could pose a safety hazard related to nearby airports. There would be **no impact** related to airport hazards.

g) The project includes two proposed access points to the site, one from El Salto Drive and one from Escalona Drive, both located on residential roads. The new access configuration's impacts related to emergency access for the site and surrounding land uses are **potentially significant** and will be discussed further in the EIR.

h) The proposed project is located in an "Unzoned Fire Hazard Severity Zone" according to the California Department of Forestry and Fire Protection (CalFire) Fires Hazard Severity Zone map for Santa Cruz County (CalFire 2007). This designation equates to a less than moderate risk of wildland fire. The project is located in a developed area, and would not be exposed to wildland fires. As such, impacts related to risk of loss, injury, or death related to wildland fire would be **less than significant**.

IX. HYDROLOGY AND WATER QUALITY

	Would the project:	**Potentially Significant Impact**	**Less than Significant Impact ith Mitigation Incorporated**	**Less than Significant**	**No Impact**
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?	☒	☐	☐	☐

IX. HYDROLOGY AND WATER QUALITY

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
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?	☒	☐	☐	☐
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 surface or groundwater quality?	☒	☐	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a, f) The proposed project is located in the Aptos-Soquel Watershed, within the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB). The RWQCB establishes requirements prescribing the quality of point and nonpoint sources of discharge and establishes water quality objectives through the Water Quality Control Plan for the local basin. A point source is defined as waste emanating from a single, identifiable point such as a wastewater treatment plant. A nonpoint source of discharge results from drainage and percolation of activities such as agriculture and stormwater runoff.

Construction activities associated with the proposed project could result in temporary water quality impacts due to ground disturbing activities during construction. Water quality could be impacted if runoff leaves the site. Therefore, water quality impacts would be **potentially significant** and will be discussed further in the EIR.

b) The proposed project would include impervious surfaces including buildings, walkways, parking spaces and driveways. The project would also include pervious pavement and rain harvest gardens to reduce runoff and increase infiltration rates. However, as the construction of the hotel would introduce new impervious surfaces, there would be a potential reduction of groundwater recharge in the project area. Additionally, an increase in guest rooms and hotel capabilities would increase water demand. The project site is serviced by the Soquel Creek Water District, which relies entirely on groundwater from the Purisima Formation and the Aromas Red Sands aquifers. The Aromas Red Sands aquifer underlies the southern third of the Soquel Creek Water District's service area and does not serve the City of Capitola. The Purisima Formation underlies the City of Capitola and is in overdraft conditions and is impacted by saltwater intrusion (City of Capitola, 2011). As such, impacts to groundwater supplies would be **potentially significant** and will be further discussed in the EIR.

c-e) The proposed project would involve the introduction of new impervious surfaces and would also include modifications to the subject property that would affect drainage patterns. Proposed development may increase the rate or amount of surface runoff to planned or existing drainage facilities and could degrade the quality of surface runoff from the site. Impacts are **potentially significant** and will be studied further in the EIR.

g-j) According to the City's Local Hazards Mitigation Plan (2013) and Flood Insurance Rate Maps for the area (Federal Emergency Management Agency, 2013), the project site is not located in a 100-year flood zone, special hazard flood zone, or an area at risk from tsunami (due to its location on a blufftop) or seiche, mudflow, or dam/levee failure. The Newwell Dam is the closest dam, located 11 miles northeast of the project site. Given this distance, the dam would not have the potential to result in loss, injury or death involving flooding as a result of dam failure. There would be **no impact** in these issue areas.

X. LAND USE AND PLANNING

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

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

a) The proposed Monarch Cove Hotel would not physically divide an established community, as the proposed project would be located on a previously developed site with a hotel use. The proposed project would maintain public access on and through the site via ADA accessible walkways. Therefore, **no impacts** relating to the physical division of communities would occur.

b) The project site is designated for visitor serving uses and is located in the coastal zone. The project's consistency with the City of Capitola General Plan, Capitola Municipal Code, Local Coastal Plan, and other applicable plans will be discussed in the EIR. In addition, compatibility of the proposed project with adjacent residential land uses would be **potentially significant** and will be discussed in the EIR.

c) There are no adopted habitat conservation plans or natural community conservation plans applicable to the project site. There would be **no impact** in this regard. Please see Section IV, *Biological Resources,* above for a discussion of potential impacts to biological resources including sensitive habitat.

XI. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a) Result in a 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?	☐	☐	☐	☒

a-b) The proposed project involves construction of a new hotel at the site of an existing hotel. There are no mining operations on the project site or in the project vicinity, and no known mineral resources are on or under the project site. The construction or operation of the hotel would not interfere with existing mining operations or result in the loss of any mineral resources. There would be **no impact** to mineral resources.

XII. NOISE

Would the project result in:		Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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?	☒	☐	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e)	For a project located within an airport land use plan 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?	☐	☐	☐	☒

a-d) Some land uses are considered more sensitive to noise levels than others, due to the amount of noise exposure (in terms of both exposure time and insulation from noise) and the types of activities typically involved. Residences, lodging facilities, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks, and outdoor recreation areas are generally considered more sensitive to the noise than are commercial and industrial land uses. Sensitive receptors in the project area include single family and multi-family residences located directly north, east, and west of the site. Because of the proximity of the proposed Monarch Cove Hotel to sensitive uses, construction activities would be expected to cause temporary noise impacts to sensitive receptors. Operation of the proposed Monarch Cove Hotel would be similar to existing conditions on the proposed project site, but an increase in guests and visitors would be expected to increase traffic in the neighborhood (refer also to Item XVI, *Transportation/Traffic*). Noise impacts would be **potentially significant** and will be analyzed in the EIR.

e) The proposed hotel would be located approximately 10 miles from the Watsonville Municipal Airport and is located outside of the airport noise impact contours (City of Watsonville, General Plan, 2012). The project would not place structures within an area exposed to airport noise, and would therefore not expose residents or workers to excessive noise levels. There would be **no impact**.

f) The project site is located approximately six miles northwest of the Monterey Bay Academy Airport, which is a private airstrip located south of Manresa State Beach. The project site is not located near enough to the airstrip to expose workers or guests to excessive noise levels. There would be **no impact**.

XIII. POPULATION AND HOUSING

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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 or 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?	☐	☐	☐	☒

a) The proposed project would result in an addition of 30 hotel rooms to the site, which would increase the number of visitors to the hotel and the City of Capitola. However, occupants of the hotel would be temporary and the proposed project does not include any new housing, roads, or other growth infrastructure. The proposed hotel would generate short-term employment opportunities during construction and long-term employment opportunities associated with the operation and maintenance of the hotel. However, both temporary and long-term employment opportunities would be expected to be filled from within the existing community and long-term employment would be nominal (approximately five to eight additional full time employees). Therefore, impacts related to direct or indirect population growth would be **less than significant**.

b, c) The proposed Monarch Cove Hotel would not include the demolition of existing housing, construction of new housing, or displacement of people. As a result, **no impacts** related to population and housing would be anticipated.

XIV. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered government and public services facilities, need for new or physically altered government 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:				
Fire protection?	[x]	[ ]	[ ]	[ ]
Police protection?	[x]	[ ]	[ ]	[ ]
Schools?	[ ]	[ ]	[ ]	[x]
Parks?	[ ]	[ ]	[x]	[ ]
Other public facilities?	[ ]	[ ]	[x]	[ ]

a) *Fire Protection*. The City of Capitola is served by the Central Fire Protection District of Santa Cruz County (CFPD), which was formed in 1987 as a result of the consolidation of the Capitola, Soquel, and Live Oak Fire Districts. CFPD has four fire stations, one of which (Fire Station #4) is located in the City of Capitola at 405 Capitola Avenue, across from City Hall. The other stations are located in Soquel (one station) and Live Oak (two stations). The project site is located within a two-minute emergency response time from the Central Fire District Station #4 (City of Capitola General Plan Update, *White Paper #5 Public Services, Utilities, and Infrastructure*, March 2011). The proposed hotel could result in the construction of buildings that could present unique or special challenges for fire protection services on-site or result in an increase in population that would warrant the construction of new facilities to provide adequate fire protection services. Increased activity and guests at the project site could increase demand for fire protection services. Impacts would be **potentially significant**, and further analysis in the EIR is necessary.

Police Protection. The Capitola Police Department, headquartered at 420 Capitola Avenue, adjacent to City Hall, would provide police services for the proposed hotel. The proposed hotel is located within a developed area of the City already serviced by the police department. However, an increase in activity and number of guests at the project site could increase demand for police protection services. Impacts would be **potentially significant**, and further analysis in the EIR is necessary.

Schools. The proposed hotel would not generate an increase in population that would warrant the construction of new school facilities. Therefore, **no impacts** related to schools are anticipated.

Parks. The proposed Monarch Cove Hotel would improve access to and through the site, including an ADA accessible pathway and overlook seating areas. These pathways would be open to the public and would provide passive recreation for the surrounding community. The proposed hotel would not generate an increase in population that would generate demand for recreational facilities, but would result in a net increase of 30 hotel rooms on the project site, and the additional guests and visitors would be expected to use existing parks within the City of Capitola. However, this demand is anticipated to be relatively minor, and would not be expected to necessitate the construction of new park facilities or expansion of existing park facilities. Therefore, impacts would be **less than significant**.

Other Public Facilities. The proposed addition of 30 hotel rooms to an existing hotel site would not substantially increase use or access to other public facilities, such as downtown centers, vista points, or historic landmarks. Therefore, the project would not result in substantial adverse physical impacts associated with other public facilities, and impacts would be **less than significant**.

XV. RECREATION

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

a) The proposed project would not generate an increase in population that would increase the use of existing neighborhood or regional parks. However, the project would result in a net increase of 30 hotel rooms on the project site, and the additional guests and visitors may use existing parks within the City of Capitola. This demand is anticipated to be relatively minor, and would not be expected to result in a substantial physical deterioration of existing park facilities. Therefore, impacts would be **less than significant**.

b) The proposed hotel would include ADA accessible pathways and benches for scenic overlooks, which would be open to the public. The impacts of these facilities are analyzed within this Initial Study, and will be further analyzed in the EIR where impacts are potentially significant as indicated throughout this document.

XVI. TRANSPORTATION/TRAFFIC

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	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 components 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?	☒	☐	☐	☐
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?	☐	☐	☐	☒
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?	☒	☐	☐	☐
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?	☒	☐	☐	☐

a, b) The proposed project would result in a net increase of 30 hotel rooms on the project site, thereby generating additional vehicle trips to and from the site. The addition of project-generated traffic to the neighborhood may be substantial. In addition, project trips would be added to intersections and roadways elsewhere that may or currently do operate below City of Capitola Standards. Impacts would be **potentially significant** and further analysis in the EIR is required.

c) The closest public airport is the Watsonville Municipal Airport, which is located approximately 10 miles southeast of the project site. A private air strip is also located approximately six miles southeast from the project site. The proposed project would not affect public or private airport facilities or cause a change in the directional patterns of aircraft. The proposed project would not include the construction of any buildings that would interfere with flight patterns. Therefore, there would be **no impact** to air traffic patterns.

d) The proposed Monarch Cove Hotel would be accessed from both El Salto Drive and Escalona Drive, with primary entrance from El Salto Drive. The proposed below grade parking garage and other on site improvements would introduce new infrastructure and design features and may increase hazards. Impacts related to hazards from design features could be **potentially significant** and will be discussed further in the EIR.

e) Existing site access is provided by El Salto drive. Proposed site access would be provided by El Salto Drive and Escalona Drive. The project would include construction of a new driveway from Escalona Drive that would need to be evaluated to determine impacts on emergency access to the site. Impacts related to emergency access are **potentially significant** and will be discussed further in the EIR.

f) The proposed project would generate additional bus, pedestrian and bicycle travel. Impacts related to consistency with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities **will be analyzed in the EIR.**

XVII. UTILITIES AND SERVICE SYSTEMS

	Would the project:	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a)	Exceed wastewater treatment requirements of the applicable 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?	☒	☐	☐	☐
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?	☒	☐	☐	☐

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

a, e) The proposed Monarch Cove Hotel would include additional restroom facilities in each new guest room, new kitchen facilities for catering and internal use, and restroom facilities in the hotel common areas. Sanitary sewer service for the City of Capitola is provided under contract through the Santa Cruz County Sanitation District. The hotel's wastewater would connect to existing wastewater service lines and be transported to the City of Santa Cruz wastewater treatment facility at Neary lagoon. The treatment plant has a permitted capacity of 17 million gallons per day (MGD), and approximately 10 MGD is currently being used (City of Santa Cruz, 2009). The Santa Cruz County Sanitation District generates approximately 5 to 6 MGD of the total average flow to the Santa Cruz wastewater treatment facility, and has rights of up to 8 MGD. Table 1 shows the capacity and flow projections for the City of Santa Cruz Wastewater Treatment Facility. Based on the figures presented therein, the City of Santa Cruz Wastewater Treatment Facility would have a remaining capacity of 6.22 million gallons per day in 2020.

Table 1
Treatment Capacity and Flo Pro ections for Waste ater Treatment Facilities in Santa Cru County (million gallons per day)

Treatment Facility Areas Served	Permitted Capacity	Flo Pro ections			Average Annual Increase
		2010	2015	2020	
City of Santa Cruz Wastewater Treatment Facility City of Santa Cruz City of Capitola Live Oak Soquel Aptos CSA 57 – Graham Hill UC Santa Cruz	17.00	10.25	10.50	10.78	0.5%

Source: City of Santa Cruz, 2009.

Estimates consulted for this Initial Study for daily wastewater generation from hotels range from 110 gallons per day per room (gpd/room) to 130 gpd/room (PBS&J, 2012; Town of Mammoth Lakes, 2006; Camp Dresser & McKee Inc., 2001). Using the most conservative number of these, 130 gpd/room, the proposed 41-room hotel would generate approximately 5,330 gallons per day (gpd). This represents approximately 0.09% of the estimated 2020 remaining capacity for the Santa Cruz Wastewater Treatment Facility (6.22 million gallons per day). The Santa Cruz Wastewater Treatment Facility has sufficient capacity to serve the proposed project. Impacts resulting from an increased demand for wastewater services would be **less than significant.**

b, d) Water required for operation of the proposed project would include water for landscaping maintenance and water for bathrooms, housekeeping, kitchens and laundry service. The project site is serviced by the Soquel Creek Water District (SqCWD), which relies entirely on groundwater from the Purisima Formation and the Aromas Red Sands aquifers (SqCWD, Urban Water Management Plan 2010, September 2011). The Aromas Red Sands aquifer underlies the southern third of the SqCWD's service area and does not serve the City of Capitola. The Purisima Formation underlies the City of Capitola and is in overdraft conditions and is impacted by saltwater intrusion (City of Capitola, 2011). According to the SqCWD's Urban Water Management Plan (September 2011), the SqCWD does not have a surplus of water with which to serve the project. Any increase in water demand may therefore be considered to have a potentially significant impact on water supply . Impacts related to water supply would be **potentially significant** and will be discussed in the EIR.

c) The proposed hotel would introduce new impervious surfaces to the project area, which could result in an increase in stormwater runoff flows and the need for new stormwater drainage systems. The project includes upgrades to drainage, water quality and stormwater management systems including the use of porous paving with perforated sub-drains on the paved entry drive and a 450 square foot water detention "rain garden." Drainage improvements would be designed to ensure that runoff flows would not exceed historic flows. However, further analysis will consider proposed drainage improvements, stormwater management, and water quality improvements. Impacts would be **potentially significant** and will be discussed further in the EIR.

f, g) The proposed project would increase solid waste generation compared to existing conditions. The City of Capitola has a franchise agreement with Green Waste Recovery for the collection of refuse, recycling, and yard waste. Solid waste collected in the City of Capitola is transferred to the Monterey Peninsula Class III Landfill located in the City of Marina and operated by the Monterey Regional Waste Management District (City of Capitola, 2011). Other nearby landfills include the City of Santa Cruz Sanitary Landfill, the City of Watsonville Landfill, and Buena Vista Drive Sanitary Landfill. Table 2 shows the remaining capacity and closure date for the nearby landfills.

Table 2
Remaining Capacity of Landfills in the Pro ect Vicinity

	Remaining Capacity (cubic yards)	Estimated Closure Date
Landfill Serving the Pro ect		
Monterey Peninsula Class III Landfill	48,560,000	February 28, 2107
Other Nearby Landfills		
City of Santa Cruz Sanitary Landfill	6,150,000	January 1, 2052
City of Watsonville Landfill	2,009,550	December 31, 2029
Buena Vista Drive Sanitary Landfill	3,303,649	July 1, 2031

Source: CalRecycle Solid Waste Information System Database, Facility Site Listings. Accessed July 23, 2013.

CalRecycle estimates that the daily per room solid waste disposal rate from hotels is approximately two to four pounds (CalRecycle, January 2013). Assuming four pounds per room, the daily solid waste generation from the proposed project would be 164 pounds per day, or approximately 0.08 tons per day. As shown in Table 3, the Monterey Peninsula Class II Landfill is a permitted solid waste facility and currently has the capacity to continue solid waste disposal services for approximately 93 more years (CalRecycle, July 2013). The landfill is permitted to accept up to 3,500 tons per day. Therefore, the landfill would have sufficient capacity to serve the additional 0.08 tons per day generated by the proposed project. Impacts resulting from increased demand for solid waste disposal would be **less than significant**.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant Impact ith Mitigation Incorporated	Less than Significant	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐

b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

a-c) As described in the sections above, the proposed project may generate potentially significant impacts in the following areas: aesthetics, air quality, biological resources, cultural resources, geology/soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation/traffic, and utilities and service systems. These issue areas, as well as potential cumulative impacts, **will be evaluated in the EIR**, and feasible mitigation measures will be identified to avoid and/or reduce significant impacts as warranted.

REFERENCES

California Department of Conservation, *California Geological Survey – Alquist Priolo Earthquake Fault Zones*. 2010. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm . Accessed July 21, 2013.

California Department of Conservation, *Farmland Mapping and Monitoring Program*, 2010. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/scr10.pdf . Accessed July 21, 2013.

California Department of Forestry and Fire Protection, *Draft Fire Hazard Severity Zones in Local Responsibility Areas,* Santa Cruz County, 2013. Available at: http://frap.cdf.ca.gov/webdata/maps/santa_cruz/fhszl06_1_map.44.pdf. Accessed July 26, 2013.

CalRecycle, *Solid Waste Information System Database*, Facility Site Listings, August 2013. Available at: http://www.calrecycle.ca.gov/swfacilities/Directory/. Accessed July 23, 2013.

CalRecycle, *Waste Characterization - Service Sector: Estimated Solid Waste Generation and Disposal Rates*, January 2013. Availabe at: http://www.calrecycle.ca.gov/wastechar/wastegenrates/Service.htm. Accessed August 8, 2013.

Camp Dresser & McKee Inc., *LAX Master Plan Draft EIR/EIS, Wastewater Technical Report,* January 2001. Available at: http://ourlax.org/docs/draft_eir_NE/T15b_LR.pdf. Accessed August 19, 2013.

Capitola, City of. *Bicycle Transportation Plan*. February, 2011

Capitola, City of. *General Plan Update White Paper # 4, Environmental Resources & Hazards.* April 2011.

Capitola, City of. *General Plan Update, White Paper #5, Public Services, Utilities, and Infrastructure.* March 2011.

Capitola, City of. *General Plan.* September 28, 1989.

Capitola, City of. *Land Use Plan – Local Coastal Program.* June 1981, updated January 2005.

Capitola, City of, *Local Hazards Mitigation Plan,* May 2013.

Capitola, City of, *Municipal Code,* April 2013.

Capitola, City of. *Zoning Map.* May 28, 2008.

Department of Toxic Substance Control, Envirostor: *Cortese List – Hazardous Waste and Substances Site List*, 2013. Available at: http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&status=ACT%2CBKLG%2CCOM&reporttitle=HAZARDOUS%20WASTE%20AND%20SUBSTANCES%20SITE%20LIST. Accessed August 5, 2013.

Federal Emergency Management Agency. *Flood Hazard Zones,* 2013. Available at: https://hazards.fema.gov/femaportal/wps/portal/NFHLWMSkmzdownload Accessed July 23, 2013.

Haro, Kasunich, and Associates, Inc., *Geotechnical Investigation for the Proposed Hotel Structures with Underground Parking Garage at the Monarch Cove Inn,* August 5, 2013.

Mammoth Lakes, Town of, *Eagle Lodge Environmental Impact Report,* September 2006. Available At: http://www.ci.mammoth-lakes.ca.us/documents/10/45/50/60/63/82/03.12%20Wastewat_2.PDF. Accessed August 19, 2013.

Monterey Bay Academy Airport, *Location and QuickFacts*. Available at: http://www.airport-data.com/airport/CA66/. Accessed July 23, 2013.

Monterey Bay Unified Air Pollution Control District, *2008 Air Quality Management Plan for the Monterey Bay Region,* August 2008.

Monterey Bay Unified Air Pollution Control District, *CEQA Air Quality Guidelines,* February 2008.

Monterey Bay Unified Air Pollution Control District, *North Central Coast Air Basin Area Designations and Attainment Status*, January 2009. Available at: http://mbuapcd.org/. Accessed July 25, 2013.

PBS&J, *Vallecitos Water District Master Plan,* November 2012. Available at: http://www.vwd.org/uploads/Chapter%206,%20Wastewater%20Planning.pdf. Accessed August 19, 2013.

Santa Cruz, City of, *Wastewater Treatment Facility,* 2009, Accessed July 23, 2013. Available: http://www.cityofsantacruz.com/index.aspx?page=148

Santa Cruz, County of, Expansive Soils Map, November 2009. Available at: http://gissc.co.santa-cruz.ca.us/mapgallery/. Accessed July 23, 2013.

Santa Cruz Local Agency Formation Commission, *Countywide Service Review, Wastewater Services*, June 2005. Available at: http://santacruzlafco.org/CSR.html. Accessed July 23, 2013.

Soquel Creek Water District, *Urban Water Management Plan 2010*, adopted September 20, 2011. Available at: http://www.soquelcreekwater.org/sites/default/files/UWMP%20FINAL%20MASTER%20OCT7.pdf. Accessed July 23, 2013.

United States Fish and Wildlife Service (USFWS), *National Wetlands Inventory – Wetlands Mapper,* Updated May 22, 2013. Available at: http://www.fws.gov/wetlands/Wetlands-Mapper.html. Accessed July 21, 2013.

Watsonville, City of. *Watsonville Municipal Airport Master Plan,* revised April 2010. Available at: http://cityofwatsonville.org/download/airport/Facts/Watsonville%20Master%20Plan%20-%20Revised%20Forecasts%204-10.pdf. Accessed July 21, 2013.

Notice of Preparation and Comment Letters

August 27, 2013

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

SUBJECT: Notice of preparation of a Draft Environmental Impact Report (EIR) for the Monarch Cove Hotel Project. Pursuant to the requirements of the California Environmental Quality Act (CEQA), the City of Capitola (City) will be the Lead Agency and will prepare an EIR for the project. The City would like input from interested agencies and the general public on the scope and content of the environmental analysis.

PROJECT NAME: Monarch Cove Hotel Pro ect

PROJECT REPRESENTATIVE: Charles Eadie, Principal Associate, Hamilton Swift & Associates, Inc.

PROJECT LOCATION ADDRESS: The proposed Monarch Cove Hotel is located at the Monarch Cove Inn site (620 El Salto Drive), at the terminus of El Salto Drive east of its intersection with Livermore Avenue, on Depot Hill in the City of Capitola (Assessor Parcel Numbers 036-142-27, 036-142-28 (partial), 036-143-31, and 036-143-36). The project site is a 1.4 acre property which is designated as Visitor Serving by both the City's General Plan and Zoning Ordinance. The property is currently occupied by the Monarch Cove Inn, which is partially housed in an historic Victorian structure. Attached Figure 1 illustrates the regional location of the proposed Monarch Cove Hotel. Figure 2 illustrates the proposed site plan.

DUE DATE FOR COMMENTS: Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than **September 26, 2013 at 5:00 PM.**

PROJECT DESCRIPTION: The site is partially paved and landscaped with four existing structures (a Victorian house, two cottages and a garage/office building). The existing facility accommodates 11 guest rooms (9 rooms in the Victorian house and one room in each of the two cottages) and includes an outdoor event deck. The proposed project would involve demolition of the two cottages , the garage/office L-shaped building, and the outdoor deck. These structures would be replaced by a proposed new hotel that would include two buildings. The proposed main building would be a 16,729 square foot, two-story building containing 22 guest rooms, two meeting rooms, kitchen facilities for catering and internal use, and a courtyard. The second building would be a two-story, 5,894 square foot building with 10 guest rooms. The main building would also include a two-level, below grade parking garage (8,322 square feet on each level) with 56 parking stalls and 27 bicycle parking spaces (refer to Figure 2). A separate bicycle entrance would be included to the below grade parking garage. Four additional surface parking spaces would be included near the entrance to the main building.

The proposed project also includes renovation of the existing Victorian structure, including seismic improvements, construction of a new foundation and a slight reorientation of the structure. The existing nine rooms in the Victorian house would be retained as guest rooms. In total, the proposed hotel would include 41 guest rooms (9 existing guest rooms and 32 new guest rooms).

The proposed project would require grading of approximately 6,950 cubic yards net export from the site. The proposed project includes drainage improvements, including water quality and stormwater management systems. Improvements would include using porous paving with perforated sub-drain pipes on the paved entry drive and a 450 square foot water detention “rain garden.” New landscaping would include new gardens, ADA accessible pathways and overlook seating areas, and landscape screening of adjacent properties. In order to enhance Monarch butterfly habitat, proposed landscaping would be Monarch-supportive and include improvements to the woodland edge.

Access to the proposed project would be from both El Salto Drive and Escalona Drive, with the primary entrance from El Salto Drive, which would open into the entry and reception area. The upper level of the parking structure would be accessed from the west side of the proposed main building, while the lower level would be accessed from the north side along Escalona Drive. Neighborhood access would be incorporated to and through the site via ADA accessible pathways and benches for scenic overlooks.

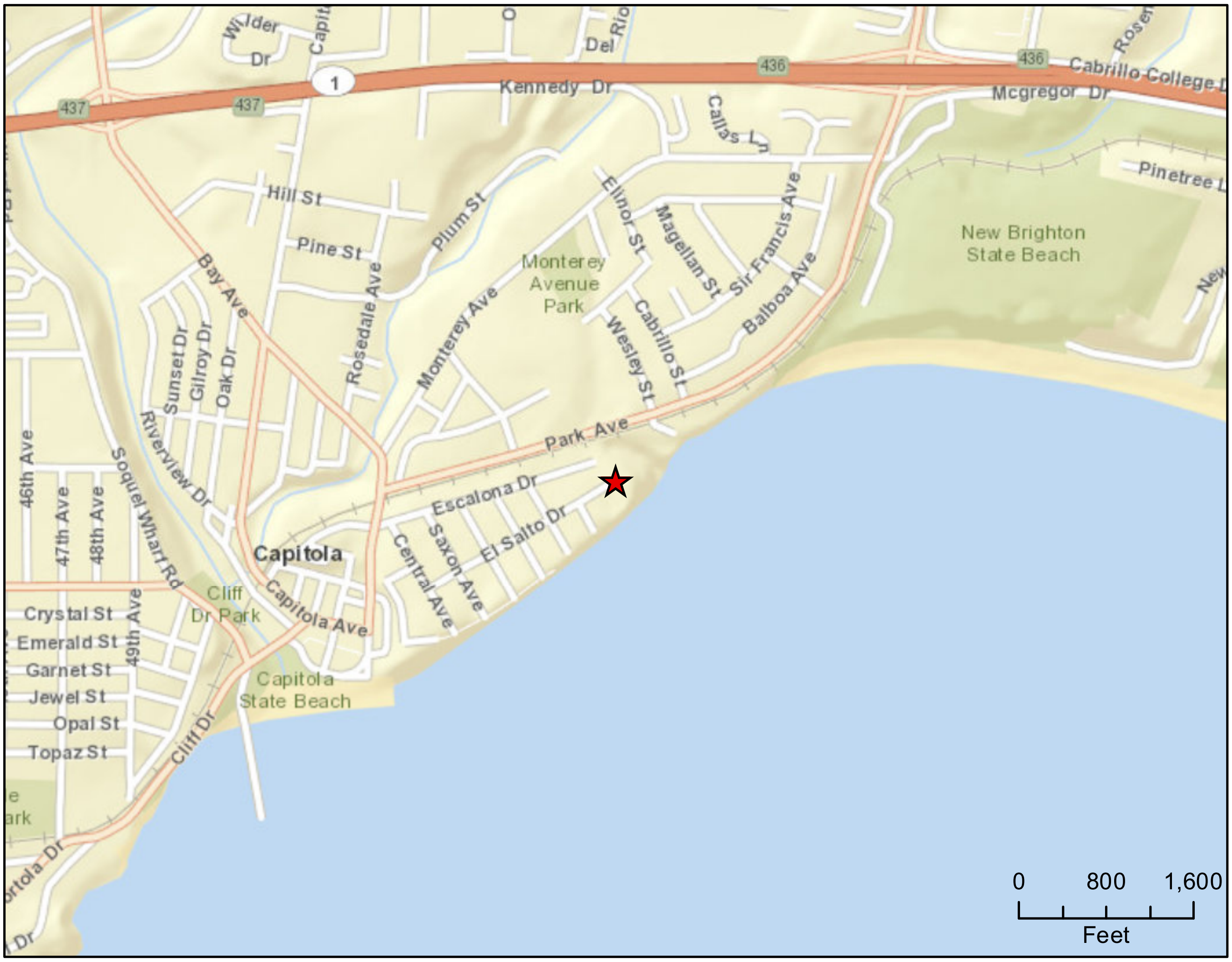
ENVIRONMENTAL FACTORS POTENTIALL   AFFECTED: The City’s preliminary project review, as documented in the draft Initial Study for the project, indicates that potentially significant impacts may occur in the following issue areas: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation/traffic, and utilities and service systems. The Monarch Cove Initial Study discusses these issues in further detail. If a copy of the Initial Study is not attached to this notice, you may request or review a copy at Community Development Department offices at Capitola City Hall, located at 420 Capitola Avenue in Capitola.

PUBLIC SCOPING MEETING: Pursuant to the public participation goals of the City and of CEQA, the City of Capitola will host an EIR Scoping Meeting to gather additional input on the content and focus of the environmental analysis to be conducted and presented in the Initial Study and EIR. The scoping meeting will be held at the **Capitola City Council Chambers**, 420 Capitola Ave., Capitola, CA , on **September 16, 2013** at **7:00 PM**.

COMMENTING ON THE SCOPE OF THE EIR: The City of Capitola welcomes all comments regarding the potential environmental impacts of the proposed project. All comments will be considered in the preparation of the EIR. Written comments must be submitted by **September 26, 2013**.

Please direct your comments to:

Richard Gruno   , Community Development Director
City of Capitola
420 Capitola Avenue
Capitola, California 95010
Fa : 831-479-8879
rgruno   ci.capitola.ca.us



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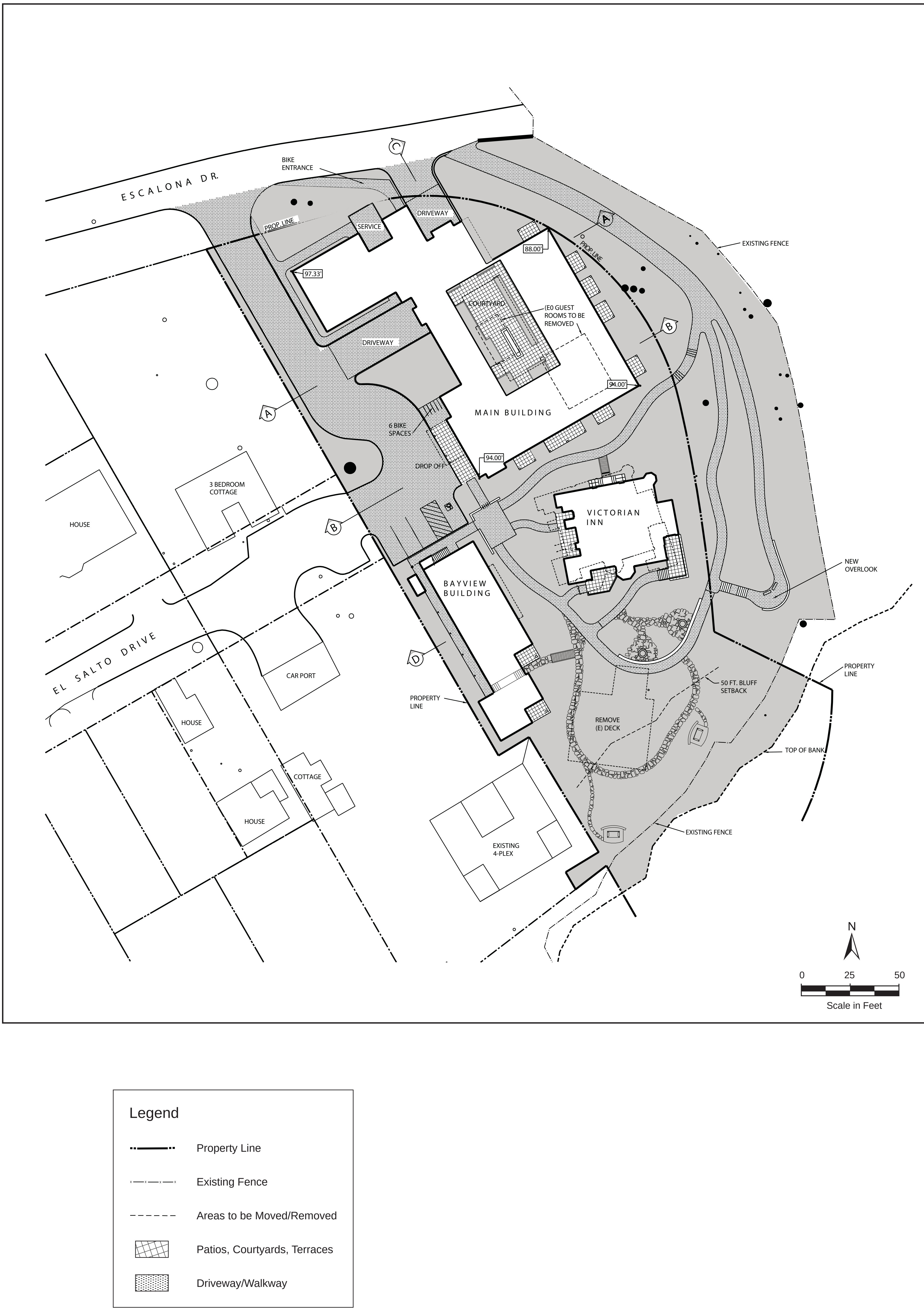
Project Location

N

Regional Location Map

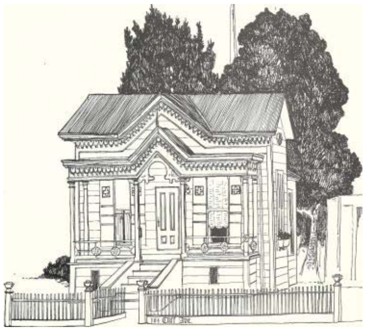
Figure 1

City of Capitola



Base drawing source: Thacher & Thompson Architects, 2011.

Proposed Site Plan



September 16, 2013

Forty Five years ago my wife and I moved to Depot Hill. At that time our property and just about all the property's in the neighborhood were zoned RM1000. Realistically we could have built 7 units on our lot. Many of the homes on the hill were single family residences with families. The "Hill" organized an association and were able to have the lots rezoned R1. They reduced the worth of many of their lots to preserve the neighborhood. I point this out to give you a feel for how the residents of Depot Hill care about their neighborhood more than the resale or development opportunities that their property's command. Over the years the El Salto Resort property has had its share of problems with the City and the neighborhood. We are now asked to trust that they are building this project to enhance the area. The property owner has never, let me repeat, NEVER done anything that took into consideration the neighborhood. It has always been about profit. Now I realize we live in a free enterprise society which encourages profit, and I worked my whole life respecting and living that concept. I also believe you shouldn't sacrifice the good of a society or a neighborhood for profit. The El Salto Resort has coexisted for almost a century in this neighborhood at a size that at times might seem overwhelming to the direct neighbor's, but only occasionally causes a major disturbance. To many one disturbance is one too many, and I agree. To think that increasing the number of units almost four fold will help the neighborhood, is a fools dream.

Now you shouldn't blame the property owner for trying to increase the number of rooms and amenities of his property, after all it is zoned correctly for this use. Unfortunately the property is only accessed by one entrance and exit to Depot Hill. You also have to drive the whole length of Depot Hill through residential neighborhoods to get to the property. Those neighborhood streets are now experiencing a new wave of families with children and grandchildren. The children who have been raised, and are being raised, on Depot Hill have historically enjoyed a neighborhood where you could walk and at times play in the streets. Depot Hill has had a block party during 4th of July for many years which closes El Salto Dr. Depot Hill because of its unique one access and exit intersection has been one of the easiest neighborhoods to walk and enjoy the tranquil atmosphere. We are now being asked to trust that 41 units will not adversely upset this dynamic. I don't think anyone with any sense at all would go along with that assumption.

The property owner will argue that he has a right to develop this property to its fullest extent because it is zoned for this use. I will agree it is zoned visitor serving, but the City has the ability to regulate the size of that service. I would suggest that the number of units already existing is about the maximum that should be considered. If the property owner and his development team want to generate more income, they might try upgrading the existing rooms and amenities to attract a much more affluent clientele.

This property, in some respects, has out lived its original use and should have been rezoned to a lesser developmental footprint years ago. It isn't the neighborhoods fault the resort is located in an area that has historically been a family friendly area. Now we are being asked to trust a developer, a property owner, and possibly a City, that the impacts of this project can be mitigated, and they shouldn't anticipate much of an impact to their way of life. Any increase in use will have a major effect on Depot Hill, whether it be traffic, noise or just the disruption of our daily routines.

Capitola is slowly but surely becoming a vacation or second home town. Our neighborhoods are losing their heart and soul to wealth and extravagance. Please think long and hard about what we are doing here. Do you want to live in neighborhoods without families, vacant houses for many days and weeks a year? Or do we want to protect our neighborhoods and encourage families to locate here and contribute to the fabric of the community.

Bruce Arthur

Depot Hill

OPPOSITION TO THE EXPANSION OF MONARCH COVE INN

Depot Hill is, and has always been zoned as a residential neighborhood:

- The El Salto Resort designated Visitor Serving due to the historical existence as a small resort (according to City records, the zoning was 'grandfathered' into an otherwise residential neighborhood.) The density is currently greater than it was in the past because the owners have sold off many surrounding parcels. The resorts history has been troubled and created years of conflict not only because of the incompatible use but because of the owner's total disregard for neighbors, community or City rules and regulations. *
  *http://www.metroactive.com/papers/cruz/05.21.98/elsalto-9820.html *full text following comments

- The resort owners have profited from selling parcels to be used as single family homes over the years. As a purchaser of one of those parcels I was advised by the City staff to not plan on using the visitor serving overlay designation as it was only because the resort was grandfathered. I was told that the resort would not be expanded but would either remain as is or eventually be converted to single family residential to fit in with the existing neighborhood, (based on the premise that the El Salto property was Visitor Serving only because of historical usage – and no increased Visitor Serving usage would be allowed) – confirming that the essential character of the neighborhood was and is residential. Several other of these former El Salto properties were purchased with clear confirmation from the City that the Visitor Serving Designation was not to be expanded, only allowed to continue in historical form without expansion.

The Council has been exemplary in protecting the neighborhood from the frequently intrusive behaviors of the resort's operators:

- The City has a clear history of documented problems that have occurred in the past at this location because of the conflict between permitted uses. (see Capitola City Council Findings, Neighborhood Petition with 61 signatures from meeting of June 24, 1999 and associated letters from 1998 through 2001) addressing multiple problems from the incompatible usage due to traffic, unacceptable noise levels and environmental impacts.
- In reviewing City Council minutes, it is evident that the Council's intent over the years was to protect the residential character of the neighborhood. Council minutes recognize the significant neighborhood impacts of this incompatible use and implemented a number of conditions if any events were to continue at the resort.
- The Council has taken action over the years to limit traffic impacts, (particularly speeding and drunk drivers – a frequent problem in the past) noise, and waste management. As an example, the property owner went an entire summer without regular garbage pickup, choosing instead to dump all resort and wedding waste including rotting food from the weddings on the lot next to me. I could not open my windows due to the smell, the only reason the rat population was kept down was the number of semi wild cats still in the area from Mrs. Blodgett's 300 cats and their offspring. I reported the garbage issues to the Health Department and Capitola Police. Eventually, 22 truckloads of garbage were removed. This is an owner and developer that has treated the neighborhood with total disregard.

Claims made by the developer should be taken with a grain of salt:

- There are numerous instances of attempted expansion at this location by the owner, which were denied because of neighborhood and environmental impacts.
- The owner of El Salto has made promises that have not been kept; proceeded with actions after being denied permits to implement such actions; neglected to pay taxes and use fees on many occasions until applying for the same permit the following year – when he was required to pay delinquencies in order to continue.
- Again, as an example, the owner was denied numerous applications to expand parking within the resort and on Escalona. The Council has continuously denied these requests to prevent added traffic on narrow streets as well as impacts to Monarch Butterfly habitat and the neighbors. This summer, while legally cutting and trimming trees on the property, the owner also illegally cleared critical butterfly supporting undergrowth and placed wood chips from the tree cutting over a large area striping the area as a parking lot. I believe he was cited for this but he has made no effort to remove the chips or restore the habitat that he destroyed. I am unclear what resulting fines and penalties might have been levied for the outrageous disregard for the City requirements and the environment.

EXPANSION OF MONARCH COVE INN CONFLICTS WITH GENERAL PLAN UPDATE

The proposed development is in direct opposition to the General Plan Update Goals, Policies and Actions

GOAL LU-1 Maintain and Enhance Capitola's Distinctive Identity and Unique Sense of Place

Policy LU-1.3 Compatible Development to ensure that all new development is compatible with neighboring land uses and development

Depot Hill is a very special part of Capitola's unique sense of place. Both community members and visitors enjoy walking this quaint and quiet neighborhood. This project would not be compatible.

GOAL LU-4 Protect and Enhance the Special Character of Residential Neighborhoods

Policy LU-4.2 Quality of Life Ensure residential neighborhoods are walkable, safe, friendly, and provide a high quality of life for residents of all ages.

Depot Hill is a walkable, safe (except for wedding and resort guests unfamiliar with the lack of sidewalks and pedestrian focus of the area), and friendly neighborhood. It provides a park like setting for pedestrians, cyclists, children and families from all parts of the community as well as visitor's that enjoy strolling up from the village.

GOAL LU-5 Ensure that new residential development respects the existing scale, density and character of neighborhoods

Policy LU 5.3 Mass and Scale Ensure that the mass, scale and height of new development is compatible with existing homes within residential neighborhoods

This proposal has been deeply disturbing for community members, in part, because of the proposal's outrageous lack of respect for scale, density and character of the neighborhood. The resort's long history of conflict due to the incompatibility of uses should limit ***any*** expansion.

GOAL OSC-6 Protect natural habitat and other biological resources

Policy OSC-6.2 Environmentally Sensitive Areas Protect and enhance environmentally sensitive areas in Capitola including…. Escalona Gulch monarch butterfly habitat

A project of this size would destroy one of the few remaining Monarch Butterfly habitats. This area has already been compromised over the years by the owner's actions. The City has required significant remediation from the owner (much of it never implemented) and from the subsequent owner of a home constructed below the resort. The City has protected this area to the extent that the owner of the home at the end of Escalona was denied an application to construct an individual garage for his classic car. As a result he sold his home and moved out of Capitola. How much more impact would a 56 car (as opposed to a one or two car) garage have on this fragile environment?

It should be noted that any construction near the Monarch Butterfly area could potentially harm the butterflies. A construction project the size of the one proposed would most certainly irreparably damage this habitat. The owner has destroyed habitat in the past and was ordered by the City to take measures to restore what he damaged. He did not complete requirements in the past and has gone on to heedlessly destroy other supporting habitat without permits or supervision. The owner has a history of destroying or disregarding habitat. There is nothing in the current proposal to indicate that he would adhere to requirements, policies, regulations now when he has not in the past.

Street at end of Escalona

The street and right of way which is proposed as a prospective entrance or exit does not belong to Mr. Blodgett. It has not been established that this is a City street and City staff in the past has said they do not maintain it as it is not a City street. Several of the neighbors and some former neighbors still hold recorded easements and perhaps some underlying property rights to this access way. Property rights to this roadway would need to be established before any plans incorporating this access can move forward. I was offered $7,500 approximately 14 years ago for my rights to this roadway (conditionally based on his successful acquisition from others). Mr. Blodgett was unsuccessful in acquiring roadway rights released my rights back to me and withdrew his offer. Charlene Atack was the attorney for Mr. Blodgett at the time and may have more information clarifying the final outcomes.

General Plan Advisory Committee is still addressing the issue of Noise and Land Use Compatibility Guidelines.

Land Use Compatibility

The Incompatibility of these land uses is evident from over 20 years of past experience. 11 rooms and summer weddings (with required shuttle service) have been the source of frequent conflict. The incompatibility of an additional 30 rooms plus a conference center and 56 space garage is obvious.

Discussion of Noise has been primarily limited to traffic. In this area the noise issues are more than just the added cars driving too fast.

Outdoor bands and PA system usage have frequently been above the allowable decibel levels for noise, which impact neighbors frequently throughout the summer months. Moving activities indoors would not alleviate the problems of parties with loud (and inebriated) guests that frequently disturb the neighborhood. Neighbors have tolerated but have been continually disturbed by this use because of noise, traffic and inebriated guests wandering in cars and on foot after functions are over.

The proposed 400% expansion is in direct opposition to goals stated in the General Plan that have been developed for the specific purpose of preserving and protecting our community and our neighborhoods. Council Minutes have shown that the Community and the City Council have been vigilant in attempting to protect the unique character of the neighborhood from ongoing problems, which have resulted from the grandfathered but incompatible use as a seasonal wedding venue.

The Depot Hill neighborhood is, beautiful, eclectic, environmentally sensitive, and wonderful for walking and most of all, quiet. The history and issues make it clear that this is not an appropriate location for this type of project. Please consider rejecting this proposal to continue to protect our community's unique character and integrity. Depot Hill is a part of what makes Capitola a very special place.

I have included a link and text of 1998 Metro Article on El Salto showing long term history of problems at El Salto
http://www.metroactive.com/papers/cruz/05.21.98/elsalto-9820.html

American Gothic by Kelly Luker Metro May 21, 1998

Life on Hold: Former El Salto Resort owner Elizabeth Blodgett answers the phone at her son's bed & breakfast, Monarch Cove Inn.

How mismanagement and family feuds reduced a once-famous vacation playland to scattered shards of real estate

CAT URINE. The scent lingers everywhere throughout the acres of trails and cottages on this prime oceanfront property perched on the bluffs overlooking Capitola. The sharp ammoniac odor is inescapable, the legacy of hundreds of feral and domestic cats that have called the El Salto Resort home since Elizabeth Blodgett took ownership decades ago.

Once a favored getaway for Santa Cruz's well-heeled and genteel crowd back in the Roaring '20s, it is somehow fitting that the El Salto resort creep into old age like its owner--with cats as its constant companion.

The stories of Elizabeth Blodgett, her son Robert and the resort on Depot Hill are inseparable, their paths charting a rocky and interlocking history of eccentricity, family feuds, lawsuits, animal abuse and financial missteps. It is also a story that--like most well-crafted tragedies--leaves a few questions in its wake.

But one question constantly emerges louder than the rest--who was watching out for Lizzie Blodgett?

Like the Brookdale Lodge or Capitola's other fallen beauty, the Rispin Mansion, the El Salto Resort is the kind of real estate that keeps local historians happily digging away at its early secrets. Originally built in the 1890s as a summer retreat for two well-to-do British families, the Robertsons and the Rawlins, the property didn't hit its stride until the 1920s under the ownership of the oil-rich Hanchetts.

Known as "the English Cottages" until it was christened El Salto ("The Sea Breeze"), the property already had hit its first round of fading glory when the Hanchetts purchased it and poured petro-dollars into sprucing it up and adding some much-needed amenities. English flora was imported for the extensive gardens, and the Hanchetts added a fruit orchard, tennis court, livestock and barns to their expanding acreage.

Socialites and the well-to-do and even silent film star Mary Pickford found their way to the little cottages on fog-shrouded bluffs that some said resembled the white cliffs of Dover.

About seven acres were sold in the mid-'40s to the Tabacchini family, whose members vowed to mold El Salto into the latest architectural craze--an auto court. It is this little collection of cottages under the towering trees that Elizabeth Blodgett says she visited on a summer afternoon in 1960, and made an offer to purchase the very next day.

Edge of a Cliff

JUST ONE of THE real estate developers showing an interest in the resort, Ron Beardslee says, "If you wanted to do a case study for Harvard on how to screw up a piece of real estate, this would be it." Although he is putting most of his energy into rescuing the Rispin mansion, Beardslee has followed El Salto's stumbling progress and has offered to manage one of the pieces that is now under new ownership.

To understand what Beardslee is talking about, one need only compare an assessor's map of the area from circa 1959, and another map of the same acreage almost 40 years later. The outlay of the original dozen or so lots that define El Salto--known as Camp Capitola on the survey maps--looks like a shattered plate only a few decades later. What was once El Salto has been divvied up into dozens more parcels, with the logic behind those survey markers known only to Elizabeth Blodgett. There appear to be parcels within parcels, and one parcel that has been offered as collateral on a loan seems to be hovering over the edge of those famous cliffs that are disappearing from erosion at about a foot or so a year.

These broken shards of prime real estate testify to Elizabeth Blodgett's perspective on business decisions made over the years. Loans made to Blodgett could not be repaid. Each time, another piece of El Salto--offered as collateral-- would disappear. In 1989, Elizabeth lost nearly half the remaining resort to her son when she could not repay the nearly $800,000 in loans he had made to her. Robert Blodgett renamed his piece--with eight rental units on it--Monarch Cove Inn.

Elizabeth Blodgett is legendary among local title companies, the folks that shepherd through the paperwork and funding for real estate title transfers. She was known to arrive at Penniman Title before the offices opened and remain there all day, working her way through land deals, loan ideas or parcel-splitting. Insiders who spoke on condition of anonymity say that Mrs. Blodgett evokes both frustration and sympathy. At wit's end, one title company actually 86'd Blodgett from its offices. Yet the company also watched helplessly as the Darwinian ecology of finance played out around the woman.

"Every bloodsucker on the planet has sought her out ready to offer insane loan deals," says one title company representative. Blodgett's spotty track record of paying back loans made the woman with the million-dollar real estate look mighty attractive.

Shelter from the Storm: New El Salto Resort owner Stan Shore plans to invest at least $200,000 to upgrade his piece of the pie.

A BIG CHUNK of El Salto broke off just a few months ago and landed in a new owner's lap. Stan Shore happily shows me around his recently purchased section of the historic resort. Although Elizabeth Blodgett is still listed as owner down at the assessor's office, that is in name only. Shore tells me that he and Paul Greenfield foreclosed on Elizabeth for non-payment of loans in February, right before Mrs. Blodgett filed for bankruptcy again.

On this particular day, Shore's slice of El Salto is bustling with activity. About a dozen busy workers are removing trees, installing irrigation and landscape, gutting and rewiring the different cottages. "There was a lot of 'deferred maintenance,' " says Shore delicately.

As El Salto deteriorated over the years under Blodgett's ownership, most of the cottages were turned into long-term rentals. Overnight guests were a rarity. Finally, the resort was condemned by the City of Capitola in 1989 for "serious life safety hazards." A major renovation followed and El Salto was re-opened as a bed and breakfast in 1991, and continued to be a popular site for weddings.

However, there is much more to do. Shore and partner Greenfield estimate that they will be pouring in close to $200,000 in renovations before their portion of El Salto re-reopens by Memorial Day as a bed & breakfast inn. "I'm a B&B lover," says Shore.

Hospitality is not his background, but Shore emphasizes that customer service is. Shore made his money with a chain of auto tune-up shops, Acc-u-Tune & Brake. He sold that business in 1996 and is now a "small-business consultant." Shore says he has an agreement with Robert Blodgett's Monarch Cove Inn to share the two properties--and fees-- when weddings are hosted. Robert Blodgett says that Monarch Cove Inn charges about $2,400 for renting the grounds and an overnight honeymoon suite.

"It will look seamless between the two resorts," figures Shore. Asked what he will do about the dozens of feral cats that still roam the property, the developer says that he will catch them and take them to the SPCA.

It is these feral cats that first brought me to Elizabeth Blodgett almost two years ago. I was working on a story about obsessive animal collectors, a subculture of folks who literally love their pets to death. If Blodgett was developing one reputation among title companies, she also had become infamous among pet protection agencies for another. She had been repeatedly charged with animal cruelty in three separate counties--San Benito, Santa Cruz and Santa Clara--for being unable to care for the hundreds of dogs and cats she amassed at her different properties.

About 200 sick and diseased dogs were rescued from Blodgett's Mountain View home in 1981. Another 50 starving cats and dogs were taken from the El Salto Resort the next year. Yet another 200 dogs were rescued from filthy and overcrowded kennels in her ranch at San Juan Bautista in 1986. Complaints continued to filter in to local authorities by the time I met with Elizabeth Blodgett in 1996.

Pet Peeves

WHEN I ARRIVED early that morning, Mrs. Blodgett graciously offered me pastries from Kelly's and a demitasse of coffee while we settled in to talk about her life and her problems with pets. The acrid tinge of cat urine permeated her office, camouflaging the coffee aroma and dampening any appetite for Danish.

But, Blodgett was anxious to talk about her life, about her accomplishments before the El Salto Resort. Thumbing through scrapbooks, she showed me pictures of nurseries and schools she owned and ran in Los Altos and Palo Alto. She could have been anyone's favorite teacher, standing there in faded photos with youngsters on ponies or with her students gathered together for graduation day. Mrs. Blodgett thumbed through letters from those students who have kept in touch over the decades.

But, Elizabeth Blodgett was less enthused to discuss her difficulties with pets. As far as she was concerned, it was an employee problem--"you can't find good help," she said at the time.

In March of this year, the animal--or employee-- problem resurfaced. Authorities were called again to her 85-acre ranch on Rocks Road outside of San Juan Bautista. They found 70 dogs and about 30 cats kenneled throughout the house. Three dogs had already starved to death. Dozens more were euthanized by Elizabeth's veterinary at her request. Authorities then went to the El Salto Resort that same week and rescued another eight dogs and 11 cats. Three cats needed veterinary care.

We meet again. Mrs. Blodgett looks more feeble than she did two years ago, but she is still gracious and willing to alk. Again she points the finger of blame to her employee, ranch caretaker Paul Coates.

"He said he wouldn't let me in because I owed him money," says Mrs. Blodgett. "I called the sheriff and reported he threatened my life." It's only then, she says, she entered the San Benito County ranch and discovered animals were being neglected.

Yet Coates has a slightly different version. He is waiting to walk me through the San Juan Bautista house, a once-magnificent home that has fallen into serious neglect. Junked cars are parked in front, the house's windows cracked and carelessly covered with old sheets.

"What took you so long?" Coates asks accusingly. He is not talking about my commute--he wants to know why he called every agency in San Benito County for the past five months but no one would come out to investigate. He says he even went so far as to call the FBI, but each agency gave him the run-around.

Coates says when he was hired five months ago, Blodgett promised to pay him $400 a week. He has yet to see any of that money, he says. Asked why he didn't just leave, Coates says he was "trapped." His brother Larry Coates, who works at El Salto, got him this job and he needed to get out of Los Angeles to escape "some problems." He also says that he was admitted to County Mental Health after authorities arrived to confiscate the animals. He won't be specific, but says, "the barking all day, all night, 24 hours--I hardly ever slept."

As Coates walks me from wing to wing of the large house, surreal images of a doggie Dachau come to mind. Long rows of rusted and fenced-in kennels--now empty-- are housed down the halls and in various rooms. Dozens more fill in the backyard. Coates cautions me not to go into another upstairs room that was used to house dozens of cats. He is worried about fleas--

even though it's been more than a month since the animals were removed by authorities. I ignore him and in a matter of seconds my legs are black with the ravenous insects.

PAUL COATES WASN'T the only one suffering from mental problems. The dogs were what's known in pet protection parlance as "kennel crazy" or "cage-shy," the result of what Coates says are Mrs. Blodgett's strict orders that they were not to be taken out for exercise or for play. The animals spent their lives penned up.

It is not as if Elizabeth Blodgett's animals suffered under the cloak of secrecy. Two years ago, San Benito County animal control officer Rich Brown insisted that Blodgett's ranch was inspected on a regular basis. Brown was recently transferred to the San Benito County Sheriff's Department and did not return repeated phone calls.

Then there's Blodgett's veterinary, Dave Carroll, DVM. Carroll has worked with Blodgett's animals for 20 years and says the deterioration of pet care began not long after he started working with her. "When [Elizabeth] was healthy, she took great care of these animals," says Carroll. "People don't understand that she built that facility [in San Juan Bautista] just to house her dogs."

The vet says that this last time he was called, he euthanized about 50 "young, healthy animals" at Blodgett's request. Did he have any ethical concerns about that?"The SPCA was going to impound them and was probably going to do it anyway," he replies.Did he have any ethical concerns about continuing to work with Blodgett all those years, knowing that she was endangering animals?At time s, I did," Carroll admits. "But I never thought there was anything wrong with trying to improve the quality of life."

Paul Coates wonders why no one was keeping an eye on Mrs. Blodgett, who had amassed a lengthy history of non-compliance. The two obvious choices for that role would have been those who knew her best--public officials and her son Robert Blodgett.

Rising Son: Robert Blodgett (foreground) and partner Doug Dodds hope to purchase back part of the El Salto Resort that has been sold to other investors.

Courting Disaster

THE MONARCH COVE INN takeover was not a pretty experience, it appears. Mother and son sued and counter-sued each other over the affair. Besides taking each other to court, the Blodgetts have kept a fair share of attorneys busy over the years as both defendants and plaintiffs. There are 14 court cases involving Robert, and more than 50 involving his mother that have been filed in the last 10 years in Santa Cruz County.

There are small claims cases about unpaid wages. There are disputes over wedding and rental deposits. There is the flurry of lawsuits that followed the accidental drowning of a guest who slipped off the cliff into the surf below in 1995. There are the defaulted loans and the two bankruptcies filed by Elizabeth Blodgett. There was a bitterly contested conservatorship for Elizabeth Blodgett's longtime companion, Richard Tarmey, that pitted Elizabeth against Tarmey's relatives.

The court records paint a picture of an older woman that, at best, made questionable business decisions with valuable property, leaving her prey for financial speculators. Her personal proclivities towards pets--what some would label a disorder--caused the suffering of hundreds of animals over the years. During the course of several interviews for this story, one phrase surfaces time and again when the subject of responsibility for Mrs. Blodgett arises--"If it was my mother ... ."

Robert Blodgett is difficult to pin down for an interview. He breaks two appointments, then arrives a half-hour late for the third. A good-looking guy in this fifties who stays physically fit from daily work-outs, Robert is also a bundle of restless energy. He often runs his hands through his graying hair, and a foot taps impatiently as I ask questions.

He wants to talk about his impending plans to buy the El Salto Resort back from Stan Shore and Paul Greenfield. Along with partner Doug Dodds--who already owns several parcels of the former El Salto-- Robert Blodgett says that he expects to be able to consolidate the properties in the next week or so.(When contacted, Shore tersely replies, "His offer made its way rapidly into my wastepaper basket. At this point, there's nothing on the table.")

Robert also owns property adjacent to Monarch Cove Inn, in an area known as Escalona Gulch. Asked what he does for a living, Robert becomes vague, mentioning stints as movie producer, a rock concert promoter and an importer--"emeralds, furs"--and says he's invested well in Santa Cruz real estate.

It is even more difficult to get Robert to talk about his mother. Each time we get close to the subject of Elizabeth Blodgett, Robert answers abruptly, "I don't want to talk about it."

But, eventually, he does. He admits that the property kept shrinking because of Elizabeth's poor business decisions. He says that even he has called the animal control people to visit his mother. "But, she's her own person," Robert asserts over and over.

But maybe, Elizabeth Blodgett wasn't her own person. It is one of the most difficult decisions an adult child must make, determining that an older parent may no longer be capable. I tell him, by example, of how difficult it was to take away my aging father's car keys. His eyes cloud with pain for just a moment.

"How can you step in when you're being sued all the time?" Robert asks. He explains that attorneys advised him he would not be permitted conservatorship, since he has liens against his mother.

IT'S BEEN A DIFFICULT relationship. But, after years of not speaking to each other, of suing each other, the final burden of caring for his aging mother is on Robert Blodgett. It is he who checks on her every day, and who, on one of my visits, was headed out the door to bring his mother home from the hospital.

At 76, Elizabeth Blodgett's body is failing. There is the heart trouble that landed her in the hospital for a week recently, but today she is answering the phones for the Monarch Cove Inn office. A late spring rain is falling outdoors as we sit and chat while I wait for her son to show for his interview. She is gracious as ever, offering up memories of the early days of El Salto. The ever-present smell of cats is with us, of course, but I realize that after a few visits, I'm getting inured to it. It is part of the landscape, like the eucalyptus trees and the faded wooden sign that advertises her beloved resort.

Asked how she likes the changes brewing up here, Mrs. Blodgett is blunt: She doesn't. They've cut down her favorite trees, some that are 60 years old. She doesn't trust what they're doing to the inside of the cottages. And, most importantly, Elizabeth doesn't think these new owners understand the nature of a bed & breakfast inn. She loves the hospitality business. The phone rings constantly as we talk, and it's true--Elizabeth makes a personal connection with each person that calls.

"We'll so look forward to having you!" she tells one prospective guest. With another, she rhapsodizes about the ocean view. A young couple come in to drop off the keys to their cottage, telling Elizabeth how much they enjoyed their stay.

Elizabeth Blodgett is in her element here. But it must be difficult as she looks out the open office door on the construction crews workers scurrying about her former playground, changing and rearranging her indelible stamp. But, she's says, she's not that worried. "Robbie's going to buy it back," she says confidently.

As I glance out the door, another feral cat slinks through the rain into the bushes.

[Santa Cruz | MetroActive Central | Archives]

Sept. 26, 2013

To the City of Capitola,

Though I am a resident of Scotts Valley, I am very concerned about the proposed development at Monarch Cove. Specifically, I am concerned about the possible damage to the adjacent Monarch Butterfly Preserves, which if harmed, could harm a fragile ecosystem. This should not be allowed to happen. No amount of tax dollars can justify ruining a precious resource and endangering the health of the Monarch Butterfly. If there is even a small chance that the Monarchs will be harmed, the project should be denied. It is my belief that the profit motive of one or two parties should not trump the life of a single creature. Our fragile ecosystem must be protected against the cavalier efforts of the opportunistic few.

I also understand that the applicant destroyed a crucial Monarch food source earlier this year in order to build a parking lot. They did so without permits or regard to city laws. For this reason alone the permit should be denied. The applicant's disregard for local regulations proves they cannot be trusted to protect the species. And in this society, we do not reward lawbreakers for wrong doing. Felons are not permitted to carry or purchase guns and child molesters are not allowed near schools. Please do not reward the applicant for their illicit behavior.

Regards,
Mark Blumberg
1275 Whispering Pines Drive
Scotts Valley, Calif. 95066
461-1681

Hotels in Capitola
size, zoning and location

Name address & phone	*Number of rooms / Zoning*
Monarch Cove Inn.- 620 El Salto Dr.	11 / VS
Capitola Hotel - 210 Esplanade 476-1278	10 / CV-
Inn at Depot Hill - 250 Monterey Ave. 462-3376	12 / AR-VS
Harbor Lights Motel - 5000 Cliff DR. 476 0505	10 / CV
Capitola Venetian Hotel - 1500 Wharf Rd. 476-6471	19 / CV
Quality Inn & Suites - 822 Bay Ave. 462-3004	54 / CC
Best Western Capitola - 1436 41st Ave.	58 / CC
Fairfield Inn and Suites - 1255 41st Ave.	84 / CC

Zoning:

VS - Visitor Serving
CV - Central Village
AR-VS - Automatic Review - Visitor Serving
CC - Community Commercial

Notes:

None of the other hotels in Capitola, of any size, are accessed through an R-1 (Single family Residence) neighborhood. The Depot Hill neighborhood is notable for having no sidewalks as well as constant pedestrian traffic made up of both residents and visitors. The streets are not broad. When cars are parked on both sides of a street, this often allows for only a single car to pass. Care and a slow speed is needed to avoid children playing, bicyclists, animals, as well as the pedestrians. At night, the neighborhood is dim, lit by street lamps at the intersections only. Residents of this neighborhood, along with frequent visitors, are aware of these conditions and drive appropritely. To reach the Monarch Cove Inn's entrance entails driving six plus blocks of this neighborhood. These streets can neither support nor tolerate the increased vehicular traffic produced by a 41 room hotel. This poses a potentially dangerous situation.

The larger hotels in Capitola, 54 - 84 rooms, are all in areas zoned CC where the surrounding infrastructure appropriately supports the amount and type of traffic they produce.

Monarch Habitat at Escalona Gulch, Capitola, CA

One of the important questions regarding the expansion of the Monarch Cove Inn is what impact that would have on the adjoining fragile monarch habitat at Escalona Gulch. The City of Capitola has historically been supportive in its desire to protect monarch butterfly habitat.

General Questions:

1) Is there a site map for the habitat? This should include not only the actual trees used by the butterflies for roosting but also the necessary surrounding conditions. These surrounding conditions include food sources, water, tree canopy for rain protection as well as concentric circles of trees for wind protection. Such a site map should only be produced by a monarch specializing biologist. The vantage point of an arborist may be vastly different.
A note on the importance of surrounding area: A friend built a house on a side street adjoining Lighthouse Field. Although his house is a full block from the monarch habitat there, he could not get the final approval on the house until it had been determined that he had put in the required plants needed to support the habitat.
2) Once the habitat area has been established, who has ownership of the indicated area?
3) Who is responsible for the maintenance and supervision of the habitat?
4) If habitat is harmed, who is responsible for the repair?
5) Does the City of Capitola consider monarch habitat valuable and if so to what lengths will it go to protect it?

Although I believe several studies have been conducted on Escalona Gulch, I have only been able to locate one. (please see attached pdf) It is a study by Elizabeth Bell documented by a final report prepared for Mr. Robert Blodget dated 2 July 1997. The copy that I have was obtained through city records. In it Ms. Bell states that "Prior to development the Escalona Gulch site was habitat to the third largest overwintering monarch colony in the county, with numbers averaging approximately 30,000 butterflies annually." The development she refers to she specifies as being on the property owned by Mr. Robert Blodget. She describes extensive tree removal (18 trees) associated with development on the property leading to severe habitat degradation. Ms. Bell then goes on to lay out a detailed tree revegetation plan. It is to be noted that planting new trees to replace mature trees that have been removed is less than a perfect solution. It takes at least 20 years for most trees to come to the mature level needed.

Questions regarding Bell's report:
1) Was the plan for tree revegetation outlined in the report followed?
2) Ms. Bell refers to a revegetation map. I have not been able to locate this but it may also be in city records. The importance of this is that it specifies where each new tree was to be planted.
3) If the revegetation plan was followed either completely or partially, what type of mitigation monitoring has been done since 1997? Are the trees still alive?

It would seem advisable to have a full winter study (October through February) conducted on the Escalona Gulch habitat by a monarch specializing biologist. This would entail both an original assessment followed by weekly or biweekly checks on the status of the monarchs.

Questions for a current report:

1) What is the current assessment of the habitat?

2) How is the habitat being utilized?
3) What improvements need to be made to the site?
4) What effects would the proposed plan have on the habitat?

In conclusion:

There is a lengthy and thorough report entitled “The Legal Status of Monarch Butterflies in California” by The International Environmental Law Project, 2012. It details the current status of these wonderful creatures. In the Executive Summary, page v, this is written: “Alarmingly, observations from annual counts of overwintering butterflies in California reveal monarch population declines of approximately 90 percent across most sites with some sites faring significantly worse.” The report also recommends amending the California Endangered Species Act to allow listing of insects.

Given Capitola’s respect for history and natural resources it would seem that the city would take very seriously its guardianship of this rare and precious butterfly species. The city codes 17.95.060 Soquel Creek-Escalona Gulch Monarch butterfly habitat regulations and 17.95.061 Escalona gulch Monarch Butterfly Habitat-Additional regulations set forth many helpful guidelines as well as a few which may need to be revisited. The difficulty with such regulations is often in consistent implementation. As Ms. Bell states, this was once the third largest thriving monarch habitat in the county. Their presence is truly a gift for the residents of Depot Hill, the residents of Capitola, and the residents of Santa Cruz county.

Thank you for taking the time to review these comments.

Sincerely,
Claire Burnham

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3077
http://www.dot.ca.gov/dist05/

Flex your power!
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September 26, 2013

PM: 1-12.09
SCH#: 2013082080

Mr. Richard Grunow
City of Capitola
420 Capitola Avenue
Capitola, CA 95010

Dear Mr. Grunow:

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) NOTICE OF PREPARATION (NOP) FOR THE MONARCH COVE HOTEL PROJECT

The California Department of Transportation (Caltrans), District 5, Development Review, has reviewed the above referenced project and offers the following comments.

1. Caltrans supports local development that is consistent with State planning priorities intended to promote equity, strengthen the economy, protect the environment, and promote public health and safety. We accomplish this by working with local jurisdictions to achieve a shared vision of how the transportation system should and can accommodate interregional and local travel and development.

2. Given that this project will generate additional traffic and has the potential to impact State Route (SR) 1, we request that a traffic impact study (TIS) be prepared by a licensed traffic engineer to study the project's impacts on the State highway system (SHS). The TIS should include information on existing traffic volumes within the study area, including the SHS and all associated adjacent intersections. The TIS should also be based on recent traffic volumes less than two years old. Counts older than two years cannot be used.

3. In addition, the TIS should include the following traffic analysis scenarios: project only traffic conditions, existing plus project traffic conditions, cumulative traffic conditions, and cumulative plus project conditions, including project-phasing. To ensure that the traffic impacts of the project are properly evaluated, it is recommended that the TIS be prepared in accordance with Caltrans's "Guide for the Preparation of Traffic Impact Studies." Please visit our Internet site for a copy of these guidelines at: http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. An alternative methodology that produces technically comparable results can also be used.

4. Because Caltrans is responsible for the safety, operations, and maintenance of the SHS, our Level of Service (LOS) standards should be used to determine the significance of the project's impact. We endeavor to maintain a target LOS at the transition between LOS C and LOS D on all State transportation facilities. In cases where an SHS is already operating at an unacceptable LOS, *any* additional trips added should be considered a significant cumulative traffic impact, and should be mitigated accordingly.

Thank you for the opportunity to review and comment on Monarch Cove Hotel Project. If you have any questions or need further clarification on any of the items discussed above, please contact me at (805) 549-3099 or by email at: jennifer.calate@dot.ca.gov.

Sincerely,

Jennifer Calaté

JENNIFER CALATÉ
Associate Transportation Planner
District 5 Development Review Coordinator

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September 25th 2013

Richard Grunow
Community Development Director
City of Capitola
420 Capitola Avenue
Capitola CA 95010

RE: Notice of Preparation for the Monarch Cove Hotel Project Draft Environmental Impact Report

Dear Mr. Grunow:

Thank you for your recent submittal regarding the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Monarch Cove Hotel Project. The proposed project is located at the Monarch Cove Inn site at 620 El Salto Drive, at the terminus of El Salto Drive and east of its intersection with Livermore Avenue, on Depot Hill in the City of Capitola. The project site is adjacent to the Escalona Gulch Monarch Butterfly Grove Habitat Reserve which is a steep-sided, deeply incised ravine with a small intermittent stream. Currently, the project site is partially landscaped with four existing structures (a Victorian house, two cottages and a garage/office building). The existing facility accommodates 11 guest rooms (9 rooms in the Victorian house and one room in each of the two cottages) and includes an outdoor event deck.

The proposed project is comprised of the demolition of the two cottages, the garage/office shaped building, and the outdoor deck. These structures would be replaced by a proposed new hotel that includes the construction of two buildings. The proposed main building would be a 16,729 square foot (sf) two-story building containing 22 guest rooms, two meeting rooms, kitchen facilities for catering and internal use, and a courtyard. The second building would be a two-story, 5,894 sf building with 10 guest rooms. The main building would also include a two-level, below grade parking garage (8,322 sf on each level) with 56 parking stalls and 27 bicycle parking spaces with a separate bicycle entrance to the garage. Four additional surface parking spaces would be included near the entrance to the main building. The proposed project also includes renovation of the existing Victorian house, including seismic improvements, construction of a new foundation and a slight reorientation of the structure. The existing nine rooms in the Victorian house would be retained as guest rooms. In total, the proposed hotel would include 41 guest rooms (9 existing rooms and 32 new guest rooms).

In addition, the proposed project would require grading of approximately 6,950 cubic yards net export from the site. The proposed project includes drainage improvements, including water quality and stormwater management systems. Improvements would include using porous paving with perforated sub-drain pipes on the paved entry drive and a 450 sf water detention "rain garden." New landscaping would include new gardens, ADA accessible pathways and overlook seating areas, and landscape screening of adjacent properties. In order to enhance Monarch Butterfly habitat, proposed landscaping would be Monarch-supportive and include improvements to the woodland edge.

Finally, access to the project site would be from both El Salto Drive and Escalona Drive, with the primary entrance from El Salto Drive which would open into the entry and reception area. The upper level of the parking structure would be accessed from the north side along Escalona Drive. Neighborhood access would be incorporated to and through the site via ADA accessible pathways and benches for scenic overlooks.

While the Commission is supportive of visitor-serving commercial development and public access improvements, and certain components of the proposed project meet these criteria, after our initial review of this proposal we are providing the following comments regarding issues raised by this proposed development that need to be addressed in the EIR.

Hazards
The proposed project site is located adjacent to a ravine and just inland of a 95-foot high coastal bluff top, which is subject to wave action. Thus, the bluff toe and bluff face are subject to erosion. According to section 17.48.100 of the City's Implementation Plan (IP), bluff and cliff top development must include setbacks designed to assure stability and structural integrity for the expected life of the development (at least 50 years). This section also requires a geotechnical report for proposed blufftop or cliff development within 200 feet of the cliff edge. Such a report should evaluate the bluff erosion rate at the site, taking into account the most recent data on sea level rise. This information is necessary to determine the appropriate bluff setback for the proposed project and ensure the development will be safe over the lifetime of the structures, without the need for shoreline armoring either now or in the future. Therefore, proposed development setbacks need to take into account the impacts of sea level rise and winter storm events, as well as erosion rates and site stability.

In order to address potential hazards and geologic risks at the project site, the EIR should include a thorough geotechnical analysis conducted for the project site to include an assessment of the potential risk of landslides and shoreline erosion. The EIR should evaluate the project using the most current data related to sea level rise to ensure all development is setback adequately for the life of the structures without the requirement for a seawall. Please contact the Coastal Commission's Senior Engineer, Lesley Ewing at (415) 904-5260 or Lesley.Ewing@coastal.ca.gov for the most current information regarding projected sea level rise.

Water Quality
In addition, the proposed project would result in an increase of impervious surfaces including buildings, walkways, parking spaces and driveways, and includes modifications to the property that would affect drainage patterns. The proposed development may increase the rate or amount of surface runoff to planned or existing drainage facilities and could degrade the quality of surface runoff from the site. Therefore, the EIR should demonstrate how the project will protect the quality of coastal waters by:

- Emphasizing runoff management in the site's design by integrating existing site characteristics that affect runoff (such as topography, drainage, vegetation, soil conditions, and infiltration properties) with strategies that minimize post-development changes in runoff, controlling pollutant sources, and where necessary removing pollutants.
- Minimizing the extent of new impervious surface area, especially directly-connected impervious surfaces, and where feasible increasing the area of pervious surfaces to reduce runoff.
- Preferentially using Low Impact Development (LID) strategies, which emphasize an integrated system of decentralized, small-scale control measures to minimize alteration of the site's natural hydrologic conditions through infiltration, evapotranspiration, filtration, detention, and retention of runoff close to its source.
- Using Source Control Best Management Practices (BMPs), which can be structural features or operational actions, to control pollutant sources, minimize changes in runoff, and keep pollutants segregated from stormwater.
- Using Treatment Control BMPs, sized for the appropriate design storm, to remove pollutants from runoff when Site Design, LID, and Source Control strategies are not sufficient to minimize pollutants in runoff and in turn protect coastal waters.
- Minimizing water quality impacts from construction by limiting the project footprint, phasing grading activities, implementing soil stabilization and pollution prevention measures, and avoiding unnecessary soil compaction.

Biological Resources
The eastern and northern portion of the project site is located near Escalona Gulch which contains Monarch butterfly habitat. The City's LCP identifies the Monarch butterfly as a sensitive species and designates Escalona Gulch as environmentally sensitive habitat. The project description states that 14 trees being proposed for removal. The EIR should assess the potential impacts to the Monarch butterfly due to the proposed project. Also, we understand that surveys we will be conducted for sensitive species and habitats in and around the project site. If a wetland delineation is performed, it should be done using the Commission's criteria (i.e. only one factor needs to be present to define a wetland).

Landscaping
With regards to landscaping, the proposed project plans indicate that the total landscape area is 46.6%. According to IP section 17.30.140, for the visitor-serving El Salto parcels, 50% of the parcels shall consist of landscaped or open space areas. Please clarify the total amount of landscaped or open space areas in each of the proposed project parcels in the EIR.

More specifically, the planting of invasive plant species is prohibited in the City's LCP. We understand that the project site currently has English ivy (*Hedera helix*) and further planting of this species is being proposed as part of the landscape plan for the cottage garden, woodland edge and screen garden. However, even though it is attractive to the Monarch butterfly, English ivy is considered to be an invasive species. Please include a phased plan that proposes the removal of the ivy over time and replacement with native species that support the monarch butterfly. In addition, please propose to remove the invasive species, *Echium candicans* (Pride of Madeira), from the project site and proposed landscaping plan.

Public Access

Coastal Act Section 30212 requires that new development between the first public road and the sea provide a public access component. The LCP states that a footpath runs from Escalona Drive down through Escalona Gulch and up to Grove Lane. The LCP also notes that a five-foot-wide pedestrian easement is recorded on the east bank of the gulch, but that it does not run as far as the railroad. We understand that neighborhood access would be incorporated to and through the site via ADA pathways and benches provided for scenic overlooks and that these will be available and open to the public. The EIR should evaluate providing public access improvements that would allow access from the neighborhood and across the project site, through Escalona Gulch to Grove Lane, and ultimately to Park Avenue.

Thank you for the opportunity to comment on the NOP. Please feel free to contact me at (831) 427-4863 or by email at **karen.geisler@coastal.ca.gov** if you wish to discuss these matters further. With the clarifications described herein, we expect that the EIR document will provide a sufficient level of detail to allow for a careful analysis of the project for LCP and Coastal Act policy conformance issues. We look forward to reviewing the EIR and will provide additional comments at that time.

Sincerely,

Karen J. Geisler

Karen J. Geisler
Coastal Planner
Central Coast District Office

CC: State Clearinghouse

From: Dunn [mailto:bjdunn2@pacbell.net]
Sent: Thursday, September 12, 2013 4:04 PM
To: City Council; PLANNING COMMISSION; rgrunow@ci.capitola.us; Goldstein, Jamie
Subject:

On 9/12/2013 12:25 PM, "Dunn" <bjdunn2@pacbell.net> wrote:

A letter regarding the proposed Monarch Cove Development

We shall be out of town for the meeting on September 16th regarding Monarch Cove Expansion. This letter is to express our concerns and our absolute dismay that such a development is even being considered.

We live at 700 El Salto (one home away from the "monthly rentals" next to Monarch Cove)
All the things you address in your e-mail are spot on !
Plus, We are packed with "over flow " cars from the Monarch guesrs AND lots of workers , set up people, wedding guests and visitors. They have always underestimated their need for more parking.
Plus, the "guests" walking at all hours and talking loudly on cell phones.
Plus, the "drunks" walking back in the late night hours from down town--very noisy, tossed bottles, cigarettes, pizza cartons etc.
Plus, " " speeding to and from the resort and delivery trucks, garbage trucks, employee families droping off and picking up
We gave up calling to complain since we rarely got any response (although Launa the "inn keeper" tried her best)--and now "they" want a 400 % increase--that is just terrible.--and for only a few $ in taxes--what are they thinking to go against all the neighbors ? This has historically always been a special neighborhood--it won't be now if these plans go through !

We say OK only if they can get a straight in and out to Park Ave. We would have to live with the noise and commercial
use of Depot Hill, but not with the traffic.

Just say NO.

Thank you,

Bruce & Jean Dunn

Bruce and Jean Dunn----475-51231 PS--Feel free to pass this on.

September 27, 2013

To: Monarch Cove Comments File

From: Melanie Freitas

Today I received a phone call from **Evelyn Meyer** of 604 Escalona Avenue. She is 97 years old and could not write a letter on her computer so called instead. She is concerned about the Monarch Cove project for 3 reasons:

1. Traffic
2. Parking
3. Water

She also thinks the project is too large and that the Blodgetts have not been responsible property owners.

RECEIVED

SEP 09 2013

CITY OF CAPITOLA

September 6, 2013

Rich Grunow
City of Capitola
420 Capitola Avenue
Capitola, CA 95010

Re: Monarch Cove Hotel Project
620 El Salto Drive

Mr. Grunow:

I write to inform you that the road located at my property at 714 Escolana Road is a private road which I have maintained for the past 30 years because the City informed me it was my responsibility to maintain the road since it is my private road . Further, I do not give the Hotel Project any vehicle access to my road.

Thomas Jones, Owner
714 Escolana Road
Capitola, CA

cc: Dennis Norton
Brad Jones

From: Grunow, Rich <rgrunow@ci.capitola.ca.us>
To: Freitas, Melanie <Melanief1@aol.com>; Megan Jones <mjones@rinconconsultants.com>
Sub ect: FW: Depot Hill
Date: Tue, Sep 17, 2013 8:57 am

From: Sue Kaufmann [mailto:suzyloans@hotmail.com]
Sent: Monday, September 16, 2013 9:37 PM
To: Grunow, Rich
Sub ect: Depot Hill

Hello Richard, I was just at the meeting tonight regarding the Monarch Cove Hotel project.

My husband, Michael Kaufmann purchased 404 El Salto Dr. 25 years ago. He used it as a rental knowing one day he would retire to it. So 2 years ago we remodeled and moved into the property. We are very happy living in the environment of this pleasant, quint neighborhood and feel so very fortunate to be a part of this community.

Our property is small so our home sits very close to the street. Our master bedroom which is on the second floor hears the sounds from the street. It is very common that on the weekends, late at night there is loud conversations, laughter and even arguments coming from the street, which wakes us up. We do not bother to say anything, even tho I think it is very rude and little to no respect for the neighbors. This also includes traffic at night.

There is so much of this project which upsets us, but the traffic is my main complaint. With 41 new units, that means something like 100 more autos and trucks on these narrow streets. Depot Hill hasn't any sidewalks so we the walkers and the kids and the animals will be competing for room on our streets with vehicles . Our grandchildren play on these streets.

I am a Realtor from Bailey Properties, and I can truthfully say this will greatly impact our property values. This expansion of the Hotel is for profit, but he gives nothing back to us. In fact it gives nothing but heart ache to we the neighbors.

Please do not allow this hotel to be built it has nothing but a negative impact on our lovely quiet neighborhood.

Sincerely,

Mike and Sue Kaufmann

From: lc <ocnvuhomes@aol.com>
To: melanief1 <melanief1@aol.com>
Sub ect: Monarch Cove
Date: Thu, Sep 12, 2013 10:13 pm

Hi Melanie,

I live on the corner of El Salto and Saxon. I am extremely concerned about the impact this development will have on the traffic up here and our quality of life. I am aware of a traffic study which is being conducted for the benefit of the developers.
There was ,for about a week only ,a counter strip on El Salto in front of my house. I notice the same on Central and one on Escalona are still there. I am curious as to why they removed the one on El Salto so quickly. It doesn't seem an accurate study not including the main street to the resort.

Thank you,

Vicki Malandra
Broker Associate
David Lyng Real Estate
DRE# 00548915
Cell # 831-818-2337

September 25, 2013

Hello,

Most of the Depot Hill residents have only recently become aware of the proposed development of the Monarch Cove Inn. Many of the absentee owners are likely still unaware of the scope and impact of this project. There has been minimal public notification of the project. What are you going to do to involve and notify all of the Capitola residents as a project of this size will have a rippling effect on more than just Depot Hill.

I live on the corner of Saxon Ave. and El Salto Drive and currently experience a lot of traffic on El Salto Drive. I feel the traffic study was inadequate as it was not monitered during our busiest summer months and was placed on El Salto Drive for only a short period of time. The report states that El Salto Dr. will be the main entrance to the resort. This proposed hotel/ event center is not compatible with the character and historical qualities that the Council and Planning Dept. have worked so diligently to maintain in all the years that I have lived here-35 years.

In terms of the traffic, I am concerned with safety, speed and number of cars in a pedestrian neighborhood, noise and pollution. A 56 car parking garage plus additional parking sounds like a lot of vehicles

. How do you plan to control the flow of traffic? I am concerned not only about visitors in and out of the resort, but also with all the service vehicles and buses that come along with this package. How will you address concerns about emergency vehicles getting in and out of this area?

The intersection at Escalona and Monterey is dangerous and challenging even in the off season at commute times and before and after school. How is that going to work into the plan?

The proposed excavation of nearly 7000 cubic feet of material and the long process of moving structures and contructing new buildings would involve significant numbers of trips by service vehicles. How many trips would be involved and for how long? What noise level and pollution levels would be generated? What about damage to existing streets. How will these issues be mitigated?

I am especially concerned with the plight of the Monarch butterflies which seem to be much less prevalent as the years go by . I used to see them in my yard this time of year, but it is now a rare sight. I hope you do more extensive studies on preservation of their sensitive habitat. I know there is a tree ordinance that governs all our properties and people are saying trees have already been removed on that parcel illegally. The proposed tree removal is very upsetting considering this is a sensitive area. Again, a 56 car underground parking area is a huge impact on this environment.

In the 35 years I have lived here on Depot Hill I have experienced loss of the fragile cliffs, heard the earth collapse into the ocean and seen large trees fall off the cliff. Houses have been relocated for safety reasons. They say it erodes a foot a year, but it is hardly that predictable. It seems insane to think about excavation in this fragile environment.

As they do more landscaping and building won't there be a huge increase in the impervious area and therefore cause more ground and storm water to make it's way to the cliffs?
Everyone is concerned about water consumption and I am aware of the off sets the City has access to, but what about giving someone building a new home or someone in the middle of a remodeling project a priority? Do these offsets really mitigate the water shortage problem? It is inevitable that the size of this project will increase water usage significantly. How will that be controlled?

What do they mean by the statement that the proposed project intends to continue many of the conditions required by the conditional use permit? It sounds a bit vague.

I hope we as a City can continue to be committed to preserving the historical presence that Capitola is famous for . We have one Capitola. Let's preserve what we have and be mindful in our decisions for the future: The integrity of the Depot Hill neighborhood, its resources, many species, air quality,vulnerable cliffs and most of all quality of life, the quiet sanctuary that we all enjoy everyday.

Council and Planning members, please put yourselves in our place when making your irreparable decisions.

Thanks for your consideration.

Vicki Malandra
118 Saxon Ave.
Capitola, Ca. 95010

9/25/13

RE: Monarch Cove Proposal

To whom It may concern.

My wife Heather and I have lived at 108 Hollister Ave. on Depot Hill, for eighteen years. I am writing because both Heather and I have serious concerns in regard to the Monarch Cove expansion. The areas that we would like the EIR to address are:

Traffic. The streets on Depot Hill are not designed for a high traffic flow volume. In addition to guest trips/day, there would also be impacts from employees and service vehicles. Construction would require heavy truck traffic, particularly the removal of soil and rock for the underground parking structure. Due to the lack of sidewalks, Depot Hill residents and many others, currently enjoy the ability to walk through the neighborhood on the streets. What impact would the expansion have on the safety of pedestrians and pets due to the increased traffic on the narrow streets? What would be the impact on the pavement itself from the additional traffic?

Access. Can another entrance to the project be developed that would not utilize neighborhood streets and disrupt the tranquility that residents of Depot Hill cherish?

Water. Soquel Creek Water District is considering severe cutbacks to current customers water usage due to a groundwater overdraft. Where will the additional water necessary for the expansion come from?

Monarch Habitat. The area that is proposed for expansion is a butterfly habitat. What impacts will the expansion create for the Monarch butterflies that are facing serious challenges due to loss of habitat across the Monterey Bay area?

We look forward to the EIR report and we hope that it addresses our concerns.

Thank you

Tim and Heather Matthews
108 Hollister Ave

City of Capitola September 26, 2013
420 Capitola Avenue
Capitola, CA 95010

RE: Scoping Input for Monarch Cove Hotel EIR

Dear Mr. Grunow,

We are writing in reference to the proposed Monarch Cove Hotel project. I understand that the City must balance the property owner's right to develop his property, with the impact this proposed development would have on the neighboring properties (in this case all of Depot Hill and Monterey Ave/Fanmar intersections). We understand that the planning process in Capitola "helps to ensure the aesthetic enhancement of the character of Capitola" (City website). This must be difficult, especially when the particular attributes of a neighborhood such as Depot Hill - diversity, beauty, quiet, friendliness, that quality of "neighborhood" where friends and newcomers meet and talk on the street – are difficult to quantify. Many people from all over Capitola (Santa Cruz, and beyond) walk here on a regular basis, some daily; and when I ask them why, they say "It's so close but feels so far away; it's so quiet; I can walk here". How does the planning process take these aspects into consideration?

Two quantifiable items that will impact the neighborhood are increased traffic and noise. Because of the limited ingress/egress and Monarch Cove's location these items will impact the entire neighborhood. First, any traffic study must address the following:

1. Driving Behavior: Do they stop at stop signs (don't laugh…they seem to think the stop sign at Oakland & El Salto is optional), do they watch for pedestrian traffic on the road (I just now spoke to a woman walking up from Terrace Way who said she almost was flattened by a car coming in and turning right onto Central);
2. Safety of ingress/egress for the entire continuum of traffic (including holidays).
3. Traffic over time, including sunny versus cloudy days and absolutely studying the entire month of July (I remember you said you weren't interested in specific days) now that July, NOT August, is consistently considered the busiest month of summer (I asked the SC Visitors & Convention Bureau and several resort managers in SC). In fact, the time that the traffic study was begun in August is very slow now because it's "back to school" time.
4. Parking, particularly event parking (an ongoing problem in the past, even with courier vans)
5. Construction Traffic: Impact on school traffic & children walking/from school (also prime construction times); impact on roads themselves and who is responsible for repair after construction?
6. Number of Vehicle Trips
7. Average Speed

Second, any noise study must somehow include the following:
1 Impact on immediate environment
2. Secondary impact of noise coming from Inn visitors as they wander throughout the neighborhood, often into the late evening and early morning hours, weeknights and weekends (Unfortunately I have no record because I've learned that a polite visit in my bathrobe usually sends them on their way and it usually doesn't seem to warrant a trip by the police; but I have plenty of personal testimony from houseguests and neighbors if that'd be of any interest).

Other potential impacts that must be considered include:

1. Drainage/Cliff Erosion: Excavation and its' impact on the cliff; drainage, (even with holding ponds, etc., increased runoff may drain more slowly but it still means more water making it's way over and through the cliff and migrating downhill through the cliff area under the neighborhood); an increase in impermeable surfaces; increased water usage (once again water credits still mean more water will be used in this neighborhood) and is the City of Capitola considering offering it's water credits to a private developer and if so, why?

2. Construction Itself: Impact on Butterfly habitat, especially during the Monarch migration.

Thank you for your consideration. We sincerely hope that the developers, encouraged by the City, will consider a project appropriate in size, design, and usage considering the neighborhood…a project that will add to the charm that is Capitola.

Tom & Katharine Parker
306 Grand Avenue
Capitola, CA 95010

Dear Rich Grunow,

Greedy people filling up the town. It is already overcrowded. I do not recommend building this hotel.

Best Regards,

Buryl Payne, Ph.D.
600 park Ave., Apt. 4D
Capitola, CA, 95010

September 26, 2013

To Whom It May Concern

Concern: pollution and garbage with the added foot traffic in the neighborhood

Hello, my name is Frank Reyes and I have been a resident on Depot Hill for over 13 years. I have great pride in the neighborhood. One way that I show my pride is that I pick up garbage on my walks around the neighborhood. On some days, I will pick up as many as a hundred cigarette butts and random pieces of garbage and bottles. How much more garbage will be added with the added foot traffic? If the amount is significant, will the city hire more city workers to clean up the area of garbage and pollution. I often am horrified when I often see smokers fling their butts over the cliff and into the ocean. How will this added pollution effect the wild life and the cleanliness of our neighborhood with the added foot traffic.

Sincerely,

Frank Reyes
504 El Salto Dr.
Capitola

-----Original Message-----
From: Adam Samuels <ahsamuels@sbcglobal.net>
To: Grunow, Rich <rgrunow@ci.capitola.ca.us>
Cc: Freitas, Melanie <Melanief1@aol.com>
Sent: Fri, Sep 13, 2013 12:13 pm
Subject: Re: Monarch Cove Development - Haro, Kusinich and Associates report? TOT estimate?

Rich,

Thanks for your message, and for acknowledging the confusion.

- The initial study cites the Haro report's identification of the site as having low potential for liquefaction as a support for rating Item VI. a) iii) as less than significant.'
- If a geotech report, not an independent one, is used to justify this rating without being available for public review on a timely basis before the comment period ends, how can citizens be expected to respond to this section of the initial study?
- If the report isn't final and available for public review in the next couple of days, I suggest that all references to it be deleted from the initial study. Otherwise, changing the assessment to "potentially significant impact" would allow for a deeper investigation of the matter during the formal EIR, based on the final report as well as an independent review.
    - Alternatively, the review period could be extended to allow reasonable time for citizen review of the final Haro report.

Thanks,
Adam

On 9/13/2013 9:15 AM, "Grunow, Rich" <rgrunow@ci.capitola.ca.us> wrote:

Adam,

I will be attending Monday's meeting on behalf of the City.

You are correct, the draft geotech study is referenced in the Initial Study. The Initial Study is prepared at the onset of the CEQA process and represents the first step in determining the level of CEQA analysis necessary for a proposed project. When preparing an Initial Study, all available information is reviewed to help determine if a project may result in a significant environmental impact. In this case, we determined that an Environmental Impact Report (EIR) is required, which is the most intense level of environmental analysis contemplated by CEQA.

As the CEQA process proceeds, several technical studies will be prepared (traffic, biology, etc) to determine specific environmental impacts resulting from the project. All technical studies prepared in conjunction with the EIR remain in draft form until accepted by the Lead Agency (the City) and released for public review and comment.

The Initial Study should have noted that the geotech study was a draft document. I apologize for any confusion that caused.

Please call me if you would like to discuss in more detail.

Thanks, Rich

Richard Grunow
Community Development Director
City of Capitola
831-475-7300 x216
rgrunow@ci.capitola.ca.us

From: Adam Samuels [mailto:ahsamuels@sbcglobal.net]
Sent: Thursday, September 12, 2013 9:01 PM
To: Grunow, Rich
Cc: Freitas, Melanie
Subject: Re: Monarch Cove Development - Haro, Kusinich and Associates report? TOT estimate?

Rich,

Thanks for your message.

Who from the city will be in attendance at Monday' meeting?

Also, thanks for your remark on the draft form of the geotech study. It is still referenced in the initial study, is it not - on pages 16 and 35? It appears that the draft form is not noted in the document in either the citation or the reference listing.

Best,
Adam

On 9/12/2013 1:47 PM, "Grunow, Rich" <rgrunow@ci.capitola.ca.us> wrote:

Adam,

I have not referenced any TOT projections nor do I have any data to offer about potential TOT revenue. I believe Mr. Eadie has provided some estimates, but as Melanie points out, we have not seen his assumptions and therefore cannot speak to its accuracy.

Also, just to clarity, the meeting on Monday is not a City Council meeting, but a public scoping meeting for the Environmental Impact Report (EIR). The purpose of the meeting is solely for members of the public to offer comments and recommendations for the scope of analysis contained in the EIR.

Finally, as it relates to the geotech study, the study is in draft form and has not been accepted by the City. We will release it for public review once the EIR and all associated technical studies have been completed.

Hope that helps….

Rich

Richard Grunow
Community Development Director
City of Capitola
831-475-7300 x216
rgrunow@ci.capitola.ca.us

From: Adam Samuels [mailto:ahsamuels@sbcglobal.net]
Sent: Thursday, September 12, 2013 12:14 PM
To: Freitas, Melanie; Grunow, Rich
Cc: katharinep3@gmail.com
Subject: Re: Monarch Cove Development - Haro, Kusinich and Associates report? TOT estimate?

Hi Melanie,

Thanks for your prompt response.

- If I understand you, the geotechnical report is undergoing some revisions.
- And, it's being referenced in the initial study document.
- Is that accurate?
- If so, shouldn't the document indicate the preliminary nature of the report when is referenced?

Hello Rich,

Do I recall correctly that you've referenced the $2.25 million in projected TOT in discussions?

Best regards,
Adam

On 9/12/2013 11:05 AM, "Melanie Freitas" <melanief1@aol.com> wrote:

Hi Adam and Katharine:

The geotechnical report was initiated by the applicant (Mr. Blodgett) and his representative, Charlie Eadie. The report has not been finalized yet. A draft copy was submitted by the applicant but the City requested several clarifications where information was missing or vague. So, there is not a final copy yet.
In regard to the TOT, that is not an environmental or land use issue so I have no information regarding it. Charlie would be the best person to contact.
Looking forward to seeing you on Monday night.
Melanie

Melanie Shaffer Freitas
Freitas + Freitas Engineering and Planning Consultants
3233 Valencia Ave, Suite A1, Aptos, CA. 95003
(831) 251-3550

-----Original Message-----
From: Adam Samuels <ahsamuels@sbcglobal.net>
To: melanief1 <melanief1@aol.com>
Cc: katharine parker <katharinep3@gmail.com>
Sent: Wed, Sep 11, 2013 9:54 pm
Subject: Monarch Cove Development - Haro, Kusinich and Associates report? TOT estimate?
Hello Melanie,

I hope that all is well with you. I look forward to seeing you Monday at the city council meeting.

In preparing for that session, I want to ask you about the “Geotechnical Investigation for the Proposed Hotel Structures and Underground Parking Garage at the Monarch Cove Inn” which is referenced in the Initial Study document:

- Who commissioned this study?
- Is there a way I can review its contents?
- Should this be a part of the materials being disclosed?

Also, you may recall that at the meeting at Butch and Jessie Mudgett’s home, there were some questions about the assumptions that Charlie Eadie used to come up with the $2.25 million in potential TOT revenue - which I have heard being used by city council members and staff. We had asked Mr. Eadie to provide the calculations used to generate that figure:

- Have you received that detail?
- Has city staff prepared an independent assessment for potential income?

It would be really helpful to receive a response before the meeting on Monday.

Thanks very much for your attention.

Best regards,
Adam Samuels
831.465.1511

Monarch Cove Hotel – Initial Study Comments

GENERAL COMMENTS WITH REGARDS TO THE INITIAL STUDY

SCALE OF PROJECT SIZE

The applicant proposes to nearly quadruple, the number of existing rooms on site – a site that is only 1.4 acres – from 11 to 41.

- The proposed increase in size and density is inconsistent with the City's history of limiting expansion of this property and adjacent parcels.
- The proposal makes no effort to mitigate any of the additional impacts to the adjoining community – virtually all must be borne by the residents and visitors of the city.
- The EIR can consider more than one alternative to the proposed project - what if a 15-unit, or 20-unit hotel were also considered, in addition to the applicant's 41-unit proposal and the required "no project" assessment?
- The proposed excavation and transport of 6950 cubic feet of material would involve significant numbers of trips by service vehicles through residential streets. How many trips would be involved? What noise levels would be generated? What damage would be sustained to the existing roads? How would any damage be mitigated?

TRAFFIC AND SAFETY IMPACTS

- Traffic getting on and off Depot Hill is already difficult, even on weekdays, in summer.
- Adding to existing traffic would be a nightmare on weekends – leading to gridlock – not just coming on and off the hill, but also affecting traffic into the village and across Monterey onto Fanmar.
- It would exacerbate a safety as well as a traffic problem, as emergency vehicles currently cannot get onto and off of the hill during high usage times.
- A significant increase in vehicle trips would destroy the essential character of the neighborhood.
- The traffic study that was begun in late July of this year will not contain critical data from the peak period between Memorial Day through the Wharf to Wharf and first cycle of Junior Guards.

PROTECTION OF FRAGILE CLIFF AREA

- Fragile cliffs fronting the resort and the properties nearby are all subject to cliff erosion.
- "Greater wave heights combined with higher sea levels will mean greater erosion at the shoreline." (Gary Griggs, Vulnerability Study, City of Santa Cruz Climate Adaptation Plan 2012)
- This project would threaten our fragile coast and our wildlife, impacting not just this property but also the surrounding properties, cliffs, beaches and economic wellbeing of our city.
- It would significantly increase the amount of impervious surface area over the current Monarch Cove property, and affect the amount of ground and storm water released over the bluff.

MONARCH BUTTERFLY PRESERVE

- The end of Escalona Drive is in the middle of one of the few remaining Monarch Butterfly Preserves.
- The applicant destroyed critical Monarch food source earlier this year, and created a parking lot without permits and with total disregard for City requirements.
- How much more impact would a significant increase in vehicle trips per day, not to mention the impact of building a 56 car garage on site, have on these threatened creatures?

- Will an experienced entomologist/lepidopterist with expertise in Monarch habitat be consulted?

HYDROLOGY AND WATER QUALITY

Groundwater as the primary water resource in Santa Cruz county is under severe constraints, due to increasing demand and a steadily decreasing aquifer.

- What assurances are there that a sufficient supply of water will be available?
- What measures will be taken to ensure that the property will maintain its consumption of water at current levels, given the significant proposed expansion?

SPECIFIC COMMENTS WITH REGARDS TO THE INITIAL STUDY

PROJECT DESCRIPTION

Page 3: "The project site is an irregularly-shaped, 1.4-acre property at 620 El Salto Drive on Depot Hill in the City of Capitola"

And Figure 2: Proposed Site Plan

Several residents who attended the public presentations made by Mr. Eadie this past summer, viewed the proposed site plan and are familiar with the property, were unclear as to how the project site's size is being measured:

- The drawings indicate that the developed area would extend outside the property line. Why is that?
- What is the delineated area described as the "1.4 acre property"?
    - Does the 1.4 acre claim include any portion that should not be included in that calculation – for example, roadways or other encumbered areas?

Page 3: "The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site."

- Where will the material be staged during its excavation and preparation for removal?
- How many vehicles will be required to remove this amount of material? What is the expected amount of increased exhaust emissions, noise and traffic impact?
- How would sensitive areas of the project site be protected?

Let it be noted that the applicant has ignored the permit process in the past:

- The owner has applied for and been denied expansion of parking for 12- 15 years as a protection for the neighborhood and the environmentally sensitive habitat.
- Just six weeks ago, the applicant, with full knowledge of (and complete disregard for) the regulatory process and without permits, clear cut Monarch supporting groundcover and installed a 16 car parking lot even though his application for this parking lot had been repeatedly denied.

Page 3: "The project also includes drainage improvements, including water quality and stormwater management systems. Stormwater control methods would consist of the use of porous paving with perforated sub-drain pipes on the paved entry drive and a 450 square foot water detention "rain garden."

- This project would significantly increase the amount of impervious surface area over the current Monarch Cove property:
    - What percentage of the existing property surface is impervious?
    - What percentage of the proposed property would consist of impervious surface?
    - How would the changes to the project impact the amount of stormwater over the bluff?

Page 3: "In order to enhance Monarch butterfly habitat, proposed landscaping would be Monarch-supportive and include improvements to the woodland edge."

- Unauthorized destruction of Monarch butterfly habitat took place earlier this summer – what was the extent of property damaged by this action? What remediation is proposed?
- What specific changes to habitat are proposed to be made?

Page 3: "The proposed project intends to continue many of the conditions as required by the current Conditional Use Permit (CUP)."

- What, exactly, is meant by "many"? What specific changes to the CUP are being proposed?

ENVIRONMENTAL CHECKLIST

I. AESTHETICS

STREET LIGHTING IN NEIGHBORHOOD

- Depot Hill streets have minimal night lighting, suitable for a neighborhood but unsuitable for roads servicing a hotel.
- Visitors, both individual and commercial, unfamiliar with these conditions, tend to drive faster in the neighborhood than is safe.

II. AGRICULTURAL AND FOREST RESOURCES

No comments.

III. AIR QUALITY

b, c) From Page 3, Project Description:

Page 3: "The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site."

- How many vehicles will be required to remove this amount of material? A back-of-envelope estimate of 20 cubic yards per truck suggests nearly 900 round trips.
- What is the expected amount of increased exhaust emissions?
- How would sensitive areas of the project site be protected?
- How would the to-be-expected damage to residential streets be mitigated?

IV. BIOLOGICAL RESOURCES

MONARCH BUTTERFLY PRESERVE

- The end of Escalona Drive is in the middle of one of the few remaining Monarch Butterfly Preserves.
- With increased traffic, the remaining butterfly habitat would certainly be affected, if not destroyed.
- A neighbor applying for a single car garage in this area was denied a permit – why would this much larger project be allowed?
- The applicant destroyed critical Monarch food source earlier this year, and created a parking lot without permits and with total disregard for City requirements.
- How much more impact would a significant increase in vehicle trips per day, not to mention the impact of building a 56 car garage on site, have on these threatened creatures?
- Will an experienced entomologist/lepidopterist with expertise in Monarch habitat be consulted?

CORMORANT NESTING AREA

- The Community and the Council has demonstrated a commitment to protect our unique built and natural environment. These cliffs are cormorant nesting areas that would be threatened or destroyed by this scale of construction.
- This project, and particularly the proposed underground garage, would threaten our fragile coast and our wildlife, impacting not just this property but also the surrounding properties, cliffs, beaches and economic wellbeing of our city.

CHILDREN

- The Depot Hill neighborhood includes multiple generations – one resident tells of being born in the house her great-grandmother built, and now has her own children living here.
- Are not the children of this neighborhood a biological resource to be preserved?
- In a rural, protected, curb- and gutter- and sidewalk-free neighborhood, is this development appropriate in size, scale or usage?

V. CULTURAL RESOURCES

- No comments.

VI. GEOLOGY/SOILS

a.iii) "Additionally, the geotechnical report completed by Haro, Kasunich, and Associates, Inc. (2013) identified the site as low potential for liquefaction due to the dense to very dense bedrock located beneath the site. Therefore, impacts would be **less than significant.**

- The Haro, Kasunich, and Associates study referenced above was not available for review during the open comment period for this initial study. Citizens were advised that it was a draft report, commissioned by the applicant, which contained information that required clarification. It seems inappropriate to have used any material within this study, either because it is still in draft form, or because it is not available for review by the public.

b, c) "The bluff recession rate between 1928 and 1990 was estimated to be 1.1 feet per year (Haro, Kasunich, and Associates, Inc., 2013). Assuming this constant rate of retreat, the first houses in the Depot Hill Neighborhood would be threatened or damaged in approximately 50 years, and most would be damaged or destroyed within approximately 75 years and after 100 years. (Local Hazards Mitigation Plan, 2013). The Bayview building and Victorian structure would be located approximately 90 feet from the blufftop and would be considered first-line houses (Haro, Kasunich, and Associates, Inc., 2013)."

- The Haro, Kasunich, and Associates study referenced above was not available for review during the open comment period for this initial study. Citizens were advised that it was a draft report, commissioned by the applicant, which contained information that required clarification. It seems inappropriate to have used any material within this study, either because it is still in draft form, or because it is not available for review by the public.

PROTECTION OF FRAGILE CLIFF AREA

- Fragile cliffs fronting the resort and the properties nearby are all subject to cliff erosion.
- Roadways and infrastructure have already been lost.
- Over the years the community and the region have attempted to implement rules and regulations to protect our cliffs, beaches and natural resources.
- In addition to historical knowledge of cliff erosion in this area, there is a growing awareness of climate change impacts on our fragile coastline. "The Coastline of northern California, Oregon and Washington have experienced increasingly intense winter storms and greater wave heights over the last 25 years, both of which may be leading to more severe winter erosion (Allan and Komar, 2000)
- "Greater wave heights combined with higher sea levels will mean greater erosion at the shoreline." (Gary Griggs, Vulnerability Study, City of Santa Cruz Climate Adaptation Plan 2012)
- The Council has historically recognized and attempted to protect our unique coastal environmental resources. The Santa Cruz area's vulnerability to impacts of climate change is evident – look at the recent tsunami's effects on our area.
- This project, and particularly the proposed underground garage, would threaten our fragile coast and our wildlife, impacting not just this property but also the surrounding properties, cliffs, beaches and economic wellbeing of our city.
- Trading our long-term natural resources for purported short term increases in revenue would be short-sighted.

VII. GREENHOUSE GAS EMISSIONS

b, c) From Page 3, Project Description:

Page 3: "The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site."

- How many vehicles will be required to remove this amount of material? A back-of-envelope estimate of 20 cubic yards per truck suggests nearly 900 round trips.
- What is the expected amount of exhaust emissions?

- How would sensitive areas of the project site be protected?

VIII. HAZARDS AND HAZARDOUS MATERIALS

- No comments.

IX. HYDROLOGY AND WATER QUALITY

b)

Groundwater as the primary water resource in Santa Cruz county is under severe constraints, due to increasing demand and a steadily decreasing aquifer.

- What assurances are there that a sufficient supply of water will be available?
- If Capitola were to consider offering some of its water credits to a development project, what are the policies that would be used to ensure a fair assessment of which of many projects should receive these credits – one that represented the long-term interests of the city and community?

c, d, e)

This project would significantly increase the amount of impervious surface area over the current Monarch Cove property:

- What percentage of the existing property surface is impervious?
- What percentage of the proposed property would consist of impervious surface?
- How would the proposed changes affect the amount of stormwater released over the bluff? What kind of impact would that have on the cliff, nesting birds and neighboring properties?
- How would proposed mitigation methods affect drainage towards other site boundaries?
- All proposals made by the developer should be reviewed by an independent expert.
- Additionally, the introduction of underground parking to the site will require the use of some type of pumping system to manage any water intrusion into the lower garage levels.
    - Will those pumps increase the amount of water captured from an impervious surface [the garage floors]?
    - How will this captured water be handled? Will there be a further increase in runoff?

X. LAND USE AND PLANNING

Depot Hill is, and has always been zoned as a residential neighborhood:

- The El Salto Resort was allowed its Visitor Serving designation because of its historical existence (according to City records, the zoning was 'grandfathered' into an otherwise residential neighborhood.)
- As parcels that were part of the original El Salto Resort were sold off, purchasers were required to sign away rights to the Visitor Serving designation, based on the premise that the El Salto property was Visitor Serving only because of historical usage – and no increased Visitor Serving permits would be allowed – confirming that the essential character of the neighborhood was and is residential.

- Several of these former El Salto properties were purchased with clear confirmation from the City that the Visitor Serving Designation was not to be expanded, only allowed to continue in historical form without expansion.
- Throughout the past 20 years, as issues resulting from incompatible zoning have arisen, the Council has continually cited compatible neighborhood usage.

The Capitola City Council has been exemplary in protecting the neighborhood from the frequently intrusive behaviors of the resort's operators:

- The City has a clear history of documented problems that have occurred in the past at this location because of the conflict between permitted uses.
- In reviewing City Council minutes, it is evident that the Council's intent over the years was to protect the residential character of the neighborhood.
- They have taken action over the years to limit traffic impacts, (particularly drunk drivers – a frequent problem in the past) noise, garbage, and other issues that impaired the quiet enjoyment of the neighborhood.

Increasing the number of vehicles traveling through a residential neighborhood to reach a small visitor-serving property is not consistent with the General Plan documents, and severely impacts the quality of life enjoyed by increasing the levels of traffic, noise, risk of accident, and more.

XI. MINERAL RESOURCES

- No comments.

XII. NOISE

The Community and the City Council has been vigilant in protecting the unique character of the neighborhood from ongoing problems, which result from the grandfathered but incompatible use as a seasonal wedding venue.

- Outdoor bands and PA system usage have frequently been above the allowable decibel levels for noise, which impact neighbors. Moving activities indoors would not alleviate the problems of parties with loud (and inebriated) guests that frequently disturb the neighborhood.
- Neighbors have tolerated but have been continually disturbed by this use because of noise, traffic and inebriated guests wandering in cars and on foot after functions are over.
- Page 3 of this document makes the following statement: "The proposed project intends to continue many of the conditions as required by the current Conditional Use Permit (CUP)."
    - What, exactly, is meant by "many"? What specific changes to the CUP are being proposed?
    - This can't be left out of the EIR. If a change in the CUP impacts noise, it's material.

b, c) From Page 3, Project Description:

Page 3: "The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site."

- How many vehicles will be required to remove this amount of material? A back-of-envelope estimate of 20 cubic yards per truck suggests nearly 900 round trips.
- What is the expected amount of increased noise from these trips, as well as from other construction vehicles working on site?
- How would sensitive areas of the project site be protected?
- How would the to-be-expected damage to neighbors be mitigated?

XIII. POPULATION AND HOUSING

- No comments.

XIV. PUBLIC SERVICES

XV. RECREATION

- The proposal frames access to the coast as a benefit of this development. The community's access is already guaranteed through the municipal code.

XVI. TRANSPORTION/TRAFFIC

b, c) From Page 3, Project Description:

Page 3: "The proposed project would require grading of approximately 6,950 cubic yards, which would all be exported from the site."

- How many vehicles will be required to remove this amount of material? A back-of-envelope estimate of 20 cubic yards per truck suggests nearly 900 round trips.
- What is the expected amount of increased exhaust emissions?
- How would this traffic impact existing traffic patterns?
- How would the to-be-expected damage to residential streets be mitigated?

a, b) The proposed project would result in a net increase of 30 hotel rooms on the project site, thereby generating additional vehicle trips to and from the site. The addition of project- generated traffic to the neighborhood may be substantial. In addition, project trips would be added to intersections and roadways elsewhere that may or currently do operate below City of Capitola Standards. Impacts would be **potentially significant** and further analysis in the EIR is required.

- Traffic getting on and off Depot Hill is difficult even on weekdays in summer.
- As there are no sidewalks in the neighborhood, streets are shared by pedestrians, pets, bicyclists and motor vehicles. Under these conditions, traffic congestion as well as traffic speed are particularly dangerous.
- Visitors, both individual and commercial, unfamiliar with these conditions, tend to drive faster in the neighborhood than is safe.
- Adding this much traffic would be a nightmare on weekends – leading to gridlock – not just coming on and off the hill, but also affecting traffic into the village and across Monterey onto Fanmar.

- What is the projected number of trips – for guests, employees, visitors, service vehicles? How does that compare with the current level from the property?
- It appears that no measurement of the current resort is being made, just an aggregate for the neighborhood as a whole.
- A significant increase in vehicle trips per day would destroy the essential character of the neighborhood.
- It would exacerbate a safety as well as a traffic problem, as emergency vehicles cannot get onto and off of the hill during high usage times now.
- In the past, Council has wisely required weekend weddings held at this site to bus in guests because traffic impacts were so devastating to the neighborhood.
- When an employee parking lot was proposed on Escalona it was denied because of the significant negative impacts on the neighborhood and change of use. This proposal would have impacts far beyond the scope of a surface employee parking lot. The Council recognized the threat to the unique character of the neighborhood and denied the change in traffic and expanded parking. 12 to 15 years ago.
- This proposal would have significantly greater impacts; there are no mitigating actions that could address impacts of this magnitude.
- While we applaud the City's recent action to begin surveying Depot Hill traffic activity, the fact that the study began after the highest period of traffic – July 4th, Junior Guards, Wharf to Wharf – means that it fails to capture critical data for fairly assessing the current situation.
    - Where are the details of this traffic study – they are not currently available to the public?
    - What is being measured, exactly?
    - Was the study reviewed by the Traffic and Parking Commission prior to its implementation?
    - Will the traffic study be continued, so data from between Memorial Day through Wharf to Wharf and the first cycle of Junior Guards be included? If not, why not?
- What are the specific measures being used to assess the impact of this issue?
- What are the roadways and intersections that will be considered to be affected by this project?
- What are the current operating ratings of these intersections and roadways?
- Are any already at risk of failure? Will this project make any fail?

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

- It's unclear that the applicant has a right-of-way to the section of road near the proposed Escalona Drive exit. Residents have claimed that this is a private road. Not having access to this roadway may require an unusual access route.
- The design of this entire project could be seen as an incompatible use. Expecting a visitor-serving property to have its access through a residential neighborhood is incompatible with the General Plan. No other hotel in Capitola requires access to its property through residential roadways.
    - An investigation of the other hotels in Capitola, or other comparably sized properties and hotels could provide valuable information.

e) Result in inadequate emergency access?

- Currently, emergency access to the neighborhood is constrained by the single entrance on Escalona, the narrow [and protected] nature of the roads, and the presence of pedestrians and cyclists.
- The July 4th event this year at the Monarch Cove Inn clearly depicted that there is potentially dangerous access limitations when emergency vehicles are needed. Photographs are attached.
- In the event of an emergency that would require evacuation, there is already some question as to how that could be safely accomplished.

XVII. UTILITIES AND SERVICE SYSTEMS

c) The proposed hotel would introduce new impervious surfaces to the project area, which could result in an increase in stormwater runoff flows and the need for new stormwater drainage systems. The project includes upgrades to drainage, water quality and stormwater management systems including the use of porous paving with perforated sub-drains on the paved entry drive and a 450 square foot water detention "rain garden." Drainage improvements would be designed to ensure that runoff flows would not exceed historic flows. However, further analysis will consider proposed drainage improvements, stormwater management, and water quality improvements. Impacts would be **potentially significant** and will be discussed further in the EIR.

This project would significantly increase the amount of impervious surface area over the current Monarch Cove property:

- What percentage of the existing property surface is impervious?
- What percentage of the proposed property would consist of impervious surface?
- How would the proposed changes affect the amount of stormwater released over the bluff? What kind of impact would that have on the cliff, nesting birds and neighboring properties?
- How would proposed mitigation methods affect drainage towards other site boundaries?
- All proposals made by the developer should be reviewed by an independent expert.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- No comments

REFERENCES

Page 35: Haro, Kasunich, and Associates, Inc., *Geotechnical Investigation for the Proposed Hotel Structures with Underground Parking Garage at the Monarch Cove Inn,* August 5, 2013.

- The document listed above was not available for review during the open comment period for this initial study. Citizens were advised that it was a draft report, commissioned by the applicant, which contained information that required clarification. It seems inappropriate to have used any material within the scope of this study, either because it is still in draft form, or because it is not available for review by the public.

Depot Hill Traffic

Summer 2013

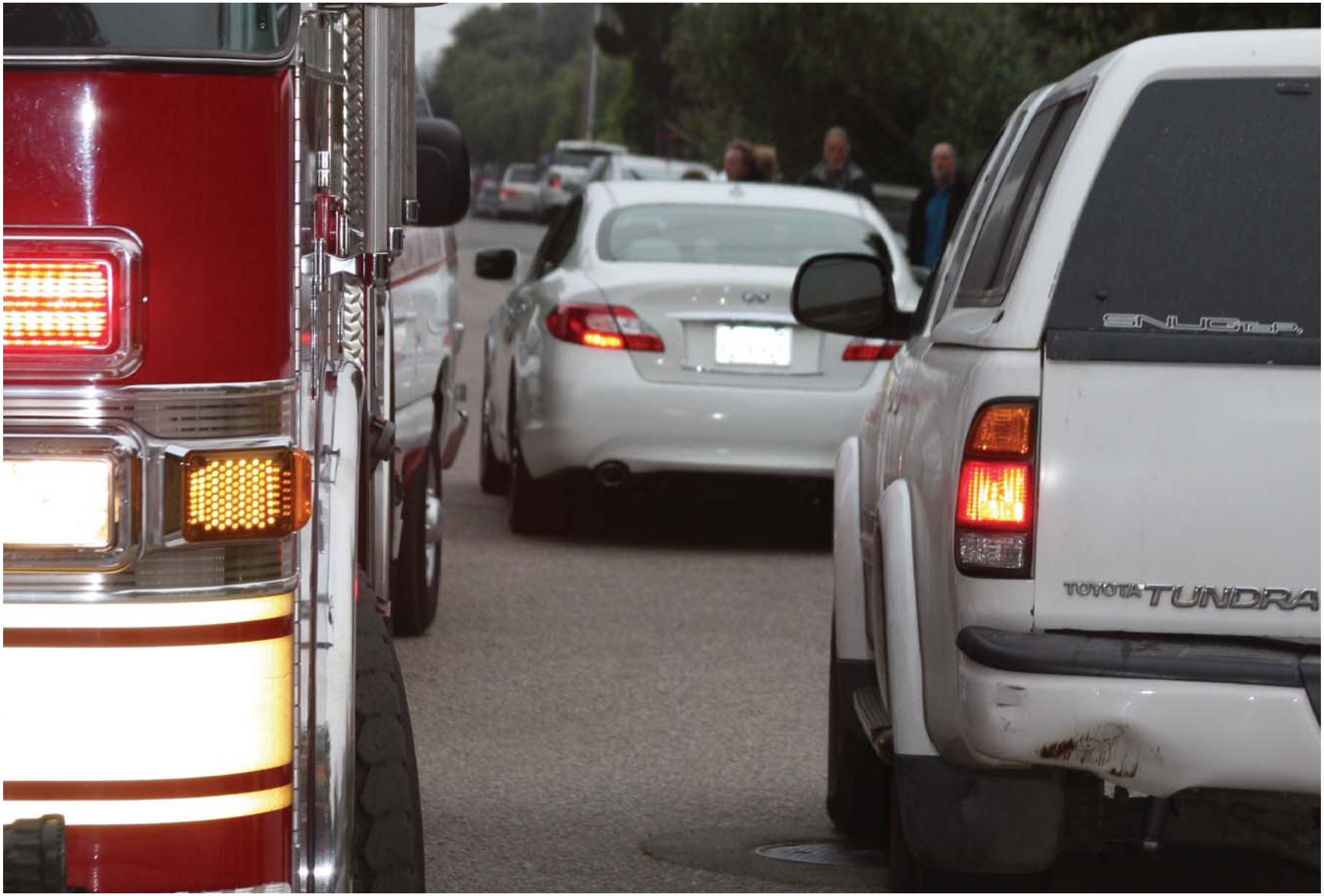
July 4, 5:45pm – El Salto

July 4, 5:46pm – El Salto

July 4, 5:48pm – El Salto

July 4, 7:45pm – El Salto

July 4, 7:46pm – El Salto



July 4, 7:48pm – El Salto

July 4, 7:49pm – El Salto

July 11, 2:14pm – El Salto

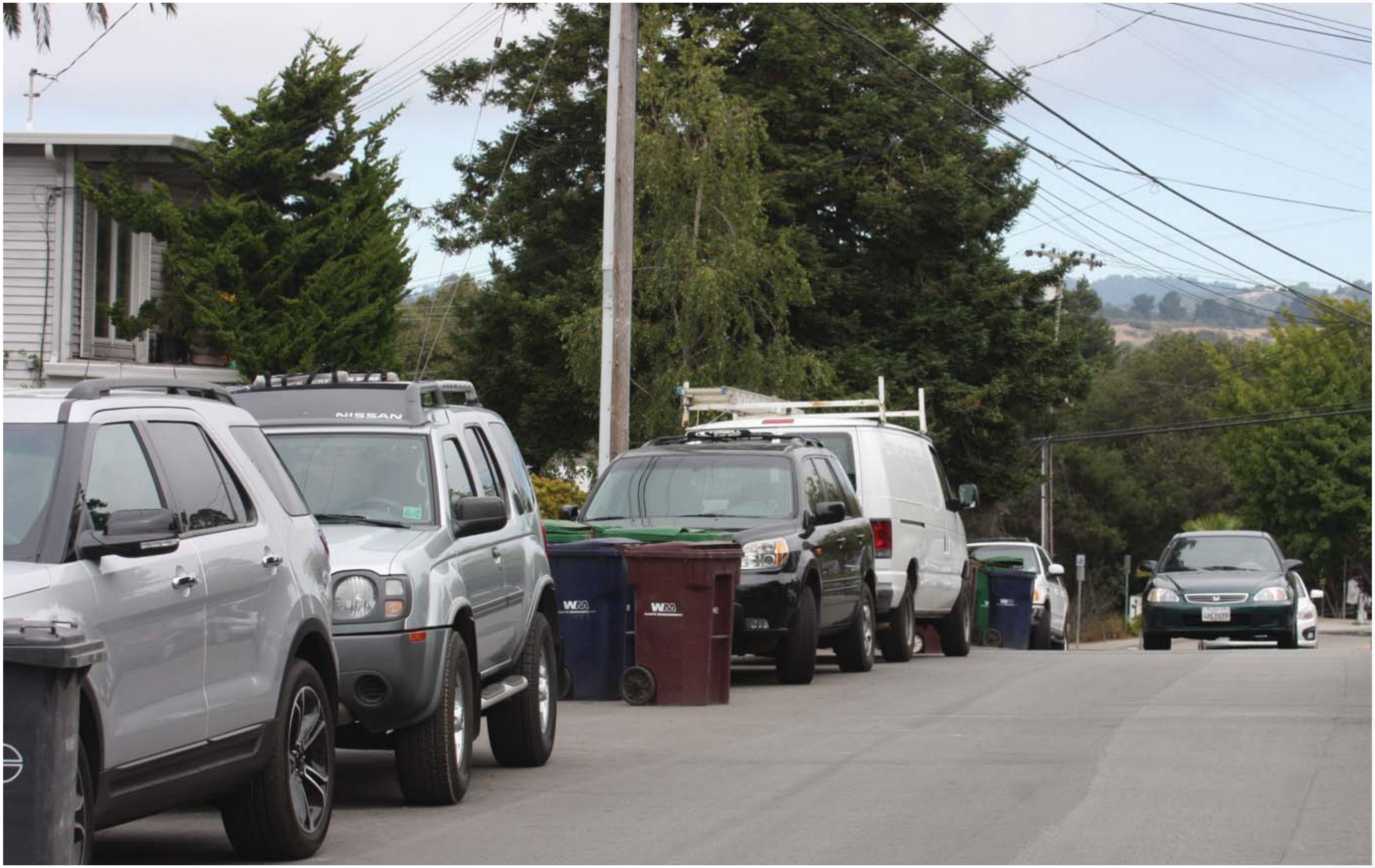
July 12, 9:02am – El Salto

July 12, 9:22am – El Salto

July 11, 10:52 am - Fairview

July 11, 2:19pm - Fairview

July 11, 10:52am - Central



July 11, 11:00am - Central

July 12, 9:07am - Central

July 11, 10:45am - Saxon

July 12, 2:46pm - Saxon

July 11, 10:48am - Escalona

July 11, 10:59am - Escalona

July 11, 3:25pm - Escalona

July 10, 6:15pm

July 12, 9:04am

July 12, 2:50pm

THE GREAT SEAL OF THE COUNTY OF SANTA CRUZ 1850 SINE PRAEJUDICIO

Santa Cruz County Sanitation District

701 OCEAN STREET, SUITE 410, SANTA CRUZ, CA 95060-4073
(831) 454-2160 FAX (831) 454-2089 TDD: (831) 454-2123

JOHN J. PRESLEIGH, DISTRICT ENGINEER

SEPTEMBER 27, 2013

RICHARD GRUNOW
CITY OF CAPITOLA
420 CAPITOLA AVENUE
CAPITOLA, CA 95010

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED EXPANSION OF THE MONARCH COVE INN
ADDRESS: 620 EL SALTO DRIVE
APN: 036-142-21, -28, -31 AND 036-143-36

Dear Mr. Grunow,

Thank you for the opportunity to respond to the notice of the preparation of a draft environmental impact report for the proposed expansion of the Monarch Cove Inn. A review of our records indicates that APN: 036-142-27 is currently connected to the sewer system and is being charged for two single family dwellings.

Sewer service is conditionally available for the proposed expansion of use. The proposed expansion of the Inn shall include improvement plans to connect all structures with plumbing to the public sewer and abandoning or removing any septic systems that may remain on the properties, satisfying all sections of the County's Design Criteria Sanitary Sewer Design including the installation of a grease interceptor/trap if required and the payment of all connection fees based on the District's current fees at the time of sewer connection permit issuance. There are no known capacity problems at this time that would affect the proposed project. This evaluation is in effect for one year to allow the applicant to receive development or other discretionary permit approval. If after this time frame of this project has not received approval from the Planning Department, it will be reevaluated for adequate downstream capacity.

Because of the extensive landscaping on the property, the proposed project is further required to meter the domestic use of water entering into the sewer system by installing a Soquel Creek Water District water meter dedicated specifically to indoor/domestic uses that flow into the sewer as wastewater. No cross connection of water piping (exterior and interior/domestic) shall be allowed and the District's sewer service charges for the Inn will be based upon these meter readings once the Inn has been determined to be connected to the sewer. All existing onsite sewer/septic piping that will be used shall be televised and a completed District report form (available from the District) and DVD shall be submitted to the District for review per District Code. All problems with the sewer lateral, whether onsite or offsite, shall be repaired prior to the issuance of a sewer connection permit.

At this time all structures on the properties should be dye tested by District staff to verify the existence of a connection to the sewer or septic system. The applicant may call Calvin Smith, District Inspector, at (831) 454-2893 to schedule the required dye test.

Yours truly,

JOHN J. PRESLEIGH
District Engineer

By: RLather

Rachél Lather
Sanitation Engineer

DR:tlp/431

c: Calvin Smith

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

September 4, 2013

Sent via email
Richard Grunow
Community Development Director
City of Capitola
420 Capitola Avenue
Capitola, CA 95010
Rgrunow@ci.capitola.ca.us

Dear Mr. Grunow:

RE: **NOTICE OF PREPARATION, MONARCH COVE HOTEL PROJECT**

Thank you for including the California Office of Historic Preservation (OHP) in the environmental review process for the Monarch Cove Hotel Project. The State Historic Preservation Officer and the OHP have broad responsibility for the implementation of federal and state historic preservation programs in California. The following comments are based on the information included in the Initial Study and are intended to ensure that historical resources are adequately identified and evaluated, and considered in project planning.

Identification of Historical Resources

As the lead agency, the City of Capitola is responsible for identifying historical resources and assessing impacts on those resources. The California Environmental Quality Act (CEQA) provides a very broad definition of a historical resource. The law casts a broad net and is intended to be inclusive rather than exclusive. Historical resources include those that are mandatory, those that are presumptive and those that are discretionary (CEQA Guidelines Section 15064.5). Please ensure that the Draft Environmental Import Report (DEIR) includes an analysis of the impacts of the proposed project on all historical resources at the project site and in the vicinity of the project site. We recommend that the analysis include the following:

1. Since the extant Monarch Cove Inn is a collection of functionally related buildings, it should be approached holistically, as a grouping, rather than a series of unrelated individual buildings. Also, neither the California Register of Historical Resources nor the other definitions of a historical resource found in CEQA, reference any age limitations. Additions to older buildings and buildings of the more recent past should not automatically be determined not to be historical resources because of age. Landscape design and landscape features should also be included in the identification and evaluation efforts at the site.

2. We recommend that the City follow the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation,* particularly those standards for Preservation Planning, Identification and Evaluation. Standard I for Preservation Planning states: "Decisions about the identification, evaluation, registration and treatment of historic properties are most reliably made when the relationship of individual properties to other similar properties is understood…. The historic context organizes information based on a cultural theme and its geographical and chronological limits. Contexts describe the significant broad patterns of development in an area that may be represented by historic properties." A context-based identification and evaluation effort more adequately captures the significance of properties than does a quantitative approach. We recommend that the city refer to the *Historic Context Statement for the City of Capitola* prepared for the city's Community Development Department by Carolyn Swift in 2004.

3. Due to the proximity of the project site to the coastline, it is in an area generally considered to be sensitive regarding the potential for prehistoric archeological properties. A research design and study, which may include some testing, should be prepared as part of the DEIR so that if potential sites are identified they can be addressed early on, before construction occurs. Simply stating, as a mitigation measure, that the project will be monitored during construction is not adequate because that approach occurs too late to avoid historical resources or change project plans. .

Impacts to Historical Resources

1. The DEIR should consider an alternative that would provide a project design that would avoid significant adverse impacts to historical resources, both at the project site and in the immediate vicinity. Rather than demolition of the two cottages, could they be rehabilitated and become part of the design for the new hotel?
2. The Initial Study states, "The project would include. . . renovation and reorientation of an existing Victorian structure in order to construct a new 41 room hotel." We strongly recommend that this work be carried out in conformance with The Secretary of the Interior's Standards for the Treatment of Historic Properties

Thank you for considering our comments. If you have questions, please contact me at (916) 456-4611 or at Lucinda.Woodward@parks.ca.gov.

Sincerely,

Lucinda Woodward
State Historian III
Supervisor, Local Government Unit

SOQUEL CREEK WATER DISTRICT

September 24, 2013

Mr. Richard Grunow
Community Development Director
City of Capitola
420 Capitola Ave.
Capitola, CA 95010
rgrunow@ci.capitola.ca.us

SUBJECT: Comments on Notice of Preparation of a Draft Environmental Impact Report for the Proposed Monarch Cove Hotel Project at 620 El Salto Drive, Capitola

Dear Mr. Grunow:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the proposed Monarch Cove Hotel Project at the Monarch Cove Inn site at 620 El Salto Drive in Capitola.

As described in the NOP, the proposed project would involve the renovation of the existing Monarch Cove Inn Victorian house (with nine guest rooms) and the demolition of two existing cottages, an office/garage building, and an outdoor deck. The demolished structures would be replaced with a new hotel consisting of two buildings: (1) A 16,729 square foot, two-story building containing 22 guest rooms, two meeting rooms, kitchen facilities, a courtyard; and (2) A two-story 5,984 square foot building with 10 guest rooms. In total, the proposed project would include 41 guest rooms.

Soquel Creek Water District (District) agrees with City of Capitola's Initial Study (IS) that the project poses a potentially significant environmental impact to the groundwater basin in regards to an increase in water demand and that this impact must be fully evaluated in the DEIR. Additionally, the proposed project would introduce new impervious areas thereby potentially reducing groundwater recharge in the project area. However, the District would like to take this opportunity to inform the DEIR regarding the current status of the groundwater supply.

As mentioned in the IS, the District relies solely on groundwater from the Purisima Formation and the Aromas Red Sands aquifers. Groundwater levels in both aquifers are below elevations that protect the basin from seawater intrusion. The most recent hydrogeologic studies conducted in 2011 by the District's consultant indicate that the sustainable yield of the groundwater basin is lower than previously projected and that District must reduce pumping to levels below the sustainable yield for a period of at least 20 years to recover groundwater levels to protective elevations and eliminate overdraft. The District's Board of Directors (Board) established a target pumping goal of 2,900 acre-feet per year (afy) which represents a 35% pumping reduction to be achieved within 6 years and maintained for at least 20 years.

To achieve this pumping reduction yet still meet projected water demand, SqCWD has been actively pursuing a supplemental supply of water. In, 2006, a joint desalination project with the City of Santa Cruz, along with continued conservation, was identified as the preferred supplemental supply alternative in the District's Integrated Resources Plan. However, the future of the desalination project has recently become uncertain and the District is re-evaluating other alternatives, most notably the Mandatory Water Rationing Scenario (MWRS) that was recently adopted by the Board as our back-up plan. The MWRS is a conceptual plan that would allow the District to reduce pumping to 2,900 afy through a series of components including water budgets, monthly billing, penalty pricing, conservation, a high-efficiency fixture/appliance direct install program, behavior modifications, and a building moratorium.

Based on the information presented above, it is highly possible that SqCWD may not have adequate water to supply the increase in demand that would result from a project of this scale. If the project progresses and the District is able to provide water to meet the resulting increase in demand, the development would, at a minimum, be required to offset the projected increase in water demand in accordance with the District's Water Demand Offset (WDO) Policy. The current WDO Policy requires new development to offset projected water use by 160 percent.

Thank you for the opportunity to comment on the NOP. If you have any questions or need additional information, please contact me at (831) 475-8501 x156.

Sincerely,

SOQUEL CREEK WATER DISTRICT

Shelley Flock

Shelley Flock
Staff Analyst

cc: Engineering Department, SqCWD

Initial Public Review – Monday, September 16

I have been a resident of Capitola for 20 years and chose to live on Depot Hill at that time because it was a quiet residential, noncommercial neighborhood.

Whenever I mention that I live on Depot Hill, the response is always: "How lovely"; "I love Depot Hill"; "It is so beautiful up there." One of the many, charming features of Depot Hill is the absence of sidewalks that provides a unique rural feeling. As I walk around the neighborhood admiring the flowers and foliage in the front yards I am greeted by neighbors and visitors who are also out for a stroll, some with small children, and some with their dogs. Runners, and children on their bikes enjoy the lack of traffic, and cats come running out of their yards to be stroked.

The proposed hotel and conference pavilion will result in a significant increase in car and large delivery truck traffic in a primarily pedestrian neighborhood. Not only with this be noisy, but also dangerous.

Our house is towards the bottom of Escalona Drive and we already encounter problems reversing out of our driveway, especially at weekends. Our vision is frequently obstructed by parked vehicles with the result that we are unaware, until it is almost too late, of the cars that turn off Monterey Avenue and accelerate up the hill. We have had some near misses!

Traffic getting on and off Depot Hill is a big problem at weekends and in the summer, and any additional traffic would make things worse and present an even more serious problem for the access of emergency vehicles.

We notice that automobile flow is currently being monitored at the entrance to Depot Hill. What are the plans for monitoring pedestrian usage?

I believe all of us on Depot Hill want to keep our neighborhood just the way it is—Pedestrian Friendly.

Diana Sworakowski
sworakowsk@aol.com
(831) 462-5665

September 9, 2013

Stephanie Harlan, Mayor
Sam Storey, Vice Mayor
Ed Bottorff
Dennis Norton
Michael Termini

Dear Capitola City Council Members:

We are writing to express our concern about the proposed construction of a new 41-room hotel on Depot Hill.

<u>Background</u>

We have been residents of Capitola since 1985 and we love living on Depot Hill. Over the years we have witnessed changes to Depot Hill and we believe that the proposed construction of a new hotel is very significant and warrants some comment.

We have two major concerns about the proposed hotel on Depot Hill.

• Vehicular Traffic, Congestion, and Safety on the Hill

Over the years the traffic and parking situation on Depot Hill has increasingly become an issue. The streets on the Hill are narrow and there are no sidewalks. It is a place where individuals and families with children walk and enjoy the beautiful view and ambience of Capitola. During the tourist season, summer, and special events parking and traffic on the Hill can be a real challenge. We have observed many times vehicles going way too fast in the neighborhood. During morning and evening rush hour, weekends, and special events it can be a real challenge to leave the Hill via Escalona Drive (the only street to egress Depot Hill). With the influx of even more vehicles on Depot Hill the safety of our neighborhood streets is a real issue and concern.

• The Soil and Ground

Our understanding is that underground parking (on two levels) is part of the proposal for the new 41-room hotel. We are very concerned that excavating to provide for underground parking will impact the stability of the ground and surrounding area and create a potentially hazardous situation. Has an independent geotechnical study and soils analysis been conducted to determine the safety and potential impact on the stability of the ground and any potential danger to the surrounding area?

• Concluding Remarks

For the above stated reasons we are strongly opposed to the construction of the proposed hotel on Depot Hill. Depot Hill is a wonderful residential neighborhood. We think it is vital to keep it that way. Hotels of the size and scope being proposed belong elsewhere in Capitola where traffic and safety concerns can be mitigated more appropriately.

We hope that you will take our concerns seriously as you weigh the pros and cons of approving the building of a new hotel.

Respectively,

Bob and Bonda White
108 Saxon Avenue
Capitola, CA
Phone: (831) 476-0986

From: Craig Wilson <craig@crwilson.net>
To: rgrunow <rgrunow@ci.capitola.ca.us>
Cc: citycouncil <citycouncil@ci.capitola.ca.us>; planningcommission <planningcommission@ci.capitola.ca.us>; jgoldstein <jgoldstein@ci.capitola.ca.us>; melanief1 <melanief1@aol.com>
Sub ect: Monarch Cove Hotel EIR Scoping Mtg comments-questions
Date: Thu, Sep 19, 2013 6:49 pm

September 19, 2013

Dear Mr. Grunow,

My wife and I attended the Environmental Impact Report (EIR) Scoping Meeting Monday (9/16/2013) for the Monarch Cove Hotel project.

Thank you for hosting the meeting and providing the venue for public comment. We noted that the comments were entirely directed at opposing the project as presented and that there was not a single favorable comment.

We want to begin by reminding you and other City of Capitola officials and staff of the draft Capitola General Plan Guiding Principles, published just two weeks ago. A part of which reads:

> ***"Neighborhoods and Housing**: Protect and enhance the quality of life within residential neighborhoods. Strive for neighborhoods that are stable, inclusive, and friendly. Minimize impacts to neighborhoods - such as noise, cut-through traffic, and overflow parking caused by new development."*

Considering the paragraph above, the scope of the project in the context of the Depot Hill neighborhood, the numerous potential environmental factors noted by Rincon Associates in the Initial Study (which must have been anticipated by your Office), the reputation of the Applicant and the neighborhood's ongoing problems with his existing development (Monarch Cove Inn), we are astonished that your Office did not prepare a draft Negative Declaration or Mitigated Negative Declaration, but instead, accepted the Application "as is", hired a Project Manager, Melanie Freitas, and moved immediately to the draft EIR process.

It appears to us that the City of Capitola (City) is not an objective facilitator of the development process in this case, but is instead is a proponent of the project. Can you explain the positives you see for the City and the Depot Hill Neighborhood resulting from this project?

Please comment on the process that led to acceptance of the Application as described in the Initial Study so we may understand the City's position with regard to this (and other similar) project(s).

How much of the treasury of the City will be spent in processing this Application through the draft EIR? How much has been spent to date?

Considering the long history of problems the City and neighborhood has had with the Applicant (and especially his willful and illegal destruction of the Monarch Butterfly Habitat over the years and continuing to this summer) we would like that history to be made a part of the documentation of the Application process. Will you do this?

What was the date the Application was received by the City?

What was the date Rincon Consultants, Inc. was tasked by your Office to consult on the Initial Study?

What was the date Ms. Freitas was hired by your Office to be Project Manager?

Can you make available the report cited in the Initial Study titled, *Geotechnical Investigation for the Proposed Hotel Structures with Underground Parking Garage at the Monarch Cove Inn*, August 5, 2013, by Haro, Kasunich, and Associates, Inc.?

We are interested in knowing what contact City Staff, Planning Commissioners, and City Council members have had with the Application, Initial Study and your Office with regard to the Application.

Have any of these persons met with the Applicant? (If so, the specifics of these meeting(s) must be made public.)

Have elected or appointed City officials received any type of report and/or assessment, aside from the Initial Study, from City Staff with regard to the Application? (If so, will you provide the specifics of such reports and/or assessments?)

Have elected or appointed City officials had any formal or informal discussions to date regarding the Application? (If so, will you provide the specifics of such discussions?)

On its face, the Monarch Cove Hotel project doesn't make sense <u>in any respect</u>, as far as the Depot Hill neighborhood is concerned. There is only downside for the neighborhood. This was eloquently pointed out by the many speakers at the EIR Scoping Meeting and this project flies in the face of one of the Guiding Principles of the City's draft General Plan.

In a presentation made to a group of neighbors on Depot Hill in early August, Mr. Charles Eadie of Hamilton, Swift and Associates, did not mention any benefits this project would bring to the Depot Hill neighborhood but did mention two benefits the City would realize from this project:

The City will gain a substantial amount of Transient Occupancy Tax and other visitor revenues. Can you advise us of the estimated City revenues from this project and the specifics of the calculations used to determine such revenue estimates?

The City will have a place to have meetings/retreats/get-togethers for City Staff and officials, away from City Hall, and yet still convenient.

> Our perspective is that City officials and Staff should do their business like the rest of us – at their place of work; in this case, City Hall. The very idea that the family and pedestrian friendly character of the Depot Hill neighborhood would be compromised for the benefit of our elected and appointed official's comfort is outrageous.

If this project was accessible from a major city street and <u>not</u> through a neighborhood already traffic impacted (especially during the summer visitor period), with narrow streets, no sidewalks, plenty of pedestrians, children and grandchildren, it would make much more sense. Considering this, a scaled back proposal, operated by hospitality professionals with respect and concern for their neighbors will be much more likely to gain neighborhood acceptance.

Depot Hill is a treasure of Capitola. It is one of the reasons we have so many visitors throughout the year. As one of the speakers at Monday's meeting said; in a city of virtually no parks or open space, the Depot Hill neighborhood is a city park – providing a place for citizens and visitors to meet, walk, walk their dogs and contemplate our wonderful environment in place that is safe and friendly. We want to keep it that way. We think that as our Community Development Director you should too.

We look forward to hearing from you about the issues and questions raised here.

Thank you,

Craig Wilson

craig@crwilson.net

411 El Salto Drive

Capitola, CA 95010

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Drs. Alexandra Z. Worden and Rudolf Gausling
609 El Salto Drive
Capitola, CA 95010
786-201-5275 (AZW), 786-554-7105 (RG)

Dear Commissioners and City Planner,

We am writing to raise concerns regarding the proposed development at Monarch Cove Inn. The Monarch Cove Inn already has a detrimental effect on the neighborhood. While we were aware of its presence prior to moving to Depot Hill in 2010, we were not aware of the number of parties/weddings, amount of traffic and extensive use of alcohol that impacts our neighborhood. It is clear that most hotel guests forget that they are in a neighborhood as they drive to the hotel, many break the speed limit, and ignore stop signs. These are normal human behaviors, but their impact here is dire because Depot Hill is a neighborhood where people frequently walk and feel secure, as opposed to being in a business sector of town like several other Capitola establishments.

We have two three year old toddlers and unfortunately it is unsafe for them to play even in our drive way at times of the week given the number of wedding attendees who park quickly or turn around without paying attention to whether there might be children in the area. We have also witnessed visitors to Inn events drinking in their vehicles.

Over the last years we have treated the Inn as a neighbor – calling them directly when there are issues, rather than calling the police. While they have become more responsive since the development was proposed, they still are not able to control their guests. For example, recently after my call they were able to get the shuttle driver to slow down, but were not able to get their departing guests to obey the speed limit. Still it isn’t possible for us to call repeatedly regarding their different shuttle drivers/companies (which we have done over the last years).

All of these problems will be greatly exasperated by a larger facility. The idea of a conference center is even more concerning since it implies some level of additional day use (and support staff, such as catering trucks etc., possible on street parking etc.).

Noise is another major issue derived both from traffic and guests that stay at the hotel – walking through the neighborhood late at night with no concept of sleeping adults (much less children/babies). Sometimes drunken, their behaviors are disruptive in a neighborhood context.

Please assure that assessment will be made of drunk driving (coming from the premise or from cars parked outside of the premises for attendance at an Inn event), amount and speed of traffic, and other aspects of traffic law compliance (stop signs), noise of cars, shuttles and guests at evening and night time hours, impact on wildlife including birds of prey and butterflies, impact of construction (vehicles, noise etc.) on the neighborhood.

I also have to say I was shocked at the lack of professionalism at the Environmental Assessment input meeting – it was neither recorded, nor was there a professional scribe. Perhaps this is standard for Capitola, my feeling is that when a large number of professional and other citizens come to be heard it would be appropriate to record their input directly. Furthermore I was disappointed at the complete lack of representation from elected officials. While I am sure there are draws on your time, it would seem listening to your constituency should be a priority and that meeting was a great opportunity to do just that.

I appreciate your time and attention in assuring a fair and accurate impact study is performed, and to taking citizen/resident opposition into account in determining this matter.

From: armanino6@aol.com [mailto:armanino6@aol.com]
Sent: Saturday, September 14, 2013 7:19 PM
To: City Council; PLANNING COMMISSION; Grunow, Rich; Goldstein, Jamie
Subject: Proposed expansion of the Monarch Cove Inn

My name is Andrew J. Armanino Jr. My wife Tracy and I live at 706 Escalona Dr, Capitola. I write this to express our deep concerns and strong opposition the the above name expansion.

My family has owned 706 Escalona since 1969. We built our new home in 1999 after demolishing the original home that year. We built a single story 2,222 square foot home on and 8,000 sq. ft. lot. Our concern is for our neighborhood.

There are many reasons for our opposition, but let me mention just one here. Water. We all know the near critical problems facing all of us with our aquifers. Soquel Creek Water District is sending fairly serious messages. I recognize the City has some water credit from the recent closing of the lower mobile park. I would like to know how many credits are available. How they can be used? The priorities that will be consider in their use.

We do not need an expansion of close to 400% at Monarch Cove. This expansion will ruin one if Capitola's beautiful valued neighborhoods.

Again, with deep concern,

Andy and Tracy Armanino

From: tracyarm6@aol.com [mailto:tracyarm6@aol.com]
Sent: Thursday, September 26, 2013 4:45 PM
To: Grunow, Rich; Goldstein, Jamie; City Council; planningcommission@ci.cap.ca.us
Subject: Monarch Inn remodeling

Dear all,

My husband, Andy, and I moved to Capitola in 1999 from the Bay Area. It has always been our plan to retire here. We spent all of our lives in the San Francisco Bay Area, working and raising our family.

When all of our children graduated from college (all 6 of them), we found ourselves looking forward to moving to the peaceful and special place called Depot Hill.

We are very happy with our lives here, and plan to spend the rest of our earthly days in our home on Escalona Drive.

We certainly did NOT anticipate living a stone's throw away from the very ambitious project that is looming over our tranquility here.

Please spare us this intrusion.

Sincerely,

Tracy Armanino
706 Escalona Drive...a stone's throw away
Capitola, Ca.

From: Ascher, Brian D. [mailto:bda@venrock.com]
Sent: Sunday, September 15, 2013 9:50 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie; Adam Samuels
Subject: Depot Hill citizen concern regarding proposed Monarch Inn expansion

Dear Mr. Grunow and Capitola City Council,
My family and I have been residents of Depot Hill in Capitola since 2008. We chose this area for it's quiet charm, architectural heritage, community feel, and the trees and butterflies. Walking the quiet streets is one of the greatest joys of living in our quaint neighborhood. We are strongly against the proposed expansion of the Monarch Inn as we believe it will severely and negatively impact this historic neighborhood and degrade both the quality of life and natural resources. We are concerned about the impact on traffic, pedestrian safety, and the potential for erosion, damage to aquifers, and loss of trees and Monarch butterfly nesting habitat. We have two young children and Escalona Drive already has its fair share of cars and visitors speeding through the neighborhood and we fear the automobile danger to children in the neighborhood would increase exponentially if this project goes through.

We urge you to reject or downscale the proposed Monarch Inn project to preserve this 139 year old California coastal community.

Sincerely,
The Ascher Family

....
Brian Ascher
307 Escalona Drive
Capitola, CA 95010
C 650 245-2997
T 831 464-6992
F 650 249 0333
E bda@venrock.com

From: cat atchison [mailto:beach.cat@hotmail.com]
Sent: Wednesday, September 25, 2013 12:53 PM
To: Grunow, Rich; Goldstein, Jamie; City Council; PLANNING COMMISSION
Subject: Comments to EIR Initial STudy Proposed 400% Expansion at Monarch Inn

To: Capitola City Council, Plan Commission and City Staff:

The first few pages of the attached comments relate directly to those issues presented in the EIR Initial Study. I have also noted that the roadway at the end of Escalona does not belong to Mr. Blodgett and unless there has been a change in the past 14 years, it does not clearly belong to the City. Several of the neighbors and former neighbors have established property rights of varying degrees on this roadway. I have some recorded rights to this roadway. These property rights must be clarified before any discussion of change or expansion of use is discussed.

The last four or five pages of my comments are text from a Metro article written in 1998. This is just one article. There are many other recorded incidents, including our own City Council minutes through the years documenting the ongoing problems encountered due to incompatible use and Mr. Blodgett's indifference to the impacts of his actions on others or the environment. After reading this article it may help clarify why the neighborhood reacted so strongly to anything proposed at this location or by Mr. Blodgett. Not only the neighborhood but the City, the County and beyond have all experienced a long history of problems with Mr. Blodgett and his ongoing disregard for others in the community.

If this project were to go forward it would drive a number of long standing residents out of the community including me.
I love Depot Hill and Capitola, but living next to this poorly managed property has been a trial. An expansion of any significant magnitude would be intolerable. Please do not drive the residents or the Monarchs out of Capitola.

Sincerely,

Cathlin Atchison
703 Escalona
beach.cat@hotmail.com

From: Kathy [mailto:mk.barnes@yahoo.com]
Sent: Wednesday, September 25, 2013 8:49 AM
To: Grunow, Rich
Subject: Monarch Cove Inn (El Salto Resort) expansion

Richard Grunow
Community Service Director
420 Capitola Avenue
Capitola, CA 93526

Dear Mr. Grunow,

I am writing to express my concerns regarding the plans for an expansion of the El Salto Resort (Monarch Cove Inn) on Depot Hill. When I initially became aware of this project in July, I wrote an email to the City Council expressing my concerns. I continue to be concerned. Following is what I wrote to them.
>

> " Having grown up on Depot Hill in the 1950s and 60s, I have seen many changes in Capitola...some good....some not so good. I believe the expansion from 11 transient cottages to a 41 unit hotel/ resort would be one of the not so good changes.
>
> As you know, Depot Hill has always been a unique and special neighborhood. It has retained it's character over the years with a mix of summer houses and permanent residences. Some homes have remained in families for many years to be enjoyed by multiple generations. Depot Hill is a residential community. If this expansion is allowed, I fear that the essential character will change.
>
> Since all traffic on Depot Hill must enter by either Central or Escalona Avenues, I fear a significant increase in traffic will occur with the expansion of El Salto. On many days, cars are parked on both sides of Central Avenue which significantly restricts traffic flow. Since there are no sidewalks on Depot Hill, families, couples and kids walk, stroll, ride bikes and play on all the streets.
>
> In sum, Depot Hill is a residential neighborhood with lots of pedestrians, no sidewalks, no parking and lots of vehicular traffic already. I think the addition of a 41 unit resort is a very bad idea that will change this special neighborhood forever. I strongly urge you to oppose this project."

I would appreciate if you would consider my concerns as you examine the suitablity of what I believe is an inappropriate project on Depot Hill. Additionally, please include me on your mailing list for further information on this proposal.
>
> Sincerely,
> Kathy Barnes
> 208 Central Avenue
> Capitola, CA 95010
>
> mk.barnes@yahoo.com
>
>
> Sent from my iPad

From: Thomas Bonura [mailto:bonura@mac.com]
Sent: Sunday, September 22, 2013 11:40 AM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; igoldstein@ci.capitola.ca.us
Subject: Comment on proposed expansion of Monarch Cove Inn

I have been a resident of Capitola since 1982. In 1983 we purchased our current home at 606 El Salto Drive. During that time the owners of the El Salto resort and the current Monarch Cove resort have been a continuing source of countless irritations, this proposal being the most recent.

My concerns about this project are numerous.

First -scale: the scale of the project is totally untenable for this neighborhood. Moving from the current 11 units to more than 40 is absurd, especially when one considers the nuisance imposed by the more modest 11 unit facility. If Monarch Cove can't control such a small venue without troubling the neighbors, how can we expect a facility 4 times larger to be better?

Second - the parking project: the construction of the parking structure would be a nightmare. The thought of huge trucks hauling nearly 7000 cubic yards of excavated earth through the neighborhood is beyond comprehension. These trucks are going to destroy the quiet and safety of this neighborhood and it is unconscionable that anyone would consider imposing this level of inconvenience on Depot Hill.

Third - traffic: this is a walking neighborhood and has been for decades. We have no sidewalks and people love this neighborhood in part because of that. When the current Monarch Cove has no activities scheduled, traffic is light and strolling the streets is safe. When there are activities at the Monarch this is not so. Drivers speed down El Salto, neglect to stop at signs and generally make walking, to say nothing of children playing in the streets dangerous. The proposed expansion can only increase this problem many fold.

In order to enter or exit the resort traffic has to traverse the entire neighborhood. A neighborhood whose streets were not designed for this purpose. I can think of no other hotel in the area whose access requires cars moving only through an entire residential area where children play in the streets and people commonly walk. Is the city prepared to handle the inevitable - a child or pedestrian struck by a guest of the resort going too fast in this neighborhood?

Fourth, the natural habitat of the riparian corridor in the Monarch area. There is a reason the owners named the area "Monarch Cove" as it was the natural habitat of large numbers of migrating butterflies. The current owner of the property, Mr. Blodgett, has nearly destroyed this habitat already through his past development in this area. This expansion will most probably finish what he has started, eliminating one of the final migratory resting places for the butterflies. We've seen a lot of the natural fauna here disappear over the years; the butterflies, once so thick on the eucalyptus are virtually gone, families of quail were wiped out my Mrs. Blodgett's (El Salto Inn) feral cats.

Finally - water: Water consumption and quality is an increasingly sensitive topic for us. All the residents of Capitola have been asked to scale back on water consumption and we incur significant penalties if we exceed our tier 1 allotment. A hotel of this size, regardless of their conservation measures cannot but contribute to the dwindling of this resource. As we use the aquifer salt water intrusion is inevitable and that degrades the quality of our drinking water. If the city has "extra water credits" as I understood happened because of the surrender of the mobile home park, why is it that we feel we must actually use those credits? Can't we simply just elect to conserve water instead?

No one in the neighborhood is saying that all visitor serving activity should cease (though all of us wish the proprietors of the current Monarch cove would be more responsive to the concerns of the neighbors).
We know this has been visitor serving for years but the current scale is about all this area can tolerate. Let me also point out that the Blodgetts, while having at one time held much of the property at the
600/700 block of El Salto, profited by selling most of that land piecemeal over the years to private home developers. In doing so Blodgett has changed the physical structure and ambience of this neighborhood and now has to live with that change - it is not "visitor serving" in the same way that the old El Salto was 80 or 90 years ago.

This is a project that will clearly profit Blodgett. Guaranteed revenue to the city is less quantifiable. Yes, there would be revenue from room taxes but anything else is pure speculation. But where is the up-side for the residents of Depot Hill who will have to put up with both the construction of the facility and the increased noise, traffic and general degradation of our environment? Is a proposed "park" area sufficient? I think not! This area is already park-like and a short walk through the Monarch Cove riparian area leads to trails to New Brighton Beach. We don't need a small green area as some kind of carrot for this level of inconvenience.

I would be willing to consider a proposal for an expansion to 20 units (thereby doubling the current size!0 without the construction of a large parking facility but even that only if the developer offered something significant to the improvement of Depot Hill - for example moving all the utility lines underground. I hardly think that will happen.

In summary, I think this is a terrible proposal and should be denied quickly without wasting a lot of the City's time and money. I am sure the City is looking for sources of revenue. That's fine and exactly what it should be doing. But everything has a cost and as far as I am concerned, the cost of this revenue increase to the residents of this community is far too high.

Thomas Bonura
606 El Salto Drive
Capitola, CA

From: kevin bransfield [mailto:chevino@sbcglobal.net]
Sent: Sunday, September 22, 2013 10:53 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: Depot Hill and Monarch Cove

Dear fellow Capitola residents,

I am writing to register my displeasure with the Monarch Cove plan. Our neighborhood is not made for the increase in traffic that a larger hotel will bring in. As you know, people walk down the streets here and there are no sidewalks. The traffic that comes down from the Monarch Cove now will many times ignore the speed limit and run the stop sign on our corner. Increasing the amount of traffic seems like a very dangerous situation for the people walking through our streets. The Monarch Cove is already a very noisy place and I can only believe it would become worse if it grew in size. Please keep the growth at Monarch Cove to a sane level.

Thank you,

Kevin Bransfield
111 Sacramento Ave
Capitola, CA 95010

From: Z. C. Burnham [mailto:zeinob1@aol.com]
Sent: Thursday, September 26, 2013 4:17 PM
To: Grunow, Rich; Freitas, Melanie
Cc: Goldstein, Jamie; City Council; PLANNING COMMISSION
Subject: Response to Initial Study for Monarch Cove Hotel

Dear Rich and Melanie,

Attached are two documents in pdf which explain some of my concerns regarding the proposed expansion of Monarch Cove Inn. The first, entitled *Hotels in Capitola,* compares this project to our existing hotels and expresses concern over the location. The second document is entitled *Monarch Habitat.*

Thank you for all your work on this project and for your impartial stance.

Claire Burnham
122 Central Ave.
831.462.1512

Hotels in Capitola
size, zoning and location

Name address & phone	Number of rooms / Zoning
Monarch Cove Inn.- 620 El Salto Dr.	11 / VS
Capitola Hotel - 210 Esplanade 476-1278	10 / CV-
Inn at Depot Hill - 250 Monterey Ave. 462-3376	12 / AR-VS
Harbor Lights Motel - 5000 Cliff DR. 476 0505	10 / CV
Capitola Venetian Hotel - 1500 Wharf Rd. 476-6471	19 / CV
Quality Inn & Suites - 822 Bay Ave. 462-3004	54 / CC
Best Western Capitola - 1436 41st Ave.	58 / CC
Fairfield Inn and Suites - 1255 41st Ave.	84 / CC

Zoning:

VS - Visitor Serving
CV - Central Village
AR-VS - Automatic Review - Visitor Serving
CC - Community Commercial

Notes:

None of the other hotels in Capitola, of any size, are accessed through an R-1 (Single family Residence) neighborhood. The Depot Hill neighborhood is notable for having no sidewalks as well as constant pedestrian traffic made up of both residents and visitors. The streets are not broad. When cars are parked on both sides of a street, this often allows for only a single car to pass. Care and a slow speed is needed to avoid children playing, bicyclists, animals, as well as the pedestrians. At night, the neighborhood is dim, lit by street lamps at the intersections only. Residents of this neighborhood, along with frequent visitors, are aware of these conditions and drive appropritely. To reach the Monarch Cove Inn's entrance entails driving six plus blocks of this neighborhood. These streets can neither support nor tolerate the increased vehicular traffic produced by a 41 room hotel. This poses a potentially dangerous situation.

The larger hotels in Capitola, 54 - 84 rooms, are all in areas zoned CC where the surrounding infrastructure appropriately supports the amount and type of traffic they produce.

Monarch Habitat at Escalona Gulch, Capitola, CA

One of the important questions regarding the expansion of the Monarch Cove Inn is what impact that would have on the adjoining fragile monarch habitat at Escalona Gulch. The City of Capitola has historically been supportive in its desire to protect monarch butterfly habitat.

General Questions:

1) Is there a site map for the habitat? This should include not only the actual trees used by the butterflies for roosting but also the necessary surrounding conditions. These surrounding conditions include food sources, water, tree canopy for rain protection as well as concentric circles of trees for wind protection. Such a site map should only be produced by a monarch specializing biologist. The vantage point of an arborist may be vastly different.
A note on the importance of surrounding area: A friend built a house on a side street adjoining Lighthouse Field. Although his house is a full block from the monarch habitat there, he could not get the final approval on the house until it had been determined that he had put in the required plants needed to support the habitat.
2) Once the habitat area has been established, who has ownership of the indicated area?
3) Who is responsible for the maintenance and supervision of the habitat?
4) If habitat is harmed, who is responsible for the repair?
5) Does the City of Capitola consider monarch habitat valuable and if so to what lengths will it go to protect it?

Although I believe several studies have been conducted on Escalona Gulch, I have only been able to locate one. (please see attached pdf) It is a study by Elizabeth Bell documented by a final report prepared for Mr. Robert Blodget dated 2 July 1997. The copy that I have was obtained through city records. In it Ms. Bell states that “Prior to development the Escalona Gulch site was habitat to the third largest overwintering monarch colony in the county, with numbers averaging approximately 30,000 butterflies annually.” The development she refers to she specifies as being on the property owned by Mr. Robert Blodget. She describes extensive tree removal (18 trees) associated with development on the property leading to severe habitat degradation. Ms. Bell then goes on to lay out a detailed tree revegetation plan. It is to be noted that planting new trees to replace mature trees that have been removed is less than a perfect solution. It takes at least 20 years for most trees to come to the mature level needed.

Questions regarding Bell’s report:
1) Was the plan for tree revegetation outlined in the report followed?
2) Ms. Bell refers to a revegetation map. I have not been able to locate this but it may also be in city records. The importance of this is that it specifies where each new tree was to be planted.
3) If the revegetation plan was followed either completely or partially, what type of mitigation monitoring has been done since 1997? Are the trees still alive?

It would seem advisable to have a full winter study (October through February) conducted on the Escalona Gulch habitat by a monarch specializing biologist. This would entail both an original assessment followed by weekly or biweekly checks on the status of the monarchs.

Questions for a current report:

1) What is the current assessment of the habitat?

2) How is the habitat being utilized?
3) What improvements need to be made to the site?
4) What effects would the proposed plan have on the habitat?

In conclusion:

There is a lengthy and thorough report entitled “The Legal Status of Monarch Butterflies in California” by The International Environmental Law Project, 2012. It details the current status of these wonderful creatures. In the Executive Summary, page v, this is written: “Alarmingly, observations from annual counts of overwintering butterflies in California reveal monarch population declines of approximately 90 percent across most sites with some sites faring significantly worse.” The report also recommends amending the California Endangered Species Act to allow listing of insects.

Given Capitola’s respect for history and natural resources it would seem that the city would take very seriously its guardianship of this rare and precious butterfly species. The city codes 17.95.060 Soquel Creek-Escalona Gulch Monarch butterfly habitat regulations and 17.95.061 Escalona gulch Monarch Butterfly Habitat-Additional regulations set forth many helpful guidelines as well as a few which may
need to be revisited. The difficulty with such regulations is often in consistent implementation. As Ms. Bell states, this was once the third largest thriving monarch habitat in the county. Their presence is truly a
gift for the residents of Depot Hill, the residents of Capitola, and the residents of Santa Cruz county.

Thank you for taking the time to review these

comments. Sincerely,
Claire Burnham

From: Robert Dodds [mailto:robertdodds@verizon.net]
Sent: Thursday, September 26, 2013 8:30 AM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie; ahsumuels@sbcglobal.net
Subject: Monarch Cove Hotel -- Inital Study

September 25, 2013

Richard Grunow
Capitola Community Development Director
rgrunow@ci.capitola.ca.us

RE: Monarch Cove Hotel Development Proposal
EIR Presentation/meeting, Sept. 16, 2013

It seemed from the discussion that the City's intention is to conduct the evaluation of the project's environmental impact in a manner that presupposes that the present operation at the property is a single enterprise. Having observed this operation for several years, I would argue that the business has two distinct parts – an eleven room Bed-and-Breakfast and a special-event venue – which appear to have very different issues with respect to their environmental impact. If this is the case, then shouldn't the EIR factor this into its study?

Several years back, I noticed that the weekend weddings seemed to interfere with the guests staying at the Inn. The two groups just didn't seem compatible on such a small property. Like everybody else knows that lives at that end of Depot Hill, you cannot ignore the fact that a large party – a wedding – is taking place.

Over the last few years the Monarch Cove appears to be operated primarily as a special events venue, i.e. wedding mill, and not really as an Inn. It seems that most often the rooms at the Inn are occupied by the wedding party with the entire resort being reserved for the private event. During these events, traffic that would normally flow into the resort is prevented from doing so and ends up turning around outside of the resort, usually in one of the neighbor's driveways. Then during the week, when weddings are not scheduled, the resort is mostly vacant.

Isn't it important to know what type of business is really there right now? Otherwise, things like current traffic patterns, noise disturbance, water consumption, etc. may not be properly accounted for in the current study; and therefore projections of future impact based on the present operation may not be valid. There may be a simple way to figure out what's going on.

I suggest that the Monarch Cove Inn be compared with The Inn at Depot Hill. Both are up-scale Bed & Breakfast type operations with the same number of rooms (eleven) in the same general neighborhood. With its superior setting, there is no reason why the Monarch Cove shouldn't be generating as much revenue from its B&B business as the Depot Inn, unless of course its other business – the wedding mill – is interfering. This may be easy to determine, because if the two B&B's are doing the same business, they should both be collecting the same Transient Occupancy Tax (TOT). This of course the City can easily check. If the two Inns are not paying the same TOT, then unless the applicant cares to explain otherwise, maybe it should be concluded that the Monarch Cove's true business is actually a special-event venue, since that type of business does not necessarily pay TOT. If this turns out to be the case, then the EIR finding may need to be interpreted accordingly.

On another point, I would like to know if the subterranean area of the parking structure, the 8000 sq. ft. or so, is included in the lot coverage allotment of the proposed Monarch Cove Hotel. As you know all development on Depot Hill is subject to this requirement, presumably to mitigate environmental impact, and therefore one would assume it would be good for all. Shouldn't this issue be addressed prior to the EIR?

And now some final thoughts: The Monarch Cove Inn has an existing "Entertainment Permit" (separate from their B&B use permit) which permit weddings that are restricted by 15 conditions. This permit was negotiated by the City (as a result of the numerous complaints from close by residents) in order to limit the intensity and impact that the Monarch Cove operation was having on the neighborhood. If anything pertaining to the "permitted operation" is changed, such as the proposal in question for instance, then the entertainment permit would be invalidated. The terms of the permit are not transferable. And why should they be? Is running a combined special event venue and a new hotel with a conference center a given? Are we deciding at this time that if we have one, we must have the other? Maybe the entitlement process, i.e. renewal of the Entertainment Permit, should not be merged with the development approval process, as the Monarch Cove Hotel Proposal appears to be attempting.

I hope these comments can be of help to those that must decide what I feel is the central issue: What is an appropriate level of intensity of a commercial operation within our neighborhood?

Robert Dodds
105 Livermore Ave.
720 El Salto Dr. (rental adjacent to resort)

From: Masako Gordon [mailto:masakog@comcast.net]
Sent: Wednesday, September 25, 2013 8:49 PM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Cc: masakog@comcast.net
Subject: Monarch Cove Inn Concerns

Dear City of Capitola staff (and elected and appointed officials),

My name is Masako Gordon. I live at 1275 Whispering Pines Road in Scotts Valley. I'm writing to express my concern around the proposed expansion of the Monarch Cove Inn. I am a regular visitor to Capitola, and enjoy shopping in town and taking walks on Depot Hill.

I frequently see children playing in the neighborhood, and people walking their dogs. It concerns me that an increase in the amount of traffic would crowd already busy streets. I also am thrilled by the birds and butterflies that enjoy the area, and am concerned that the construction and enlarged size of the property will endanger the nesting areas for both. I also find the concept of building a large underground parking garage on the site to be a strange way to add parking - won't it endanger the cliff? And what will be done with all of the earth that would need to be removed?

I hope that you'll emphasize maintaining the special qualities of Depot Hill and its one-of-a-kind character against any possible short-term gains in revenue.

Thank you for your attention,
Masako Gordon

From: Anne Greeninger [mailto:ohjoycat@aol.com]
Sent: Saturday, September 14, 2013 6:31 PM
To: rgrnow@ci.capitola.ca.us; PLANNING COMMISSION; Goldstein, Jamie; City Council
Subject: Monarch Cove Inn Expansion

I want to express my concern regarding this project as a home owner and resident on Depot Hill.
I'm am concerned with regard to the increase water consumption. I don't want the extra water credits the city gained to be used for this project.
I am extremely concerned that there be a year long study of the increase of traffic to our small area. Egress and ingress onto the hill will be greatly impacted with congestion onto and from Monterey Ave. and adjacent streets. Residence are are already impacted by noise and excessive traffic with weddings but year round use will affect residence walking and children playing safely. I don't want to see the future owners of this project to ever be able to have a bar or restaurant added.
I want a thorough study for cliff erosion if indeed the house being moved will be closer to the cliff. Also I understand that Mr Blodgett removed trees and made changes to his property that have already impacted the butterfly habitat.
Thank you and I do want this to be part of the record regarding my issues with this project.
Anne and Marshall Greeninger
212 Oakland Ave AND 217 Hollister Ave., Capitola
831-332-8978 cell
831-464-3364
Email: ohjoycat@aol.com

Sent from my iPhone

From: Anne Greeninger [mailto:ohjoycat@aol.com]
Sent: Saturday, September 21, 2013 11:18 PM
To: Grunow, Rich
Subject: Road Maintenance on Depot Hill

Please let me know who will be responsible for maintaining our streets during and after this Monarch Cove project is built. The city doesn't have money now to even finish Park Ave. let alone more than a slurry coating here and there within Capitola.

Thank you,

Anne Greeninger
212 Oakland Ave.
Capitola

Sent from my iPhone

From: pamgreeninger <pamgreeninger@gmail.com>
To: rgrunow <rgrunow@ci.capitola.ca.us>
Cc: melanief1 <melanief1@aol.com>
Sent: Tue, Sep 24, 2013 5:56 pm
Subject: Monarch Cove environmental concerns

Dear Rich,

We would like to thank you, Melanie, and the EIR consultants for the Scoping meeting held last week for the proposed Monarch Cove development.

My husband and I are particularly concerned about the impacts of the proposed project as it relates to increased traffic on our street (Escalona Drive) not only from potential guests, but from people using the conference center. We feel
an additional 30 rooms will significantly increase the traffic in our residential neighborhood.

The proposal to excavate the bluff for an underground parking garage really concerns us. Since we moved to Capitola over 35 years ago, we have lost most of
Grand Avenue and much of the bluff that was part of the original El Salto Resort. We feel it would detrimentally impact the properties, such as ours, located near the excavation site. The proposed tandem parking is for guests only
and will not accommodate people attending weddings and conferences. This is also a concern.

We agree with the people who spoke at the meeting that the EIR needs to address
the concerns mentioned above, as well as the scale of the project in a residential neighborhood, safety (only one way in and out), emergency access, increased water usage, sanitation infrastructure, and negative impacts to the Monarch butterfly habitat.

We have lived on Depot Hill since 1979, and built our home on Escalona Drive in
1982. Our children grew up being able to ride their bikes and skateboards to school. They all participated in Junior Lifeguards and were able to walk down
to the beach in a safe environment. We have always felt our neighborhood was safe for children; however, with more traffic from people who don't live here,
we feel it will not be the same.

We urge you to consider all the issues raised by the neighbors when preparing the draft EIR.

Thank you so much for considering our concerns.

Pam and Stewart Greeninger

From: Anne Greeninger [mailto:ohjoycat@aol.com]
Sent: Saturday, September 14, 2013 6:31 PM
To: rgrnow@ci.capitola.ca.us; PLANNING COMMISSION; Goldstein, Jamie; City Council
Subject: Monarch Cove Inn Expansion

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Thank you,

Anne Greeninger
212 Oakland Ave.
Capitola

Sent from my iPhone

From: Jarvis Family [mailto:snosrfn@gmail.com]
Sent: Wednesday, September 25, 2013 10:02 AM
To: Grunow, Rich
Subject: I absolutely do not support any add'l growth at Monarch cove. The current level of tourism is out of control for such a small village.

From: astrosj@pacbell.net [mailto:astrosj@pacbell.net]
Sent: Thursday, September 26, 2013 1:43 PM
To: Grunow, Rich
Subject: Monarch cove development

Dear Mr. Grunow,

I would like to give further input into the EIR plans for the proposed Monarch Cove Hotel Project. As a neighbor I am concerned about the following potential impacts:

Traffic, including the following: amount of traffic, speed, knowledge of the pedestrian nature of our neighborhood, safety of single ingress/egress into and out of the neighborhood, construction traffic and in addition its' impact on the roads themselves

Parking: a traditional problem with Monarch Cove, even with off-site parking availability (people want to park closeby)

Noise: Immediate noise emanating from the Hotel, and secondary noise from hotel guests who like to walk through the neighborhood late at night (after all, THEY'RE on vacation)

Drainage: Implements to slow down the flow don't keep it from running through or over the cliff eventually; more impermeable surfaces increase runoff

Cliff Erosion: from increase water usage and construction

Habitat Devastation: especially during construction.

Please remember that when we neighbors see all these plans for habitat construction and sensitivity to the environment and the neighborhood, we can only identify with the habitat destruction, insensitivity to the environment and the neighborhood that we have experienced from this property owner for many years.

Respectfully,

Stan Ketner
603 Escalona ave
408-497-0548

From: Linda Laursen [mailto:linda_ll@pacbell.net]
Sent: Thursday, September 26, 2013 2:54 PM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: My comments for the proposed Monarch Cove Inn

September 26, 2013.

I fill that the proposed Monarch Inn, will be a huge impact on our neighborhood, Depot Hill. And not a positive impact at all. If project is passed it will completely change our whole neighborhood and our lives in a very negative way. I have lived on Depot Hill for 18 years and plan on retiring and having many relaxing days in the future. Please do not wreck my life with this proposed Monarch Inn.

SCALE OF PROJECT SI E
To go from 11 to 41 units is quadrupling the existing rooms. This too much!
We are a small community, and do not need this type of project. The traffic would be horrible, during building & removal of all the ground dirt. And of major issue after it was built.

TRAFFIC AND SAFET IMPACTS
Our traffic issues on Depot Hill are unreal already. Why do people drive to the end of Escalona Dr. when two signs that are posted say DEAD END and NO BEACH ACCESS. I have the largest driveway there and the count of cars turning in my driveway are 30-50 each weekend. Besides during the week, 30 daily turn a rounds, with contractors and UPS, FED EX, water trucks, garbage trucks, lost visitors, just cars and etc.
It is already too much!
Why should my en oyment of peace be reduce to stressful hatred. Having to put up a sign NO TURN AROUND and orange cones that the cars just drive over and continue driving on. They have no care in the world of any bodies property. My tenants can not have their kids play and ride tricycles on driveway safely. I was talking with a neighbor in driveway and one person came and made a complete U turn in driveway, and we had to move out of their way. That is not right.
What kind of issues will happen with more cars, parking for their visiting friends, WHERE?
Most of the time everyone wants to park on Depot Hill. You come home and cannot park
in front of your own home. Caring groceries many doors away is hard for allot of the elderly citizens on Depot Hill. We have a large amount of owners over 60 years old in the neighborhood. I would guess over 65%.
I feel all the streets on Depot Hill will need to be Permit parking Only.

The Safety issues are alarming to me. If on a busy day/time we are waiting to get off Escalona Dr. to Monterey Ave. for quite a long period of time. Do not try to get off hill between 4:00 and 6:00 PM daily, all the commuters cut through the village to go to Park Ave.

What would happen if the project passes and we have an additional 60 cars and work trucks, a day, usually speeders, trying to get on and off the hill? The traffic would be backed up on every street on the Depot Hill. That is ridiculous to even imagine.
Monterey Ave. and Depot Hill streets are not large enough to take on this huge traffic impact. How are you going to handle the village backup problem?
Our children would not be able to ride their bikes or skateboards in front of their own home. And our animals would all be in danger of being ran over. Mainly our cats that roam freely around. We have a large amount of home owners, renters, and visitors that love to walk their dogs around Depot Hill.
Monterey Ave. is not large enough street to handle this pro ect or Depot Hill streets.
Another e it on and off Depot Hill ould have to be constructed.
Just for safety reasons. Say if a fire breaks out and hits the eucalipus trees and develops into a street full of homes on fire on Escalona Dr. or a major earthquake happens, how would emergency trucks be able to get on Depot Hill if traffic was completely congested. **The hole pro ect is a bad ideal for Capitola and their citi ens.**
On Fourth of July there was an emergency, and a fire truck was unable to reach Monarch Inn. Because the streets were congested with vehicles and people. The fire works are a real issue being next to the trees, fire safety. People seem to have no respect to our area.
Fire cracker bombs at 11:00pm and later are real hard on our animals. I know allot of neighbors that have lost their loved one because they freak out and get ran over.

PROTECTION OF OUR FRAGILE CLIFF AREA
Under ground parking seems uite dangerous of losing our cliff edges even faster than natures ay. This is in a butterfly preserve area. The lost of more trees is really pitiful. The O ner Blodgett has never even got permits to cut do n trees. I think he has had 15 or more trees removed along cliff areas and for a parking lot. That no had a very bright light that stays on all night long. Another en oyment e as neighbors have to put up ith. Did he have a permit

MONARCH BUTTERFL PRESERVE
The end of Escalona Dr. has one of the few remaining Monarch Butterfly Preserves. Do you not think that is important?? It is just as important as your Capitola tax revenue.

The whole project is a terrible project. Do not put your citizens in Capitola in the middle of this building. We do not want it. Where do you find a Inn of this size at the end of a neighborhood that everyone must travel through the complete neighborhood to get to?

Capitola Council members you even rejected In & Out restaurant to be built here it was at Bay Ave at the freeway. How could you possibly think this Inn is a wise proposal. Please deny this proposed Monarch Inn.

Sincerely,
Linda Laursen 702 Escalona Dr #1 Capitola, Ca.

From: Louis Long [mailto:louislong29@gmail.com]
Sent: Tuesday, September 24, 2013 7:30 PM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: Monarch Cove Inn

Dear City Council Members,

I am writing to you to tell you I am very unhappy with what I've heard of the plan to expand the Monarch Cove Inn. The neighborhood is already impacted by the weddings and rooms that they rent. I live on the corner of Sacramento Avenue and El Salto Drive. I moved here because this is a quiet and peaceful place to live. I will be very upset if you vote to expand the Monarch Cove Inn and I will remember how you voted come election day.

Louis Long
509 El Salto Drive

From: bryan4re@gmail.com [mailto:bryan4re@gmail.com] **On Behalf Of** Bryan MacKenzie
Sent: Monday, September 23, 2013 10:43 AM
To: Grunow, Rich
Subject: Monarch Cove development

Hello,

My name is Bryan MacKenzie. I live at 508 Escalona Dr.

I have serious concerns about the scale of this project and how it will be accessed. My concerns lie with traffic. We have such small streets, they are already taxed with the current amount of cars up here. We also have so many additional trips because of the resort as it is. With the proposed 400% expansion, the resulting traffic will be unacceptable. Also, we have small children. We moved to the end of Escalona as its a cul de sac and a safer place for my kids to be than other areas of Capitola. Now it is being proposed to have an entrance to the resort at the end of my street. This will greatly affect the safety quotient of the street in front of my house. What am I supposed to do ? Move? That seems an unreasonable solution to this proposal. Current residents shouldn't be asked to move because a developer wants to expand their property beyond the scale of the neighborhood. Not to mention property values! Who is going to reimburse me when this additional traffic damages the resale value of my home?

Respectfully,

Bryan Mackenzie

--

Bryan MacKenzie
"When you're passionate about where you live... it shows!"

Coldwell Banker
2140 41st Avenue Suite 100
Capitola CA 95010
831 535 8101 cell
831 462 1746 Fax
bryan@capitolahomesonline.com
CapitolaHomesOnline.com
DRE# 01176088

From: MICHAEL MARIANI [mailto:mdmariani@sbcglobal.net]
Sent: Wednesday, September 25, 2013 7:55 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: comment on monarch cove project

Having attended the initial public comment meeting concerning the Monarch Cove Project, I wish to add my

own concerns about the impact to the surrounding neighborhood. I don't reside on Depot Hill myself, however I

walk up there often and I'm always encountering others that enjoy walking their dogs, the checking out the gardens, the view etc..

I also see groups of families staying at the current inn walking to and from the beach without having to negotiate busy

intersections with small children & gear. The residents & their children can socialize, play, bike, skate all on the street

because of the lack of sidewalks and constant through traffic. However some streets, especially Central Ave and

sometimes Saxon Ave, have become impacted with junior guards, speeding surf checkers and other visitors during the summer months.

Getting on and off the hill can be challenging at Monterey Ave. as it is. The added traffic would create a headache for residents and visitors alike.

Depot Hill has an unique feel because of there being only one way on & off , that and

the rural feel of the absence of sidewalks. Many of the residents know each other or they at least recognize each other because

they pass by one another coming and going.

I believe that a project of this size would have a negative impact on the unique characteristics of this neighborhood. Not

only guest traffic, but the vehicles of added staff, increased garbage pickup, linen & restaurant supplies and maintenance trucks

that would criss-cross the entire length of the hill. It's also hard to conceive how proposing to nearly quadruple the number of rooms and building an underground 56 car garage could not infringe upon the sensitive biological habitat next to it.

I'm not against improving the property, but the size and scale of the project is not compatible with it's surroundings. I would

think a design of not more than 20 total rooms without the garage would be more appropriate.

Thank You for considering this,

Michael & Cris Mariani
1812 42nd Ave
Capitola

From: Linda Laursen [mailto:linda_ll@pacbell.net]
Sent: Thursday, September 26, 2013 4:49 PM
To: Goldstein, Jamie; City Council; Grunow, Rich; PLANNING COMMISSION
Subject: Comments against monarch Cove Inn

I, Mary Matson am totally against the Project. The amount of rooms, it's size and the traffic concerns. Plus the Butterfly area will be destroyed and the cliff erosion.
I own an apartment complex on Escalona Dr.
Mary Matson
285 Perch Way
Aptos, Ca. 95003

From: John McCormick [mailto:jsmccormick1085@att.net]
Sent: Thursday, September 26, 2013 4:28 PM
To: Grunow, Rich
Subject: Monarch Cove Hotel EIR

September 26, 2013

Rich Grunow
City of Capitola

We live at 710 Escalona Drive and have concerns about the proposed expansion of Monarch Cove.

1. Noise
We are concerned that noise, music, and sound systems coming from events and meetings will greatly impact our quality of life. What portions of the current conditional use permit will mitigate potential noise problems for us? What types of outdoor music and events will be allowed? How will those events and music affect the quiet enjoyment of our home?

2. Overflow Parking
The 600 and 700 blocks of Escalona Drive are very narrow. When cars are parked on both sides of the street we can not always get in or out of our driveway. We have missed deliveries several times in the past year because of this. If the hotel has 41 rooms and the potential to seat 75 guests for a meal, will the planned parking garage be adequate? Where are all those cars going to park?

3. Pedestrian Safety
Many pedestrians pass our home on a daily basis going to and from the trail through Escalona Gulch. The pedestrians include small children, older children on skateboards and bikes and many dogs, on and off leash. Some of the children on skateboards and bikes, as well as the dogs, are not as careful as they should be. Typically people who drive past our house and are looking for Monarch Cove are driving very very fast. If an entrance to the hotel is allowed on Escalona Drive there will be a safety issue between the cars heading down the hill to the hotel and the pedestrians coming off the Escalona Gulch trail. How will this issue be addressed?

Thank you,
John and Sherry McCormick
710 Escalona Drive
Capitola, CA

From: Mary-Michael McTeague [mailto:marymik45@yahoo.com]
Sent: Wednesday, September 25, 2013 10:28 PM
To: Grunow, Rich
Subject: Initial Study Monarch Cove Hotel public comment

To: rgrunow@ci.capitola.ca.us
Re: Initial Study Monarch Cove Hotel by Rincon Consultants, Inc.
Resident comments from: Mary Michael McTeague, 411 El Salto Drive, Capitola, CA
September 25, 2013

Dear Mr. Grunow,
Thank you for reviewing our comments to the Initial Study regarding the development of the Monarch Cove Hotel at the El Salto Resort by Mr. Blodgett. I have the following concerns that I hope your department will address in reviewing the development plans.

Construction:
1. Underground Garage: Regarding the extensive digging necessary for the two level underground garage I have a number of issues: First, the stability of the cliff for such an excavation. 2: Trucking of that huge amount of soil along El Salto Drive would have noise and possible seismic impact on the cliff as well. Can these be measured and mitigated? Having worked at the Earth Sciences Department at UCSC I was made aware of studies done here on Depot Hill of the cliff and its instability. 3. At the same time I became aware of the geologic import of the cliff for the research at both UCSC and Berkeley for geologic materials. I expect Seismic issues speak to the instability of the cliff not only from the dredging but also the impact of trucking the immense quantity of dirt. 4. Trucking of that amount of soil on any of the streets in the Depot Hill area might also further destroy the surface of the streets and require the developer or the city to have to repair them. Who would pay for this repair? 5. Hopefully, attention will be given to the possibility of archeological midden remains of Native American Indians, possible at that site.

2. Trees: As has been pointed out Mr. Blodgett has already removed a number of trees without permit which were supportive to the Butterfly habitat by protecting it from the ocean breezes. Removal of additional trees for the Resort will cause further disruption in the barrier in that area, not only to the Butterfly Habitat, but also performs as a noise barrier to residents against traffic noise from Highway 1. Coincidentally, as residents we need permits to remove large trees and are required to replant, on their removal. Why is Mr. Blodgett property held to a different standard? Removal of trees is a problem both for the Butterfly Habitat and has an impact on the noise in the neighborhood.

3. Noise level of construction of the whole property with heavy machinery traveling the parked and pedestrian streets, the machinery the constant beep beeping will be a nightmare.

4. Runoff from the construction of materials and dirt into the Escalona Creek (the gulch?) and into the ocean would be harmful to both environments. How will this be monitored? At what cost to the city?

Operation:
1. Traffic: I share with my neighbors concern for increased traffic not only of visitors but the multitude of service vehicles necessary for a hotel of the planned size, day and night. Currently most visitors are gone except the few at Monarch Cove, by the end of the day, added evening and nighttime noise and traffic will change the neighborhood character. Again: it was chosen that this neighborhood have no sidewalks; residents walk and play in the streets, increased traffic will substantially change the character of the neighborhood. How will the city mitigate the increase traffic and parking in the neighborhood, how will it be monitored and at what cost to the city? According to the neighbors speaking at the meeting recently residents close to both Monarch Cove and the Depot Hill in have experienced strong impact on their streets from service vehicles and visitors, but have kept their peace until the pressure of the proposed development caused them to speak out.

2. Butterfly Habitat: As the total number of Butterfly Sanctuaries in California is decreasing, the one on depot Hill is gaining in importance. By removing trees and adding wood chips Mr. Blodgett has already made the area less hospitable to butterflies. Increased noise and light levels with the proposed development will further harm the butterfly habitat area. Now is the time to stop encroaching on this area, which should be protected, was designated as an area to be protected but is not being protected, except it seems, on paper in the city planning commission office. Is there an official recognition of the easement set aside for the Butterfly Sanctuary? Are there Capitola City Personnel who monitor its viability? What can be done to achieve this goal?

3. Quality of Neighborhood: The City of Capitola is very visitor friendly. What percent of the City Budget is spent on entertaining and encouraging visitors? It is also a commercial hub of Santa Cruz County. Regarding Capitola in general, my view is that for a small coastal city "Urban Sprawl" is endemic. 41st street, (many of its ancillary streets), as well as the Village, Monterey Avenue and Capitola Avenue, Portola Avenue, and Bay Avenue are ugly agglomerations of strip malls, hotels, restaurants, stores, offices. Capitola has many areas set aside for trailer parks and low-income housing. There are very few parks and besides the beach, areas where families especially with children can congregate. There are very few residential neighborhoods in proportion to commercial areas. Depot Hill is one residential neighborhood that is

currently used as a park by visitors and Capitola residents. It is possible to view the ocean above the cliff, walk, walk dogs, run, allow children to ride bikes and yes, even skateboard. All of these activities take place in the streets. The proposed development in Depot Hill with the traffic it will bring and the resulting busy streets and increase of overall parking will be a loss to the whole City Of Capitola. Is there some measure of residents/developed space that is a golden mean? Santa Cruz by comparison has many parks and areas other than beaches, for its citizens to recreate, even in neighborhoods, accessible by walking. Capitola is very visitor friendly, but in my view, would be better or at least more hospitable if it were more resident friendly.

4. Noise: There are issues outlined in the Capitola City Plan, now waiting to be approved that deal with noise issues, and issues of scale in residential neighborhoods that apply here. Traffic noise, construction noise, noise from Hwy. 1 will all increase as a result of the proposed development. Will this be monitored, and by whom? Neighbors of the Monarch Cove Inn complain about the noise of the current property wedding use, what assurance do we have that it would get better with the proposed development? Who will monitor the noise level, what fines will be exacted when they are breached?

5. Conditions of Use: The project intends to continue (pg. 3) 'many of the conditions' as required by the current Conditional Use Permits, and specifies some conditions but I would like a clarification of what conditions might not be continued. When you get a license to drive you have to abide by all the laws, why is this vague, and what are the true intentions of the manager of the property?

6. Light and glare, including signage, which is not detailed in the plan, is a concern to the neighbors in close vicinity to the property. This may also affect the Butterfly Habitat.

7. Cooking: is not specified in the original building application, however what change is possible to that in the future? Who watches over and monitors that eventuality?

8. Seawall: page 16. What plan is there for a seawall to be installed? This issue was defeated a couple of years ago in Capitola. The study by Haro, Kasunich and Associates was done for the developer? Who would be financially responsible for the construction for a permitted seawall? Would the process be a repeat of the process we held previously? Who will pay for the process? Is the seawall a requirement for the development? What is the extent of the seawall necessary?

9. Water and Hydrology: These issues are serious in this area, currently facing salt water incursion of existing well water and the potential of salt water conversion plants, an expensive proposition. We are all individually working to cut back on our use of

water, it seems irresponsible to be splurging water on visitors for parties at our personal expense.

10. Public Health Services: The developer's representative, before the Sept 16th Meeting, in two meetings with residents of Depot Hill made a point of the financial gain to the city from the tax revenue received from the development of the inn. Along with other issues (construction, monitoring, water and wastewater treatment facilities, drainage) mentioned, the cost to the city in providing police, fire and emergency health protection to visitors in an area impacted by traffic concerns would seem eat into the financial profit that the developer has been selling as a potential 'gain' for the city in seeking this development. With all these considerations, what then is the gain to the city and to the residents of Capitola and more intimately to the residents of Depot Hill of the development of the Hotel as proposed?

Finally, I would like to point again to the paragraph in the Draft Plan for the City of Capitols that says:
"**Neighborhoods and Housing**: Protect and enhance the quality of life within residential neighborhoods. Strive for neighborhoods that are stable, inclusive, and friendly. Minimize impacts to neighborhoods - such as noise, cut-through traffic, and overflow parking caused by new development."

The above was quoted by our neighbor at the close of the September 16, 2013 meeting. This would appear to show a desire on behalf the City Council and the residents to deter development of the scale and intrusive nature of this proposal.

Thank you
Mary Michael McTeague
411 El Salto Ave. Capitola CA

From: Ted Mendoza [mailto:tedmendoza@topproducer.com]
Sent: Thursday, September 26, 2013 8:39 PM
To: Grunow, Rich
Subject: The new motel on Depo Hill

Hi Richard

This is my feeling about the new motel. I believe this is 100% a bad idea for the residents and home owners of Depo Hill. Most importantly the safely of the folks that walk and pulling out of drive ways. The Children and the pets of the residents will be in danger. I believe it will hurt the value of homes. The garbage trucks cars of the help will make the extra traffic dangerous. This is one of the premier
residential area's in California. The water and environmental impact. I hope the city takes a hard look of the impact this would have on this neighborhood. Sincerely.

Capitola Village Real Estate

"Helping my Clients since 1969"

www.tedmendoza.com

Ted Mendoza   Shelley Nell   Tony Mendoza

TedMendoza@topproducer.com   sebelemar@gmail.com   ajmen57@hotmail.com

BRE#00368472 Personal Assistant BRE#01460177
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From: Michael Meyer [mailto:mmeyer1947@comcast.net]
Sent: Wednesday, September 25, 2013 2:08 AM
To: Grunow, Rich; City Council; planningcommision@ci.capitola.ca.us; Goldstein, Jamie
Cc: ahsamuels@sbcglobal.net; ocnvuhomes@aol.com
Subject: El Salto/Monarch Cove proposed development

Good day!

I am writing to you regarding the proposed development on Depot Hill.

My name is Michael Meyer and I am the son of Evelyn Meyer (age 98) who is a current long term resident and owner of two properties on Escalona Drive (602 & 604).

Due to my moms advanced age she was not able to attend the meeting at City Hall regarding the proposed development. She did however place a call to City Hall indicating her displeasure for the project and is strongly opposed to additional development at El Salto/ Monarch Cove.

I am also writing as I am the executor of the Meyer Family trust which owns 604 Escalona Drive.

I am currently on vacation in Spain with poor Internet connection but did receive an e-mail indicating there is a deadline of tomorrow to submit written comments. My comments will be brief but felt this issue is very important and we want to convey in spite of a weak Internet connection.

Our objection of development of the hotel / event center are as follows:
Traffic, water, sewer, to big a project for Depot Hill, construction noise-traffic-noise for a residential neighborhood, parking, stability of cliff, additional traffic on Escalona where in our neighborhood it is one lane wide,destruction of trees and habitat for Monarch Butterflies, deprivation of our property value due to congestion, noise and over built land use, proposal is not consistent with the cities history of limiting expansion of this property and adjacent property.

My apologies for not going into detail based on my current Internet connection here in Spain. Most importantly we want to convey as the owners of 602 & 604 our absolute disapproval of this project and with our wish the City of Capitola flatly denies this project.

Kind regards......Michael Meyer

Sent from my iPad

From: Don Moccia [mailto:moccia@cruzio.com]
Sent: Wednesday, September 25, 2013 6:35 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: Comments on the Environmental Impact of the Monarch Cove Inn Proposal

Richard Grunow,
Community Development Director

We are both residents of Depot Hill (the hill), on Central Avenue, and are deeply concerned about the scale of the proposal. No doubt our concerns echo those that have already been submitted, but we feel we should voice them nonetheless.

The Inn proposes to expand from 11 rooms to 41 and have a 75-person meeting room (per the Santa Cruz Sentinel). Assuming two people per room, peak occupancy could go from 22 to 82 plus, possibly, an additional 75. Hopefully, a sevenfold increase would not be permitted, but even a fourfold increase is problematical.

- Traffic & Parking
    - Not only will there be four times the number of patrons at the Inn, they will be making multiple trips on and off the hill. A certain number will have additional visitors during their stays, adding to the traffic.
    - There is no restaurant or bar at the Inn, and I doubt many patrons will actually walk into Capitola. They will be driving off the hill or there will be catering deliveries to the Inn. There will also be other service traffic: staff, laundry, maintenance, garbage, etc.
    - The intersection at Monterey and Escalona is already a problem. When there is traffic into or out of Capitola, it is very difficult to make the left turn from Escalona onto Monterey. Furthermore, traffic backs up at the stop sign at Park and Monterey, making the right turn from Escalona onto Monterey difficult. Things get even more dicey when traffic is turning left from Monterey onto Escalona or left from Fanmar onto Monterey.
    - Given the Monterey and Escalona bottle neck and the narrowness of the Depot Hill streets (especially with parked cars), there could be issues with emergency vehicle access.
    - During Junior Guards or when a swell comes in, there is NO on-street parking available on Central. The Inn might not add to that load directly, but it would greatly increase the car saturation of Depot Hill.
    - Speeding and ignoring stops signs by visitors to the hill is quite common. This endangers residents, especially children.
- Geology & Water
    - The headline of the September issue of *Life Capitola Soquel* was "Customers saving water but more work needs to be done." If our residents have to cut back on water use, how can we support an influx of visitors? Furthermore, how likely are they to conserve water?
    - How likely is the construction to adversely affect local aquifers?
    - How likely is there to be additional water runoff that causes more cliff erosion or drainage problems?
    - When we moved in about 10 years ago, we were told that new houses with basements were no longer being approved because of water table issues and cliff fragility. If that is the case, how can an underground garage even be considered?
- Habitat & Quality of Life
    - The increase in visitors will most likely bring additional trash and noise. On Central we suffer from both of those when people park on our street to go into

town; I frequently pick up trash during my daily walks. At night, folks returning to their cars can be quite loud. Visitors to the Inn that do walk into town will probably go through our neighborhood and will likely add to those problems. Of course, those living near the Inn will be even more adversely affected.
    - At the Planning Commission meeting, it was mentioned that the Inn's owner had removed butterfly preserve habitat without notice or permits. That does not bode well for any assurances about protecting the environment.
- Construction
    - The amount of proposed construction is worrisome. We've seen two houses built on Central recently, and the noise, dirt, and construction traffic did get tiresome. But these were single family homes that will hopefully be used by people committed to Depot Hill. Those living near the Inn and along Escalona or El Salto will be subjected to much worse. Furthermore, it is pretty clear that the final product does not benefit the hill.
    - How many truckloads of dirt and debris will need to be removed? How much heavy machinery and how many trucks carrying building materials will be involved? Is there any plan to address street wear and other possible damage caused by so many heavy vehicles?
- Services
    - What provision is being made for added police and fire department coverage? How about garbage?

We could go on, but we don't intend to summarize the September 16 meeting. I trust that other residents will cover important things we've forgotten.

We are not opposed to improving the property per se, but improvements must benefit the long-term interests of Depot Hill, as well as those of the owner.

Don and Toni Moccia
114 Central Avenue

From: charlotte [mailto:pibbycat@sbcglobal.net]
Sent: Tuesday, September 24, 2013 8:16 PM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: Monarch Inn

Dear Council Members,

My name is Charlotte Morrison and I live at 111 Sacramento Ave on Depot Hill. Let me cut right to the chase. I am very strongly opposed to the expansion plans for the Monarch Cove. This issue has made me a single issue voter and I will vote against anyone who supports the expansion.

Charlotte Morrison

From: Robert Mykland [mailto:robert@ascenium.com]
Sent: Wednesday, September 25, 2013 1:45 AM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Cc: 'Adam Samuels'
Subject: A comment on the proposed Monarch Cove development

Ladies and Gentlemen of Capitola,

I'm writing to you to comment on the proposed Monarch Cove development on Depot Hill.

I live in Capitola two blocks up from Gail's Bakery on Capitola Avenue and I also own a house one block away on Laurence Avenue that I'm currently renting out to my niece and her friends. I have several friends who live on Depot Hill, and my youngest daughter goes to New Brighton Middle School, which would certainly share morning traffic snarls with this proposed development.

This development as proposed would clearly destroy the quality of life in one of Capitola's most unique neighborhoods. I'm actually not too worried that the proposal will be accepted as-is because of the clear and overwhelming traffic problem, to cite only the most obvious impossible situation it would represent to that neighborhood.

What's predictable is that some scaled down version of this proposal might be accepted as a matter of compromise. In this scenario, unfortunately, I think you'd get about the same result as with the full-blown proposal. This is because the owners of this property, as I understand it, have already demonstrated bad faith towards our community by, to cite the most evident example, building an additional parking lot without the proper permits.

So what's predictable for the years it will take to build some downsized version of this and for years after, we will see unauthorized encroachments on whatever plan is approved that will constantly demand the attention of our city government to enforce and reverse. In the end we'll still have a destroyed neighborhood, a city government that's exhausted and worn down by these bad-faith developers, and other problems cropping up all over Capitola that our exhausted city government has to somehow also make time to address. Not a good scenario for any resident of Capitola.

Sincerely,

Robert Mykland
(831) 212-0622
910 Capitola Avenue #4
804 Laurence Avenue

--
Robert Mykland Voice: (831) 212-0622
Founder/CTO Ascenium Corporation
"A new world of computing fulfilling people's lives"

From: Mara Palandrani [mailto:Mara@sierrautility.net]
Sent: Thursday, September 19, 2013 9:17 AM
To: Goldstein, Jamie; City Council
Cc: Joe Palandrani
Subject: Expansion of Monarch Cove Inn

MONARCH COVE INN EXPANSION

My husband Joe Palandrani and I have been residents of Depot Hill for over 13 years, and a property owners in Capitola for over 16 years.

Like all the others that live on Depot Hill , we LOVE the neighborhood and cannot imagine living anyplace else.

We are both concerned that the "projected" expansion of the Monarch Cove inn will greatly damage the essence of the neighborhood by removing the tranquil nature of our community. We have a terrible problem with traffic as it is now. Parking, especially in the summer and weekends , has caused major issues for all of us.

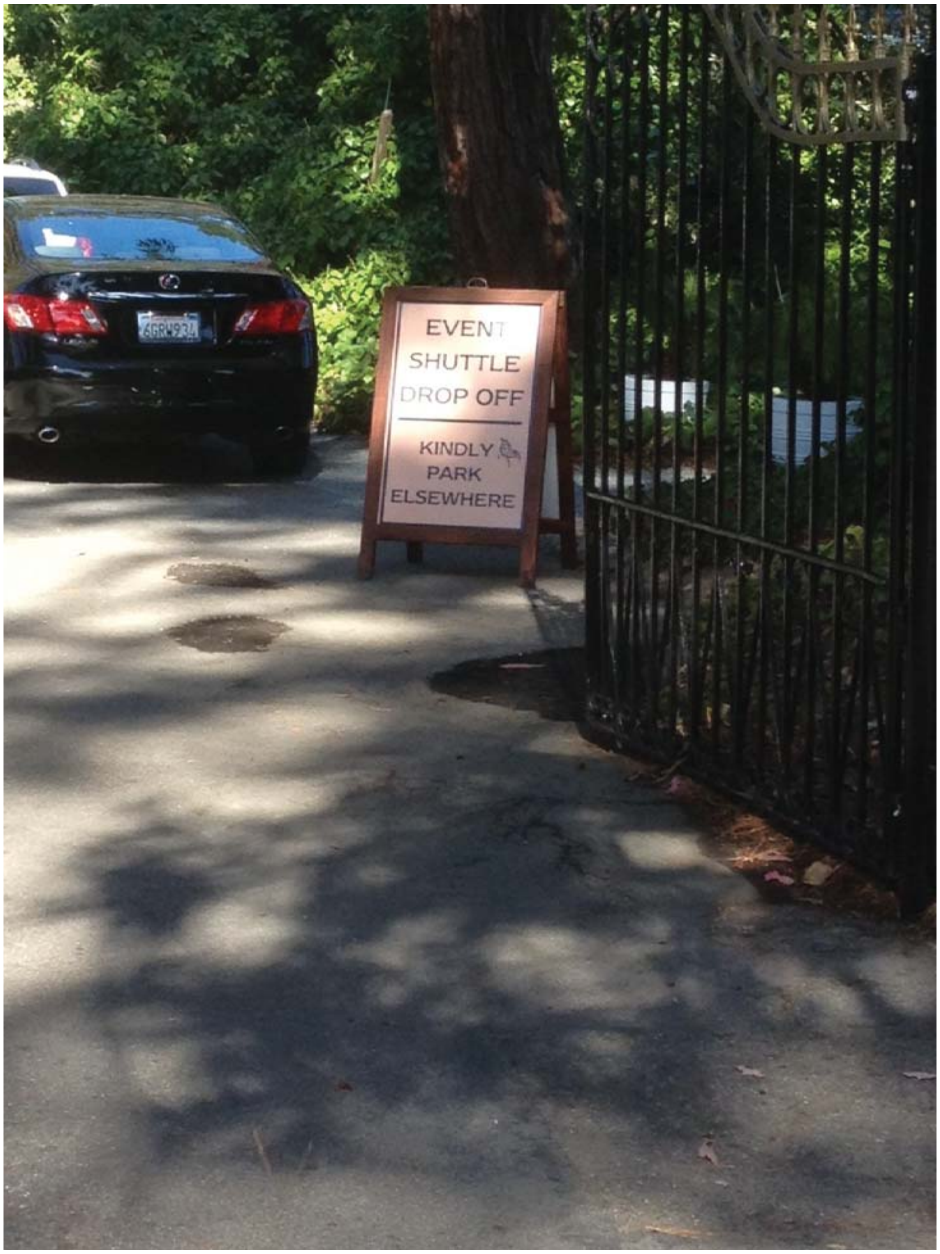
As you can see by the attached photo that I took a few days ago, the Monarch Cove Inn actually "instructs" people to park "elsewhere". This usually means along all of the small streets up in the Depot Hill neighborhoods. Many of us on the "Hill" have children and grandchildren riding bikes and just playing outside –We DO NOT NEED additional cars racing up and down the streets getting to and from the resort. Additional parked cars usually mean that more cars are illegally parking in intersections where they just enhance the traffic danger for all the residents (driving and walking) on Depot Hill. We feel that the Capitola police are not currently enforcing the existing parking laws or effectively monitoring illegally parked car.

There is on uncontrolled intersection on Hollister and El Salto that has resulted several very close incidences with Monarch Cove guests and visitors who seem to think that they can just speed through that intersection. We are puzzled that the City of Capitola has sanctioned this intersection in the litigious atmosphere that we have in California. A simple stop sign <u>will save</u> the life of some poor unsuspecting visitor, guest or resident.

We are also concerned about the noise pollution caused by the late night visitors of the Monarch Cove Inn that yell and talk very loud as they negotiate our street after a hard day and night of drinking after their celebration. Many of those inebriated revelers then decide to drive elsewhere seeking addition entertainment or the desire to return home. We have seen many run through stop sign and break speed limits.

The Monarch Cove inn neither a good neighbor to Depot hill residents nor an asset to Capitola. Depot Hill is a gem that the City of Capitola should cherish and not turn over to some developer. That property in located in a very sensitive environment that must be very delicately managed. We fell that Capitola should be assessing if even the "present" Inn really is in agreement with the goals and objectives of the City.

Mara Palandrani
Sierra Utility Sales, Inc.
1054 41st Ave
Santa Cruz, CA 95062
Office: 831-464-2250
Fax: 831-464-9009
mara@sierrautility.net
www.sierrautility.net


EVENT
SHUTTLE
DROP OFF
KINDLY
PARK
ELSEWHERE

From: Jeri Passaro [mailto:lerijynn@sbcglobal.net]
Sent: Wednesday, September 25, 2013 5:56 PM
To: Grunow, Rich; City Council; PLANNING COMMISSION; Goldstein, Jamie
Subject: Monarch Cove

As a nearby resident, I would like to express my concerns about the proposed Monarch Cove project. I am particularly concerned about the size and density of the proposed development and its impact on the Depot Hill neighborhood. Also, the impact of the proposed grading on the fragile coastal bluffs needs to be adequately addressed. And, I'm concerned about water usage, the impact of the project on the already strained aquifer and the impact of the project on the Monarch Butterfly Preserve.

I would like to see these concerns adequately addressed and the scale of the project dramatically reduced to a scale compatible with the surrounding neighborhood.

Sincerely,

Jeri Passaro
PO Box 1491
Soquel, CA 95073
831.462.0111

From: Dianne Prentiss [mailto:drprentiss@gmail.com]
Sent: Thursday, September 26, 2013 4:50 PM
To: Grunow, Rich
Subject: Depot Hill Hotel / monarch Cove

Expansion...
We have lived on Escalona Dr since mid 1972 near the Sacramento Ave corner. The possible expansion of the Inn with an underground parking garage at the end of this narrow street is untenable.
Excavation and all the other attendent issues including seismic stability, water runoff, invaded butterfly habitat and the already over-use of Escalona for the Inn are critical and ,indeed, life threating issues to this street. My almost 9year old grandaughter and her friends & our neighbors' children have a right to SAFE neighborhood streets.
Take a very deep look into putting commercial enterprise over environmental and public safety.

Respectfully,
Dianne Ritner Prentiss and family-
Carlos Prentiss, Colette DeDonato
Lucia Prentiss

Sent from my iPhone

From: suerenn@juno.com [mailto:suerenn@juno.com]
Sent: Tuesday, September 24, 2013 10:50 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; Goldstein, Jamie; ahsamuels@sbcglobal.net
Subject: Monarch Cove Inn Proposed Expansion

To Richard Grunow,
Capitola Community Development Director

and all Whom it Concerns regarding the Monarch Cove Inn Expansion:

My family has owned a home at 201 Oakland Ave on Depot Hill since 1978. We plan to keep this family home due to its wonderful location. My brother still lives in Capitola and we stay at the house on Depot Hill frequently. My mother was able to wheel her wheelchair along the Depot Hill streets safely and knew most of the people she would pass walking their dogs. My nieces grew up here visiting their grandmother. It is a unique community in itself, a special place, that doesn't exist elsewhere in Capitola. It is worth saving and protecting! We are therefore against the Monarch Cove Inn expansion proposal.

We are concerned about many aspects that will change the character and safety of Depot Hill. The traffic increase is primary. As it is, the bottleneck at Escalona and Monterey is hard enough to get in/out of Depot Hill during traffic hours. Adding 30 more units means a minimum of 30 more cars going to/from that intersection, let alone how fast these "foreign" cars will travel our streets. It is a pedestrian neighborhood with neighbors walking back and forth the streets several times a day, interacting in conversation at corners, greeting dogs. We respect this and drive carefully and slowly around our streets. This cannot be said of visitors to the hill, and most likely won't be true of more guests at the Monarch Cove Inn.

The cliff is rapidly eroding already! The idea of excavating for a 2 level underground parking has to have a negative structural impact, let alone the rumbling trucks carrying the dirt out of there! We remember when we could drive the cliff street, that is now blocked due to erosion. The street that was further out toward the ocean has long ago fallen into the ocean (my family has a photo of that street!). We can't take the chance that the excavating will have a negative impact on such a precarious structure. I'm sure there is a geologist that will do a report on the risk, right? I want to read that report when it gets done!

One neighbor said it very well at the 9/16/13 meeting at City Hall: When is enough enough on development?! What is in it for the neighborhood? Why should we ever want something like this to grow to this size? The plans will ruin the quiet neighborhood environment during and after construction. You can never go back and restore that character that will be lost. Home values are based on location. Wreck the environment and they will decrease.

The butterflies have already been decreasing due to tree loss, some of it illegally by the El Salto resort in the past. We are concerned that taking more trees will further impact the butterfly habitat. No money can replace that! I want an entomologist to do a report on the risk and impact to the monarch's. And I want to read that report when it is written. Pretty funny to call it the Monarch Cove Inn and then plan something that will decrease the monarch part of the name.

I want to receive follow-up reports and information about community meetings planned regarding this, please. This whole proposal and analysis should be as open and transparent as possible, with plenty of time for each group to make recommendations and receive feedback. Any effort to speed up a vote would be obvious.

Please consider this carefully. Thank you.

Sue Rennels
suerenn@juno.com
201 Oakland Ave
Capitola, CA 95010

From: Lindsey Roscoe [mailto:lindseyr@mac.com]
Sent: Sunday, September 22, 2013 12:04 PM
To: Grunow, Rich; citycouncil@ci.capitolaca.us; PLANNING COMMISSION; Goldstein, Jamie
Subject: Comments on the proposed expansion of Monarch Cove Inn

A 400% increase in the size of the Monarch Cove Inn is a safety hazard.
On the 4th of July (2013) emergency vehicles could not reach the resort.
What happens if there is a fire?
Guests speed constantly in a neighborhood that has no sidewalks (which the residents love). People are walking and children are playing in these streets. We all yell "SLOW DOWN" to no avail.

Noise is also a problem. Guests are loud and drunk after weddings and late at night as they return from the Village. I called the Monarch Inn to complain about the guests as they ambled away swigging their open bottles of wine and champagne. I was told, "What can we do about it?"
The party delivery trucks and party busses backing up with their beepers going off is a constant annoyance every weekend.
Guests often talk on their cell phones late at night in loud voices.
Can you imagine how bad all of the above would be with a 4X increase in guests?

Please don't let Mr. Blodgett and whoever is backing him ruin our neighborhood. After all, he and his mother sold off most of the resort during my 30 year residence on Depot Hill. They significantly changed the neighborhood to single family dwellings at great personal gain.

Respectfully,

Lindsey Roscoe
606 El Salto Drive

From: Deborah Rennels Salkind [mailto:debbie@salkind.net]
Sent: Wednesday, September 25, 2013 6:09 PM
To: Grunow, Rich
Cc: City Council; PLANNING COMMISSION; "'jgoldstein@capitola.ca.us.'"
Subject: Increase in Monarch Cove Units

Dear Richard Grunow,

I am writing to express my opposition to the proposed expansion of the Monarch Cove Units on Depot Hill. My family has owned a home on Depot Hill since the 1970's, and I highly value the character of the neighborhood and Capitola Village. I am very concerned that such a large addition to Monarch Cove will negatively impact the quality of life for people who live nearby. Traffic is already bad, especially in the summer, particularly in getting on and off the hill itself. Adding this many units would be a huge increase in both traffic and car noise.

There is also the problem of the environmental impact on the Monarch butterfly Preserve caused by adding this many units There is no indication that the owner of the property has any regard for this environmental issue, based on their prior actions.

The scale of this project is just way out of line with this neighborhood. It doesn't make any sense at all. The residents should not be forced to tolerate this kind of development in their midst. This is a residential area, not a commercial one. You will be destroying the character of a lovely and very popular neighborhood. Please reconsider.

Thank you.

Deborah Salkind

From: Carolyn Swift [mailto:carolyn.swift@gmail.com]
Sent: Tuesday, September 24, 2013 12:54 PM
To: Grunow, Rich
Subject: Historic Value of El Salto cottages

Hello Rich,
As the former city historian and a member of Capitola's Arch and Site Committee, I've been thinking about the impact of the proposed development on the Blodgett property and the fate of the cottages next to the Monarch Cove Inn.

There was an article in the newspaper today that noted that the Monarch Cove Inn is not on the National Register of Historic Places.
While this is true, the buildings that comprised the resort compound on Depot Hill have been evaluated numerous times over the past decade, and Monarch Cove Inn was determined to be eligible for National Register status.

I am certain a thorough and impartial review of Monarch Cove Inn and its potential historic status is now forthcoming. Nonetheless, I am concerned that two related, nearby cottages are designated for removal or demolition. These two structures were likely to have been servants quarters. Together they add significance to both the "English Colony" and Lewis E. Hanchett's family resort at El Salto. These small houses fill the architectural gaps in the story of a private and privileged family enclave. Without these associated buildings, the Monarch Cove Inn sits alone, unable to convey its full historical importance.

I suggest that the EIR address the historic value of the cottages on the Blodgett property and that options be considered to preserve them in their present setting.

Regards,
Carolyn Swift

-----Original Message-----
From: Carolyn Swift <carolyn.swift@gmail.com>
To: Melanie Freitas <melanief1@aol.com>
Sent: Wed, Sep 25, 2013 6:44 pm
Subject: Re: Historic Value of El Salto cottages

Hello Melanie,
I'm very glad you have Susan Lehmann's peer review and that everyone seems aware of the cottage's potential historical value. I'm satisfied if an impartial evaluation of the historical significance is made by a consultant familiar with Capitola history.

About the Stone and Gull cottages. I'm pretty sure the Stone Cottage was demolished when it "got too close" to the bluff's edge. I'm not sure about the other one. Susan Westman might know.

Back in 1976, Steve and I wandered down there and met Robert Holter, the artist who did the mural that is now in the City Council Chamber. Holter was living in the Stone Cottage and told us that it had been built by a Sees Candy heiress who wanted to escape her family ties and be alone with her lover. I liked the story (so romantic). Shortly before the Stone Cottage was demolished, I went through county records and found the true story. A couple who bought the parcel and built both houses in the 1940s. They were older and intended to use the houses as second homes they could retire in (a home and guest cottage, I presume). I can't remember the details or who originally owned the property. All I do remember that there was no longer any connection to El Salto. There was some kind of property dispute with Henry Washburn (of Washburn Avenue) but I can't recall the details.

If you're interested, I can try and find my notes, but I'm sure there is no relation between these Escalona Gulch buildings and the El Salto enclave.

On Wed, Sep 25, 2013 at 10:57 AM, Melanie Freitas <melanief1@aol.com> wrote:
Hi Carolyn:
Thank you for your comment which will be included in all of the comments received regarding Monarch Cove.
I know that you have already provided some info to the EIR consultants (Rincon Consulting) and I believe that they are mainly relying on the "Historical Context Statement" and your books for info on the Monarch Cove cottages. They also have the photo that you provided to me on our walking tour.
Further, they have the Kirk report for the Lamplighter/Mariners Cottages on the Dodd property and I am also sending them the Susan Lehmann report and the minutes from the 2004 City Council meeting where the City declared those cottages as "local historical resources." If you can think of any other info regarding the two Monarch Cove cottages that would be useful for the historical analysis, please let me know.
Also, in my research, I found a request in 1994 for the City to approve the relocation of two cottages (Gull Cottage and Stone Cottage) to the Monarch Cove property. These two cottages were located in the property directly across the Escalona Drive ROW (the former road that connected Escalona and Grand Avenue)

from the Monarch Cove property. This was during the time that Bob Blodgett owned the property across the ROW and was planning to develop it with 7 homes. The City approved the relocation but Blodgett never relocated the cottages. I believe one of the cottages may still be there. It is hard to see through the trees and I didn't want to trespass on the property so I couldn't verify it but it looks like a cottage structure. Bob Blodgett no longer owns this property -- I believe it is owned by the property owner who built the home adjacent to Escalona Gulch on the cliff (716 Escalona Avenue). Do you know anything about the Gull and Stone Cottages? I am wondering if they were part of the English Cottage or Hanchett properties?
Thanks.
Melanie

Melanie Shaffer Freitas
Freitas + Freitas, Engineering and Planning Consultants
3233 Valencia Ave, Suite A1, Aptos, CA. 95003
(831) 251-3550

-----Original Message-----
From: Carolyn Swift <carolyn.swift@gmail.com>
To: melanief1 <melanief1@aol.com>
Sent: Tue, Sep 24, 2013 12:59 pm
Subject: Fwd: Historic Value of El Salto cottages

---------- Forwarded message ----------
From: **Carolyn Swift** <carolyn.swift@gmail.com>
Date: Tue, Sep 24, 2013 at 12:54 PM
Subject: Historic Value of El Salto cottages
To: rgrunow@ci.capitola.ca.us

Hello Rich,
As the former city historian and a member of Capitola's Arch and Site Committee, I've been thinking about the impact of the proposed development on the Blodgett property and the fate of the cottages next to the Monarch Cove Inn.

There was an article in the newspaper today that noted that the Monarch Cove Inn is not on the National Register of Historic Places.
While this is true, the buildings that comprised the resort compound on Depot Hill have been evaluated numerous times over the past decade, and Monarch Cove Inn was determined to be eligible for National Register status.

I am certain a thorough and impartial review of Monarch Cove Inn and its potential historic status is now forthcoming. Nonetheless, I am concerned that two related, nearby cottages are designated for removal or demolition. These two structures were likely to have been servants quarters. Together they add significance to both the "English Colony" and Lewis E. Hanchett's family resort at El Salto. These small houses fill the architectural gaps in the story of a private and privileged family enclave. Without these associated buildings, the Monarch Cove Inn sits alone, unable to convey its full historical importance.

I suggest that the EIR address the historic value of the cottages on the Blodgett property and that options be considered to preserve them in their present setting.

Regards,
Carolyn Swift

From: susan thom [mailto:susan@campcapitola.com]
Sent: Tuesday, September 24, 2013 6:47 PM
To: Grunow, Rich
Cc: PLANNING COMMISSION; Goldstein, Jamie
Subject: EIR: Monarch Cove

Hi Richard.

Please make this part of the public record. This is what I spoke about at the city meeting of 9/15 in opposition to the development proposed for Monarch Cove.

My name is Susan Thom and we have lived at 117 Central Ave. since 1996. Our home sits where El Salto Drive meets Central Ave., so the opposite end of Depot Hill from Monarch Cove. I want to speak to two of my many concerns of the impact of adding more units to Monarch Cove.

When we first moved to Depot Hill they did not require events to use vans to shuttle folks to Monarch Cove. All weekend long for two days we would listen to the screeching of brakes as cars in their haste to get where they were going would constantly overshoot and miss the turn and would have to back up. The thought of adding more traffic onto Depot Hill causes me a lot of concern.

There is already a serious amount of commercial traffic that goes into supporting the Inn with its present size. It is a very busy and dangerous intersection for the children who play and people who walk Depot Hill due to the size of the commercial vehicles and the speed that vehicles in general turn that corner. The commercial vehicles also overshoot the corner. We constantly hear back up beepers from these vehicles. I have been told that both the shuttle busses and the commercial vehicles create a lot of beeping at Monarch Cove at the other end of the street as they have to all turn around there in close proximity to many of the houses in the neighborhood.

We also get a lot of foot traffic coming and going from Monarch Cove to the Village. People clearly unfamiliar with the neighborhood tell us they are attending an event and are looking for the direction to turn at the T intersection for the walking path off the hill. In the evenings, on weekends and weeknights, folks wake us as they walk back from the town late at night talking loud, having a great time but often obviously inebriated.

Expanding the size and number of people staying at Monarch Inn will only increase the traffic and the noise issues and erode the quality of life in the neighborhood. We believe it is the neighborhoods like ours that make Capitola special.

The expansion of the Monarch Inn will have impact to everyone who lives on Depot Hill due to the added traffic and noise creation. I ask that you put a process in place so all the people who live on Depot Hill are included in the notification and feed back process.

Thank you for your serious consideration"

Susan Thom

From: Lynn Yocum [mailto:lynnyocum@hotmail.com]
Sent: Thursday, September 26, 2013 7:27 AM
To: Grunow, Rich
Subject: Monarch Cove expansion

I have lived in my home in Depot Hill for over 35 years. Over the years I have seen many changes to the city and the neighborhood. One very significant change has been a large increase in traffic. Although the proposed Monarch Cove expansion will have financial benefits for the city, I feel it will be a detriment to our neighborhood in terms of the huge increase in traffic. The only ingress and egress to Depot Hill is at Monterey and Escalona. That intersection is already impacted by traffic far more than it was only a few years ago. The idea of two parking entrances for the proposed project won't help the neighborhood in terms of traffic, but instead will result in cars driving all through our neighborhood to get to get to their short-stay recreation and fun, which will, no doubt, include drinking and then driving out again to go to restaurants and other tourist spots. Also, during the construction of such a project the traffic and parking here will be hugely impacted.

I attended the meeting on September 16, and everything that was said by our neighbors should be given a lot of consideration. I was prepared to stand up to speak, but everything I would have said was said by someone who expressed it even better than I probably would have. I realize a lot of money and time has already gone into the beginning phases of such a project, but the fact that this is a neighborhood should be given the utmost consideration. Even though the area of the proposed project is zoned for visitor service, the rest of the neighborhood is R-1. In addition, it is a unique neighborhood in that we don't have curbs, gutters and sidewalks, and have narrower streets than in a regular subdivision. This is a neighborhood which is enjoyed by families, and their children play and walk in the streets. Despite the zoning, I feel this is the wrong use in the wrong place.

If the developer has to do something, why can't he just remodel the existing buildings, and improve the landscaping and keep it the size it is now?

I also feel an underground parking lot would contribute to accelerated cliff erosion.

Sincerely, Lynn Yocum

From: Susana Glina Zubiate [mailto:scz@charter.net]
Sent: Thursday, September 26, 2013 9:42 AM
To: Grunow, Rich
Subject: Monarch Cove Remodel

Dear Mr. Grunow,

I am writing as a concerned citizen and homeowner in Depot Hill. It has come to my attention that a large remodel is planned for the site of the Monarch Cove. My concerns regarding this project are many.

With the degree of erosion which we have witnessed occur during the last fifteen years of our residence here, it amazes and concerns me that the city still finds it geologically sound and logically reasonable to be digging into depot hill for construction purposes. The erosion of the cliff is clearly significant as seen by the large quantity of runoff seeping through the cliff walls and the large areas of falling cliff face that we witness every winter at the beach. What kind of geologic testing has been done to warrant making an underground parking lot at the Monarch Cove site? How can destabilizing the ground not be affecting the structure of the hill? How many geologic companies have weighed in on this? What kind of studies have been done? What will the increased run-off of the new hotel do to the cliff side?

Furthermore, it is of great concern to us what the increase in rooms will do to the traffic safety in our neighborhood. This is a walking neighborhood. We see many instances during the summer, and other 'tourist' times, of small children walking and darting from behind parked cars onto the streets. At this point, the streets of Central, El Salto, and Escalona regularly get tourists that speed through with the idea of reaching coastal access and with complete disregard to pedestrians in the area. Having a large hotel at the end of Depot Hill will increase the number of tourists heading in and out as well as the number of cars that will be lining the streets. This is not safe. Is there a study planned to count the number of pedestrians that frequent Depot Hill throughout the year? We purchased property here because we love having a neighborhood that feels rural without sidewalks and wish to maintain that. However, what will happen when we fill the sides of the streets with cars, have more people walking around and more cars racing down our streets?

This also brings to question any possible evacuation in case of an emergency. All access to the area occurs from one site. What kind of traffic studies have been done on this? It seems imperative to be doing traffic studies of the neighborhood at all times of the year as surges of tourist and local traffic occurs at various 'vacation' related intervals throughout the year.

A final concern is that of the monarch habitat. How many trees will we have to lose before realizing that they not only reduce sound, but also filter wind, stabilize the ground, temper temperature gradients and provide shelter for the wildlife in the area? I am very much opposed to the elimination of any trees during the project. Removal of any tress will reduce the protection needed by the monarchs. What biologists/entomologists have weighed in on this? What will the increase of pedestrian and car traffic do to the biology of the site?

I would very much like answers to these questions. I do not oppose the improvement of the Monarch Cove in terms of remodeling but definitely question the size and scope of the project. I believe that the site should not be renovated in a way that will increase its occupancy. A large remodel will be a detriment to our community with regard to personal safety, natural habitat, erosion, and a way of life.

Regards,

Susana Glina Zubiate

113 Central Ave.
Capitola, CA
scz@charter.net
831.247.0089

Appendix B

Air Quality Data

Capitola Monarch Cove EIR

Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	56.00	Space	0.10	16,644.00	0
Hotel	30.00	Room	1.30	22,623.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 61

Climate Zone 5 **Operational Year** 2015

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 - Lot acreage and square footage updated based on PD. (Total lot acreage = 1.4, parking structure subterranean.)

Demolition - Demolition of two existing cottages, existing L-shaped building, and the outdoor deck. Est sqft of demo based on Google Earth = 7,600.

Grading - Net soil hauling: grading of approximately 6,950 net cubic yards exported from the site.

Vehicle Trips - Trip generation updated based on driveway counts conducted for Hexagon Trans Traffic Study (Oct, 2013).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	6,950.00
tblLandUse	LandUseSquareFeet	22,400.00	16,644.00
tblLandUse	LandUseSquareFeet	43,560.00	22,623.00
tblLandUse	LotAcreage	0.50	0.10
tblLandUse	LotAcreage	1.00	1.30
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	8.19	12.91
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

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					
2014	91.5086	98.5209	81.1080	0.1710	8.9307	2.5878	11.5185	3.5990	2.3805	5.9795	0.0000	17,568.4077	17,568.4077	0.6524	0.0000	17,582.1073
Total	**91.5086**	**98.5209**	**81.1080**	**0.1710**	**8.9307**	**2.5878**	**11.5185**	**3.5990**	**2.3805**	**5.9795**	**0.0000**	**17,568.4077**	**17,568.4077**	**0.6524**	**0.0000**	**17,582.1073**

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					
2014	91.5086	98.5209	81.1080	0.1710	8.9307	2.5878	11.5185	3.5990	2.3805	5.9795	0.0000	17,568.4077	17,568.4077	0.6524	0.0000	17,582.1073
Total	**91.5086**	**98.5209**	**81.1080**	**0.1710**	**8.9307**	**2.5878**	**11.5185**	**3.5990**	**2.3805**	**5.9795**	**0.0000**	**17,568.4077**	**17,568.4077**	**0.6524**	**0.0000**	**17,582.1073**

	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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Energy	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Mobile	3.7491	2.7841	15.5534	0.0223	1.5553	0.0344	1.5897	0.4153	0.0315	0.4468		1,983.7942	1,983.7942	0.1275		1,986.4721
Total	**4.8651**	**3.0154**	**15.7567**	**0.0237**	**1.5553**	**0.0520**	**1.6073**	**0.4153**	**0.0491**	**0.4644**		**2,261.2683**	**2,261.2683**	**0.1329**	**5.0900e-003**	**2,265.6359**

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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Energy	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Mobile	3.7491	2.7841	15.5534	0.0223	1.5553	0.0344	1.5897	0.4153	0.0315	0.4468		1,983.7942	1,983.7942	0.1275		1,986.4721
Total	**4.8651**	**3.0154**	**15.7567**	**0.0237**	**1.5553**	**0.0520**	**1.6073**	**0.4153**	**0.0491**	**0.4644**		**2,261.2683**	**2,261.2683**	**0.1329**	**5.0900e-003**	**2,265.6359**

	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	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	1/30/2014	5	2	
3	Grading	Grading	1/31/2014	2/5/2014	5	4	
4	Building Construction	Building Construction	2/6/2014	11/12/2014	5	200	
5	Paving	Paving	11/13/2014	11/26/2014	5	10	
6	Architectural Coating	Architectural Coating	11/27/2014	12/10/2014	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,901; Non-Residential Outdoor: 19,634 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	5	13.00	0.00	35.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	869.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	16.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

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					0.3741	0.0000	0.3741	0.0566	0.0000	0.0566			0.0000			0.0000
Off-Road	3.1589	30.4755	22.1905	0.0245		1.9381	1.9381		1.8174	1.8174		2,529.736 9	2,529.736 9	0.6423		2,543.225 1
Total	**3.1589**	**30.4755**	**22.1905**	**0.0245**	**0.3741**	**1.9381**	**2.3121**	**0.0566**	**1.8174**	**1.8741**		**2,529.736 9**	**2,529.736 9**	**0.6423**		**2,543.225 1**

3.2 Demolition - 2014

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	0.1095	0.6145	0.5342	1.2600e-003	0.0302	0.0111	0.0413	8.2700e-003	0.0102	0.0185		128.8859	128.8859	1.1300e-003		128.9096
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	0.2600	0.0979	1.0157	1.3200e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		117.7461	117.7461	8.9300e-003		117.9337
Total	**0.3695**	**0.7124**	**1.5499**	**2.5800e-003**	**0.1370**	**0.0123**	**0.1494**	**0.0366**	**0.0113**	**0.0479**		**246.6320**	**246.6320**	**0.0101**		**246.8433**

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					0.3741	0.0000	0.3741	0.0566	0.0000	0.0566			0.0000			0.0000
Off-Road	3.1589	30.4755	22.1905	0.0245		1.9381	1.9381		1.8174	1.8174	0.0000	2,529.7369	2,529.7369	0.6423		2,543.2251
Total	**3.1589**	**30.4755**	**22.1905**	**0.0245**	**0.3741**	**1.9381**	**2.3121**	**0.0566**	**1.8174**	**1.8741**	**0.0000**	**2,529.7369**	**2,529.7369**	**0.6423**		**2,543.2251**

3.2 Demolition - 2014

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	0.1095	0.6145	0.5342	1.2600e-003	0.0302	0.0111	0.0413	8.2700e-003	0.0102	0.0185		128.8859	128.8859	1.1300e-003		128.9096
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	0.2600	0.0979	1.0157	1.3200e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		117.7461	117.7461	8.9300e-003		117.9337
Total	**0.3695**	**0.7124**	**1.5499**	**2.5800e-003**	**0.1370**	**0.0123**	**0.1494**	**0.0366**	**0.0113**	**0.0479**		**246.6320**	**246.6320**	**0.0101**		**246.8433**

3.3 Site Preparation - 2014

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647		1,821.0895	1,821.0895	0.5382		1,832.3907
Total	**2.5474**	**27.1661**	**17.0975**	**0.0171**	**5.7996**	**1.4834**	**7.2830**	**2.9537**	**1.3647**	**4.3184**		**1,821.0895**	**1,821.0895**	**0.5382**		**1,832.3907**

3.3 Site Preparation - 2014

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	0.1600	0.0602	0.6251	8.1000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		72.4592	72.4592	5.5000e-003		72.5746
Total	**0.1600**	**0.0602**	**0.6251**	**8.1000e-004**	**0.0657**	**7.7000e-004**	**0.0665**	**0.0174**	**6.9000e-004**	**0.0181**		**72.4592**	**72.4592**	**5.5000e-003**		**72.5746**

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647	0.0000	1,821.0895	1,821.0895	0.5382		1,832.3907
Total	**2.5474**	**27.1661**	**17.0975**	**0.0171**	**5.7996**	**1.4834**	**7.2830**	**2.9537**	**1.3647**	**4.3184**	**0.0000**	**1,821.0895**	**1,821.0895**	**0.5382**		**1,832.3907**

3.3 Site Preparation - 2014

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	0.1600	0.0602	0.6251	8.1000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		72.4592	72.4592	5.5000e-003		72.5746
Total	**0.1600**	**0.0602**	**0.6251**	**8.1000e-004**	**0.0657**	**7.7000e-004**	**0.0665**	**0.0174**	**6.9000e-004**	**0.0181**		**72.4592**	**72.4592**	**5.5000e-003**		**72.5746**

3.4 Grading - 2014

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					5.1108	0.0000	5.1108	2.5554	0.0000	2.5554			0.0000			0.0000
Off-Road	2.0759	22.1752	14.1657	0.0141		1.2106	1.2106		1.1138	1.1138		1,495.6888	1,495.6888	0.4420		1,504.9706
Total	**2.0759**	**22.1752**	**14.1657**	**0.0141**	**5.1108**	**1.2106**	**6.3214**	**2.5554**	**1.1138**	**3.6691**		**1,495.6888**	**1,495.6888**	**0.4420**		**1,504.9706**

3.4 Grading - 2014

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	13.5967	76.2854	66.3173	0.1561	3.7543	1.3764	5.1306	1.0262	1.2660	2.2922		16,000.2598	16,000.2598	0.1403		16,003.2068
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	0.1600	0.0602	0.6251	8.1000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		72.4592	72.4592	5.5000e-003		72.5746
Total	**13.7567**	**76.3456**	**66.9424**	**0.1569**	**3.8200**	**1.3772**	**5.1971**	**1.0436**	**1.2667**	**2.3103**		**16,072.7190**	**16,072.7190**	**0.1458**		**16,075.7814**

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					5.1108	0.0000	5.1108	2.5554	0.0000	2.5554			0.0000			0.0000
Off-Road	2.0759	22.1752	14.1657	0.0141		1.2106	1.2106		1.1138	1.1138	0.0000	1,495.6887	1,495.6887	0.4420		1,504.9706
Total	**2.0759**	**22.1752**	**14.1657**	**0.0141**	**5.1108**	**1.2106**	**6.3214**	**2.5554**	**1.1138**	**3.6691**	**0.0000**	**1,495.6887**	**1,495.6887**	**0.4420**		**1,504.9706**

3.4 Grading - 2014

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	13.5967	76.2854	66.3173	0.1561	3.7543	1.3764	5.1306	1.0262	1.2660	2.2922		16,000.2598	16,000.2598	0.1403		16,003.2068
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	0.1600	0.0602	0.6251	8.1000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		72.4592	72.4592	5.5000e-003		72.5746
Total	**13.7567**	**76.3456**	**66.9424**	**0.1569**	**3.8200**	**1.3772**	**5.1971**	**1.0436**	**1.2667**	**2.3103**		**16,072.7190**	**16,072.7190**	**0.1458**		**16,075.7814**

3.5 Building Construction - 2014

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	3.9077	22.5327	15.3098	0.0220		1.5957	1.5957		1.5432	1.5432		2,064.0797	2,064.0797	0.5005		2,074.5893
Total	**3.9077**	**22.5327**	**15.3098**	**0.0220**		**1.5957**	**1.5957**		**1.5432**	**1.5432**		**2,064.0797**	**2,064.0797**	**0.5005**		**2,074.5893**

3.5 Building Construction - 2014

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	0.1688	0.7653	0.9269	1.3800e-003	0.0392	0.0156	0.0548	0.0111	0.0143	0.0254		140.5476	140.5476	1.5100e-003		140.5794
Worker	0.3199	0.1205	1.2501	1.6300e-003	0.1314	1.5300e-003	0.1330	0.0349	1.3800e-003	0.0363		144.9183	144.9183	0.0110		145.1492
Total	**0.4887**	**0.8858**	**2.1770**	**3.0100e-003**	**0.1707**	**0.0171**	**0.1878**	**0.0460**	**0.0157**	**0.0617**		**285.4659**	**285.4659**	**0.0125**		**285.7285**

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	3.9077	22.5327	15.3098	0.0220		1.5957	1.5957		1.5432	1.5432	0.0000	2,064.0797	2,064.0797	0.5005		2,074.5893
Total	**3.9077**	**22.5327**	**15.3098**	**0.0220**		**1.5957**	**1.5957**		**1.5432**	**1.5432**	**0.0000**	**2,064.0797**	**2,064.0797**	**0.5005**		**2,074.5893**

3.5 Building Construction - 2014

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	0.1688	0.7653	0.9269	1.3800e-003	0.0392	0.0156	0.0548	0.0111	0.0143	0.0254		140.5476	140.5476	1.5100e-003		140.5794
Worker	0.3199	0.1205	1.2501	1.6300e-003	0.1314	1.5300e-003	0.1330	0.0349	1.3800e-003	0.0363		144.9183	144.9183	0.0110		145.1492
Total	**0.4887**	**0.8858**	**2.1770**	**3.0100e-003**	**0.1707**	**0.0171**	**0.1878**	**0.0460**	**0.0157**	**0.0617**		**285.4659**	**285.4659**	**0.0125**		**285.7285**

3.6 Paving - 2014

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	1.4305	15.0987	9.1601	0.0133		0.9172	0.9172		0.8447	0.8447		1,396.3094	1,396.3094	0.4054		1,404.8234
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4305**	**15.0987**	**9.1601**	**0.0133**		**0.9172**	**0.9172**		**0.8447**	**0.8447**		**1,396.3094**	**1,396.3094**	**0.4054**		**1,404.8234**

3.6 Paving - 2014

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	0.2600	0.0979	1.0157	1.3200e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		117.7461	117.7461	8.9300e-003		117.9337
Total	**0.2600**	**0.0979**	**1.0157**	**1.3200e-003**	**0.1068**	**1.2500e-003**	**0.1080**	**0.0283**	**1.1200e-003**	**0.0295**		**117.7461**	**117.7461**	**8.9300e-003**		**117.9337**

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	1.4305	15.0987	9.1601	0.0133		0.9172	0.9172		0.8447	0.8447	0.0000	1,396.3094	1,396.3094	0.4054		1,404.8234
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4305**	**15.0987**	**9.1601**	**0.0133**		**0.9172**	**0.9172**		**0.8447**	**0.8447**	**0.0000**	**1,396.3094**	**1,396.3094**	**0.4054**		**1,404.8234**

3.6 Paving - 2014

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	0.2600	0.0979	1.0157	1.3200e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		117.7461	117.7461	8.9300e-003		117.9337
Total	**0.2600**	**0.0979**	**1.0157**	**1.3200e-003**	**0.1068**	**1.2500e-003**	**0.1080**	**0.0283**	**1.1200e-003**	**0.0295**		**117.7461**	**117.7461**	**8.9300e-003**		**117.9337**

3.7 Architectural Coating - 2014

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	91.0024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452		281.4481	281.4481	0.0401		282.2905
Total	**91.4487**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**		**281.4481**	**281.4481**	**0.0401**		**282.2905**

3.7 Architectural Coating - 2014

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	0.0600	0.0226	0.2344	3.0000e-004	0.0246	2.9000e-004	0.0249	6.5400e-003	2.6000e-004	6.8000e-003		27.1722	27.1722	2.0600e-003		27.2155
Total	**0.0600**	**0.0226**	**0.2344**	**3.0000e-004**	**0.0246**	**2.9000e-004**	**0.0249**	**6.5400e-003**	**2.6000e-004**	**6.8000e-003**		**27.1722**	**27.1722**	**2.0600e-003**		**27.2155**

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	91.0024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452	0.0000	281.4481	281.4481	0.0401		282.2905
Total	**91.4487**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**	**0.0000**	**281.4481**	**281.4481**	**0.0401**		**282.2905**

3.7 Architectural Coating - 2014

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	0.0600	0.0226	0.2344	3.0000e-004	0.0246	2.9000e-004	0.0249	6.5400e-003	2.6000e-004	6.8000e-003		27.1722	27.1722	2.0600e-003		27.2155
Total	**0.0600**	**0.0226**	**0.2344**	**3.0000e-004**	**0.0246**	**2.9000e-004**	**0.0249**	**6.5400e-003**	**2.6000e-004**	**6.8000e-003**		**27.1722**	**27.1722**	**2.0600e-003**		**27.2155**

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	3.7491	2.7841	15.5534	0.0223	1.5553	0.0344	1.5897	0.4153	0.0315	0.4468		1,983.7942	1,983.7942	0.1275		1,986.4721
Unmitigated	3.7491	2.7841	15.5534	0.0223	1.5553	0.0344	1.5897	0.4153	0.0315	0.4468		1,983.7942	1,983.7942	0.1275		1,986.4721

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	240.00	387.30	240.00	495,963	495,963
Total	240.00	387.30	240.00	495,963	495,963

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
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.493454	0.038210	0.233257	0.144197	0.050172	0.006938	0.012133	0.004477	0.000959	0.002951	0.009070	0.000719	0.003462

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	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
NaturalGas Unmitigated	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439

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					
Enclosed Parking Structure	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
Hotel	2358.37	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Total		**0.0254**	**0.2312**	**0.1942**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**		**277.4553**	**277.4553**	**5.3200e-003**	**5.0900e-003**	**279.1439**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking Structure	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
Hotel	2.35837	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Total		**0.0254**	**0.2312**	**0.1942**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**		**277.4553**	**277.4553**	**5.3200e-003**	**5.0900e-003**	**279.1439**

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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Unmitigated	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200

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	0.2493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Total	**1.0905**	**9.0000e-005**	**9.0800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0188**	**0.0188**	**5.0000e-005**		**0.0200**

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	0.2493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Total	**1.0905**	**9.0000e-005**	**9.0800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0188**	**0.0188**	**5.0000e-005**		**0.0200**

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 Vegetation

Capitola Monarch Cove EIR

Santa Cruz County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	56.00	Space	0.10	16,644.00	0
Hotel	30.00	Room	1.30	22,623.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	5			**Operational Year**	2015
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 - Lot acreage and square footage updated based on PD. (Total lot acreage = 1.4, parking structure subterranean.)

Demolition - Demolition of two existing cottages, existing L-shaped building, and the outdoor deck. Est sqft of demo based on Google Earth = 7,600.

Grading - Net soil hauling: grading of approximately 6,950 net cubic yards exported from the site.

Vehicle Trips - Trip generation updated based on driveway counts conducted for Hexagon Trans Traffic Study (Oct, 2013).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	6,950.00
tblLandUse	LandUseSquareFeet	22,400.00	16,644.00
tblLandUse	LandUseSquareFeet	43,560.00	22,623.00
tblLandUse	LotAcreage	0.50	0.10
tblLandUse	LotAcreage	1.00	1.30
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	8.19	12.91
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

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					
2014	91.5247	102.4118	103.0965	0.1709	8.9307	2.5933	11.5240	3.5990	2.3856	5.9846	0.0000	17,525.9456	17,525.9456	0.6524	0.0000	17,539.6454
Total	**91.5247**	**102.4118**	**103.0965**	**0.1709**	**8.9307**	**2.5933**	**11.5240**	**3.5990**	**2.3856**	**5.9846**	**0.0000**	**17,525.9456**	**17,525.9456**	**0.6524**	**0.0000**	**17,539.6454**

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					
2014	91.5247	102.4118	103.0965	0.1709	8.9307	2.5933	11.5240	3.5990	2.3856	5.9846	0.0000	17,525.9456	17,525.9456	0.6524	0.0000	17,539.6454
Total	**91.5247**	**102.4118**	**103.0965**	**0.1709**	**8.9307**	**2.5933**	**11.5240**	**3.5990**	**2.3856**	**5.9846**	**0.0000**	**17,525.9456**	**17,525.9456**	**0.6524**	**0.0000**	**17,539.6454**

	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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Energy	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Mobile	4.5767	3.1980	18.3191	0.0215	1.5553	0.0346	1.5899	0.4153	0.0317	0.4470		1,907.2327	1,907.2327	0.1276		1,909.9112
Total	**5.6927**	**3.4293**	**18.5224**	**0.0229**	**1.5553**	**0.0522**	**1.6075**	**0.4153**	**0.0493**	**0.4646**		**2,184.7068**	**2,184.7068**	**0.1329**	**5.0900e-003**	**2,189.0750**

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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Energy	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Mobile	4.5767	3.1980	18.3191	0.0215	1.5553	0.0346	1.5899	0.4153	0.0317	0.4470		1,907.2327	1,907.2327	0.1276		1,909.9112
Total	**5.6927**	**3.4293**	**18.5224**	**0.0229**	**1.5553**	**0.0522**	**1.6075**	**0.4153**	**0.0493**	**0.4646**		**2,184.7068**	**2,184.7068**	**0.1329**	**5.0900e-003**	**2,189.0750**

	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	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	1/30/2014	5	2	
3	Grading	Grading	1/31/2014	2/5/2014	5	4	
4	Building Construction	Building Construction	2/6/2014	11/12/2014	5	200	
5	Paving	Paving	11/13/2014	11/26/2014	5	10	
6	Architectural Coating	Architectural Coating	11/27/2014	12/10/2014	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,901; Non-Residential Outdoor: 19,634 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	5	13.00	0.00	35.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	869.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	16.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

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					0.3741	0.0000	0.3741	0.0566	0.0000	0.0566			0.0000			0.0000
Off-Road	3.1589	30.4755	22.1905	0.0245		1.9381	1.9381		1.8174	1.8174		2,529.736 9	2,529.736 9	0.6423		2,543.225 1
Total	**3.1589**	**30.4755**	**22.1905**	**0.0245**	**0.3741**	**1.9381**	**2.3121**	**0.0566**	**1.8174**	**1.8741**		**2,529.736 9**	**2,529.736 9**	**0.6423**		**2,543.225 1**

3.2 Demolition - 2014

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	0.1253	0.6457	0.7109	1.2600e-003	0.0302	0.0111	0.0414	8.2700e-003	0.0102	0.0185		128.5711	128.5711	1.1400e-003		128.5951
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	0.3296	0.1214	1.1042	1.2600e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		112.2518	112.2518	8.9300e-003		112.4394
Total	**0.4549**	**0.7671**	**1.8151**	**2.5200e-003**	**0.1370**	**0.0124**	**0.1494**	**0.0366**	**0.0114**	**0.0480**		**240.8229**	**240.8229**	**0.0101**		**241.0345**

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					0.3741	0.0000	0.3741	0.0566	0.0000	0.0566			0.0000			0.0000
Off-Road	3.1589	30.4755	22.1905	0.0245		1.9381	1.9381		1.8174	1.8174	0.0000	2,529.7369	2,529.7369	0.6423		2,543.2251
Total	**3.1589**	**30.4755**	**22.1905**	**0.0245**	**0.3741**	**1.9381**	**2.3121**	**0.0566**	**1.8174**	**1.8741**	**0.0000**	**2,529.7369**	**2,529.7369**	**0.6423**		**2,543.2251**

3.2 Demolition - 2014

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	0.1253	0.6457	0.7109	1.2600e-003	0.0302	0.0111	0.0414	8.2700e-003	0.0102	0.0185		128.5711	128.5711	1.1400e-003		128.5951
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	0.3296	0.1214	1.1042	1.2600e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		112.2518	112.2518	8.9300e-003		112.4394
Total	**0.4549**	**0.7671**	**1.8151**	**2.5200e-003**	**0.1370**	**0.0124**	**0.1494**	**0.0366**	**0.0114**	**0.0480**		**240.8229**	**240.8229**	**0.0101**		**241.0345**

3.3 Site Preparation - 2014

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647		1,821.0895	1,821.0895	0.5382		1,832.3907
Total	**2.5474**	**27.1661**	**17.0975**	**0.0171**	**5.7996**	**1.4834**	**7.2830**	**2.9537**	**1.3647**	**4.3184**		**1,821.0895**	**1,821.0895**	**0.5382**		**1,832.3907**

3.3 Site Preparation - 2014

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	0.2028	0.0747	0.6795	7.8000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		69.0780	69.0780	5.5000e-003		69.1935
Total	**0.2028**	**0.0747**	**0.6795**	**7.8000e-004**	**0.0657**	**7.7000e-004**	**0.0665**	**0.0174**	**6.9000e-004**	**0.0181**		**69.0780**	**69.0780**	**5.5000e-003**		**69.1935**

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					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.5474	27.1661	17.0975	0.0171		1.4834	1.4834		1.3647	1.3647	0.0000	1,821.0895	1,821.0895	0.5382		1,832.3907
Total	**2.5474**	**27.1661**	**17.0975**	**0.0171**	**5.7996**	**1.4834**	**7.2830**	**2.9537**	**1.3647**	**4.3184**	**0.0000**	**1,821.0895**	**1,821.0895**	**0.5382**		**1,832.3907**

3.3 Site Preparation - 2014

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	0.2028	0.0747	0.6795	7.8000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		69.0780	69.0780	5.5000e-003		69.1935
Total	**0.2028**	**0.0747**	**0.6795**	**7.8000e-004**	**0.0657**	**7.7000e-004**	**0.0665**	**0.0174**	**6.9000e-004**	**0.0181**		**69.0780**	**69.0780**	**5.5000e-003**		**69.1935**

3.4 Grading - 2014

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					5.1108	0.0000	5.1108	2.5554	0.0000	2.5554			0.0000			0.0000
Off-Road	2.0759	22.1752	14.1657	0.0141		1.2106	1.2106		1.1138	1.1138		1,495.688 8	1,495.688 8	0.4420		1,504.970 6
Total	**2.0759**	**22.1752**	**14.1657**	**0.0141**	**5.1108**	**1.2106**	**6.3214**	**2.5554**	**1.1138**	**3.6691**		**1,495.688 8**	**1,495.688 8**	**0.4420**		**1,504.970 6**

3.4 Grading - 2014

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	15.5566	80.1619	88.2513	0.1561	3.7543	1.3819	5.1362	1.0262	1.2711	2.2973		15,961.1788	15,961.1788	0.1420		15,964.1602
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	0.2028	0.0747	0.6795	7.8000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		69.0780	69.0780	5.5000e-003		69.1935
Total	**15.7594**	**80.2366**	**88.9308**	**0.1568**	**3.8200**	**1.3827**	**5.2027**	**1.0436**	**1.2718**	**2.3154**		**16,030.2568**	**16,030.2568**	**0.1475**		**16,033.3537**

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					5.1108	0.0000	5.1108	2.5554	0.0000	2.5554			0.0000			0.0000
Off-Road	2.0759	22.1752	14.1657	0.0141		1.2106	1.2106		1.1138	1.1138	0.0000	1,495.6887	1,495.6887	0.4420		1,504.9706
Total	**2.0759**	**22.1752**	**14.1657**	**0.0141**	**5.1108**	**1.2106**	**6.3214**	**2.5554**	**1.1138**	**3.6691**	**0.0000**	**1,495.6887**	**1,495.6887**	**0.4420**		**1,504.9706**

3.4 Grading - 2014

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	15.5566	80.1619	88.2513	0.1561	3.7543	1.3819	5.1362	1.0262	1.2711	2.2973		15,961.1788	15,961.1788	0.1420		15,964.1602
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	0.2028	0.0747	0.6795	7.8000e-004	0.0657	7.7000e-004	0.0665	0.0174	6.9000e-004	0.0181		69.0780	69.0780	5.5000e-003		69.1935
Total	**15.7594**	**80.2366**	**88.9308**	**0.1568**	**3.8200**	**1.3827**	**5.2027**	**1.0436**	**1.2718**	**2.3154**		**16,030.2568**	**16,030.2568**	**0.1475**		**16,033.3537**

3.5 Building Construction - 2014

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	3.9077	22.5327	15.3098	0.0220		1.5957	1.5957		1.5432	1.5432		2,064.0797	2,064.0797	0.5005		2,074.5893
Total	**3.9077**	**22.5327**	**15.3098**	**0.0220**		**1.5957**	**1.5957**		**1.5432**	**1.5432**		**2,064.0797**	**2,064.0797**	**0.5005**		**2,074.5893**

3.5 Building Construction - 2014

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	0.2034	0.7991	1.3897	1.3800e-003	0.0392	0.0158	0.0551	0.0111	0.0145	0.0257		139.4509	139.4509	1.5500e-003		139.4833
Worker	0.4057	0.1494	1.3590	1.5500e-003	0.1314	1.5300e-003	0.1330	0.0349	1.3800e-003	0.0363		138.1561	138.1561	0.0110		138.3869
Total	**0.6090**	**0.9485**	**2.7488**	**2.9300e-003**	**0.1707**	**0.0173**	**0.1880**	**0.0460**	**0.0159**	**0.0619**		**277.6069**	**277.6069**	**0.0125**		**277.8702**

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	3.9077	22.5327	15.3098	0.0220		1.5957	1.5957		1.5432	1.5432	0.0000	2,064.0797	2,064.0797	0.5005		2,074.5893
Total	**3.9077**	**22.5327**	**15.3098**	**0.0220**		**1.5957**	**1.5957**		**1.5432**	**1.5432**	**0.0000**	**2,064.0797**	**2,064.0797**	**0.5005**		**2,074.5893**

3.5 Building Construction - 2014

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	0.2034	0.7991	1.3897	1.3800e-003	0.0392	0.0158	0.0551	0.0111	0.0145	0.0257		139.4509	139.4509	1.5500e-003		139.4833
Worker	0.4057	0.1494	1.3590	1.5500e-003	0.1314	1.5300e-003	0.1330	0.0349	1.3800e-003	0.0363		138.1561	138.1561	0.0110		138.3869
Total	**0.6090**	**0.9485**	**2.7488**	**2.9300e-003**	**0.1707**	**0.0173**	**0.1880**	**0.0460**	**0.0159**	**0.0619**		**277.6069**	**277.6069**	**0.0125**		**277.8702**

3.6 Paving - 2014

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	1.4305	15.0987	9.1601	0.0133		0.9172	0.9172		0.8447	0.8447		1,396.3094	1,396.3094	0.4054		1,404.8234
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4305**	**15.0987**	**9.1601**	**0.0133**		**0.9172**	**0.9172**		**0.8447**	**0.8447**		**1,396.3094**	**1,396.3094**	**0.4054**		**1,404.8234**

3.6 Paving - 2014

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	0.3296	0.1214	1.1042	1.2600e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		112.2518	112.2518	8.9300e-003		112.4394
Total	**0.3296**	**0.1214**	**1.1042**	**1.2600e-003**	**0.1068**	**1.2500e-003**	**0.1080**	**0.0283**	**1.1200e-003**	**0.0295**		**112.2518**	**112.2518**	**8.9300e-003**		**112.4394**

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	1.4305	15.0987	9.1601	0.0133		0.9172	0.9172		0.8447	0.8447	0.0000	1,396.3094	1,396.3094	0.4054		1,404.8234
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4305**	**15.0987**	**9.1601**	**0.0133**		**0.9172**	**0.9172**		**0.8447**	**0.8447**	**0.0000**	**1,396.3094**	**1,396.3094**	**0.4054**		**1,404.8234**

3.6 Paving - 2014

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	0.3296	0.1214	1.1042	1.2600e-003	0.1068	1.2500e-003	0.1080	0.0283	1.1200e-003	0.0295		112.2518	112.2518	8.9300e-003		112.4394
Total	**0.3296**	**0.1214**	**1.1042**	**1.2600e-003**	**0.1068**	**1.2500e-003**	**0.1080**	**0.0283**	**1.1200e-003**	**0.0295**		**112.2518**	**112.2518**	**8.9300e-003**		**112.4394**

3.7 Architectural Coating - 2014

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	91.0024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452		281.4481	281.4481	0.0401		282.2905
Total	**91.4487**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**		**281.4481**	**281.4481**	**0.0401**		**282.2905**

3.7 Architectural Coating - 2014

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	0.0761	0.0280	0.2548	2.9000e-004	0.0246	2.9000e-004	0.0249	6.5400e-003	2.6000e-004	6.8000e-003		25.9043	25.9043	2.0600e-003		25.9476
Total	**0.0761**	**0.0280**	**0.2548**	**2.9000e-004**	**0.0246**	**2.9000e-004**	**0.0249**	**6.5400e-003**	**2.6000e-004**	**6.8000e-003**		**25.9043**	**25.9043**	**2.0600e-003**		**25.9476**

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	91.0024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4462	2.7773	1.9216	2.9700e-003		0.2452	0.2452		0.2452	0.2452	0.0000	281.4481	281.4481	0.0401		282.2905
Total	**91.4487**	**2.7773**	**1.9216**	**2.9700e-003**		**0.2452**	**0.2452**		**0.2452**	**0.2452**	**0.0000**	**281.4481**	**281.4481**	**0.0401**		**282.2905**

3.7 Architectural Coating - 2014

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	0.0761	0.0280	0.2548	2.9000e-004	0.0246	2.9000e-004	0.0249	6.5400e-003	2.6000e-004	6.8000e-003		25.9043	25.9043	2.0600e-003		25.9476
Total	**0.0761**	**0.0280**	**0.2548**	**2.9000e-004**	**0.0246**	**2.9000e-004**	**0.0249**	**6.5400e-003**	**2.6000e-004**	**6.8000e-003**		**25.9043**	**25.9043**	**2.0600e-003**		**25.9476**

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	4.5767	3.1980	18.3191	0.0215	1.5553	0.0346	1.5899	0.4153	0.0317	0.4470		1,907.2327	1,907.2327	0.1276		1,909.9112
Unmitigated	4.5767	3.1980	18.3191	0.0215	1.5553	0.0346	1.5899	0.4153	0.0317	0.4470		1,907.2327	1,907.2327	0.1276		1,909.9112

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	240.00	387.30	240.00	495,963	495,963
Total	240.00	387.30	240.00	495,963	495,963

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
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.493454	0.038210	0.233257	0.144197	0.050172	0.006938	0.012133	0.004477	0.000959	0.002951	0.009070	0.000719	0.003462

5.0 Energy Detail

4.4 Fleet Mix

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	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
NaturalGas Unmitigated	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439

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					
Enclosed Parking Structure	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
Hotel	2358.37	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Total		**0.0254**	**0.2312**	**0.1942**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**		**277.4553**	**277.4553**	**5.3200e-003**	**5.0900e-003**	**279.1439**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking Structure	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
Hotel	2.35837	0.0254	0.2312	0.1942	1.3900e-003		0.0176	0.0176		0.0176	0.0176		277.4553	277.4553	5.3200e-003	5.0900e-003	279.1439
Total		**0.0254**	**0.2312**	**0.1942**	**1.3900e-003**		**0.0176**	**0.0176**		**0.0176**	**0.0176**		**277.4553**	**277.4553**	**5.3200e-003**	**5.0900e-003**	**279.1439**

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	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Unmitigated	1.0905	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200

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	0.2493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Total	**1.0905**	**9.0000e-005**	**9.0800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0188**	**0.0188**	**5.0000e-005**		**0.0200**

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	0.2493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.0800e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0188	0.0188	5.0000e-005		0.0200
Total	**1.0905**	**9.0000e-005**	**9.0800e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0188**	**0.0188**	**5.0000e-005**		**0.0200**

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 Vegetation

Appendix C

Biological Resources Studies

Appendix C.1

Tree Resource Evaluation Construction Impact Analysis &
Arborist Report Update

Maureen Hamb- Certified Arborist WE2280
Professional Consulting Services

TREE RESOURCE EVALUATION
CONSTRUCTION IMPACT ANALYSIS

MONARCH COVE INN
620 EL SALTO DRIVE

PREPARED FOR
ROBERT BLODGETT

AUGUST 2013

849 Almar Ave. Suite C #319
Santa Cruz, CA 95060
email: maureenah@sbcglobal.net

Telephone: 831-763-6919
Fax: 831-763-7724
Mobile: 831-234-7735

ASSIGNMENT/SCOPE OF SERVICES

Expansion and improvements are proposed for an existing guest facility located at 620 El Salto Drive in Capitola, Monarch Inn (APN's 036-142-27, 28 and 036-143-31, 36). The design plans include the demolition of several older structures and the construction of new guest rooms and main building that will house the reception area and additional guest facilities. In addition, the preservation and improvements to an existing "Victorian" structure are included.

The project owner, Robert Blodgett retained me to inspect and evaluate the trees growing within the existing landscape adjacent to the proposed development to assess the potential impacts and determine the need for tree removal. To complete the evaluation I have performed the following:

- Complete a visual inspection and measure the trunk diameter of 25 individual trees or groupings of trees growing adjacent to the proposed development.
- Evaluate the health status and structural integrity of each tree.
- Provide recommendations for tree retention and tree removal based on construction related impacts.
- Provide recommendations for reducing impacts to retained trees and a tree protection plan.

SUMMARY

The development of a resort facility with an underground parking garage is proposed for property located at 620 El Salto Drive in Capitola. Several structures will be removed, new buildings constructed and others retained and improved.

I have inventoried and evaluated the trees adjacent to the proposed development to determine the overall condition, evaluate potential construction related impacts, and determine the need for tree removal.

Trees on the property are dominated by landscape type species. The surrounding perimeter is forested with eucalyptus interspersed with mature Monterey pines. In general, the trees are in fair condition; most are covered in ivy growth that has affected tree health.

The removal of 14 trees will be required to develop the site as proposed. Tree removal includes one large Monterey pine in poor condition along with palms and ornamental shrubs that have gained tree-like form.

The most significant tree on the property (tree #1) is a mature Monterey cypress growing at the entry. This tree will be retained and the existing planting area duplicated in the new landscape plan.

A dense eucalyptus grove adjacent to this property has been identified as a Monarch Butterfly habitat. The development as proposed will not affect this nearby stand. The smaller groves of eucalyptus and pine located on the eastern portion of the site will not be affected by the development. They are generally outside the area where site changes will occur.

All retained trees will be protected by exclusionary fencing bordered by straw bale barricades. This system will act as a barrier between the work area and the trees protecting them from inadvertent damage.

BACKGROUND

The attached inventory includes tree species and trunk diameter. Ratings for tree condition, along with a summary of the potential impacts and recommendations are included.

Ratings are determined following the completion of a visual tree assessment. This type of evaluation is based on methods developed by Claus Mattheck and documented in The Body Language of Trees. The assessment involves an analysis of the biology and mechanics of each tree, which are then rated as “good”, “fair” or “poor”.

Impacts to the trees were determined using plans prepared and provided by the project consultant, Charles Eadie from Hamilton Swift & Associates.

OBSERVATIONS/DISCUSSION OF FINDINGS

The property is a large site on a coastal bluff accessed by El Salto Drive. Small older cottage type structures are scattered throughout the property, linked by gravel pathways surrounded by landscape areas.

The trees are generally landscape type species; several are shrubs that have developed tree-like size and form.

Mature palms are scattered throughout the site, they are in good condition but could benefit from proper pruning to remove the dead fronds.

The eastern portion of the property is densely forested with eucalyptus trees interspersed with mature Monterey pines (*Pinus radiata*).

A large Monterey cypress (*Cupressus macrocarpa*), Monterey pine and cedar are growing near the entry into the property. Tree #1, the cypress, is healthy with structural defects that can be corrected with proper pruning.

One larger diameter lower branch is cracked and at risk of failure. Branching over the existing parking lot is excessive in length.

Pruning to remove the cracked branch and reduce branch length will improve tree structure.

The Monterey pine (tree #2) growing on the southern side of the entry is in poor condition. It has three stems that develop from the same point on the lower trunk. Foliar development is thin and discolored; the top of one stem is dead.

Tree #3, the cedar is weakly structured; two stems emerge from the same point on the lower trunk. In the past, another stem failed leaving a large wound at the attachment point.

Tree #1 is an asset to the site, as a native coastal species it is tolerant of winds and salt spray common to the area. Trees #2 and #3 are not suitable for preservation due to weak structural form and low vigor.

Other mature trees within the development area include two eucalyptus (#23 and #24) that are in good health with structural form typical of the species.

PROJECT DESCRIPTION/DISCUSSION OF CONSTRUCTION IMPACTS

The plans proposed include the demolition of several existing structures, development of new guest facilities and underground parking. The existing entry will be utilized with additional access created to the north. New pathways and landscaping is proposed to link the buildings and provide access throughout the site.

Impacts to trees are typically associated with root damage associated with excavation and site preparation. Trenching is necessary to construct footings for retaining walls, foundations, and underground supply lines. The equipment typically used for these procedures can severely damage the large diameter roots that are responsible for keeping the tree upright. When roots are torn and shattered by equipment the damaged area cannot seal properly and decay enters the root. This type of damage and the resulting decay can cause destabilization. Root severance close to the tree trunk or on two or more sides of the tree can also compromise stability.

Soil compaction is a necessary component in stabilizing sites for construction. It can also occur inadvertently when men and equipment are moving through the site. Compaction can damage both the absorbing and structural roots. The dense compacted soil layers restrict root activity and development, which will eventually affect tree vigor.

Irrigation systems required in the planned landscape can be detrimental to trees. The installation of the underground supply lines requires trenching that can damage root systems. Trees on development sites can be protected from these impacts if they are identified in advance and appropriate measures put in place to either limit or eliminate the damaging activities.

The attached inventory includes the tree number, species, trunk diameter and ratings for tree condition (good, fair and poor). The level of potential impacts have also been summarized and rated as low, moderate or high.

Trees rated as having a low impact potential are greater than 20 feet from the proposed construction, several trees on this site fall into this category.

Trees rated as having moderate impact potential are within 15 feet of either excavation or grade changes. Fencing with straw bale barricades will be recommended to protect these trees.

Trees rated as high impact potential have excavation, grade changes or other site alterations proposed less than 10 feet from the trunk, or on several sides. Trees in these areas may be subjected to alternative construction methods (manual grading or root pruning) and require fencing and straw bale barricades to create a defined exclusion zone. Monitoring of all activities adjacent to, or under the canopy will be required.

RECOMMENDATIONS

Ideally the root zone of retained trees would remain undisturbed during development, eliminating the opportunity for damage and the resulting decline of the trees. In order to achieve maximum tree retention on construction sites it is often necessary to encroach into the root zone. There are procedures available that can reduce the affects of these impacts and retain the trees for the long term.

Tree Removal: The proposed development of the site will require the removal of the 14 trees listed below.

Tree #	Species	diameter	Comments
2	Pine	47.8	Within new paved area at entry
3	Cedar	29.7	Within new paved area at entry
4	Privet	12	At edge of proposed structure
5	Eucalyptus	30	Within proposed structure
6	Fruit	13.7	Between proposed path and structure
7	Privet	2 stems	Within proposed structure
8	Privet	14	Within proposed structure
9	Magnolia	12 & 12	Adjacent to proposed structure
15	Cherry	10.6	At edge of proposed structure
17	Palm	7.2	At edge of proposed structure
18	Yucca	6 & 7	At edge of proposed "rain garden" area
19	Yucca	Multi	Within proposed pathway
21	Maple	13.8	Within proposed structure
22	eucalyptus	11.6	Within proposed structure

Protection Fencing/Barricades are a simple and effective way to protect trees during construction. Fencing supported by metal posts embedded in the ground creates a long-term physical and visual barrier between the trees, the construction workers and their equipment. The straw bales are held in place with stakes and are effective in holding back any excess soils that result from grading. The barricade also diverts excess moisture that can develop when natural drainage patterns are altered.

Root Pruning and Monitoring is recommended during both demolition and excavation adjacent to trees #1, #23 and #24. The existing planting area for tree #1 will remain undisturbed except for the removal of ivy growth.

The demolition of the asphalt driveway and curb surrounding tree #1 must be completed using small equipment and manual labor. These activities will be monitored by the project arborist.

All roots unearthed will be inspected and evaluated, those greater than one inch in diameter will be properly pruned.

The curb surrounding the tree will be constructed on top of the new pavement; no continuous excavation for a footing will be allowed.

Excavation adjacent to the mature eucalyptus (#23 and #24) will be monitored by the project arborist. Any roots unearthed will be evaluated and properly pruned.

Staging of job trailers, equipment, parking, and supplies will be restricted to areas outside the critical root zone of retained trees.

Contractors and sub contractors will be supplied with a copy of the attached Tree Protection Specifications prior to entering the site.

CONCLUSION

The project proposed for this site will include the removal of 14 trees and large shrubs. They are generally in fair to poor condition and represent species common to planned landscapes.

The tree removal required will not affect the nearby Monarch Butterfly habitat with increased winds or interruption of the intact forested areas.

The most significant tree on the site (tree #1) will be retained and incorporated into the project.

Impacts to trees adjacent to demolition and construction will be monitored and proper root evaluation and pruning will be required.

All retained trees will be protected during construction using exclusionary fencing and straw bale barricades.

Any questions regarding the trees on this development site or the content of this report can be directed to my office.

Respectfully submitted,

Maureen Hamb- Certified Arborist #WE2280

TREE PRESERVATION SPECIFICATIONS

Contractors and sub contractors should be aware of and provided copies of the tree protection guidelines and restrictions before entering the site. Contracts should incorporate tree protection language that includes "damage to protected trees will be appraised using the Guide to Plant Appraisial 9th Edition and monetary fines assessed".

Establishment of a tree preservation zone (TPZ)

Fencing shall be installed in areas defined on the attached map. It will consist of fencing supported by metal posts securly embedded in the ground. Fencing will be installed prior to equipment staging or site distrurbance. Fencing placment will be inspected by the project arborist.

Straw Bale Barricades

Straw bales placed end to end will be installed inside the protection fencing. They shall be secured in place with stakes (wooden or metal rebar). This barricade will limit damage to the fencing and prevent grading spoils from encroaching into the critical root zone area and help stop excess moisture from gathering under the retained trees.

Restrictions within the Root Zone (RZ)of existing trees

No storage of construction materials, debris, or excess soil will be allowed within the CPZ. Parking of vehicles or construction equipmentwill be allowed in defined areas olny. Solvents or liquids of any type should be disposed of properly, never within this protected area.

Minimize soil compaction on the construction site

Protect the soil surface with a deep layer (at least three inches) of mulch (tree chips). The addition of mulch will reduce compaction, retain moisture, and stabilize soil temperature. Areas where equipment and personnel are concentrated will be mulched to a depth of at least six inches.

Alteration of grade

Maintain the natural grade around trees. No additional fill or excavation will be permitted within the critical root zone. If trees roots are unearthed during the construction process the consulting arborist will be notified immediately. Exposed roots will be covered with moistened burlap until a determination is made by the project arborist.

Trenching requirements

Any areas of proposed trenching will be evaluated with the consulting arborist and the contractor prior to construction. All trenching on this site will be approved by the project arborist. Tree roots encountered will be avoided or properly pruned under the guidance of the consulting arborist.

Tree canopy alterations

Unauthorized pruning of any tree on this site will not be allowed. If any tree canopy encroaches on the building site the required pruning will be done on the authority of the consulting arborist and to ISA pruning guidelines and ANSI A-300 pruning standards.

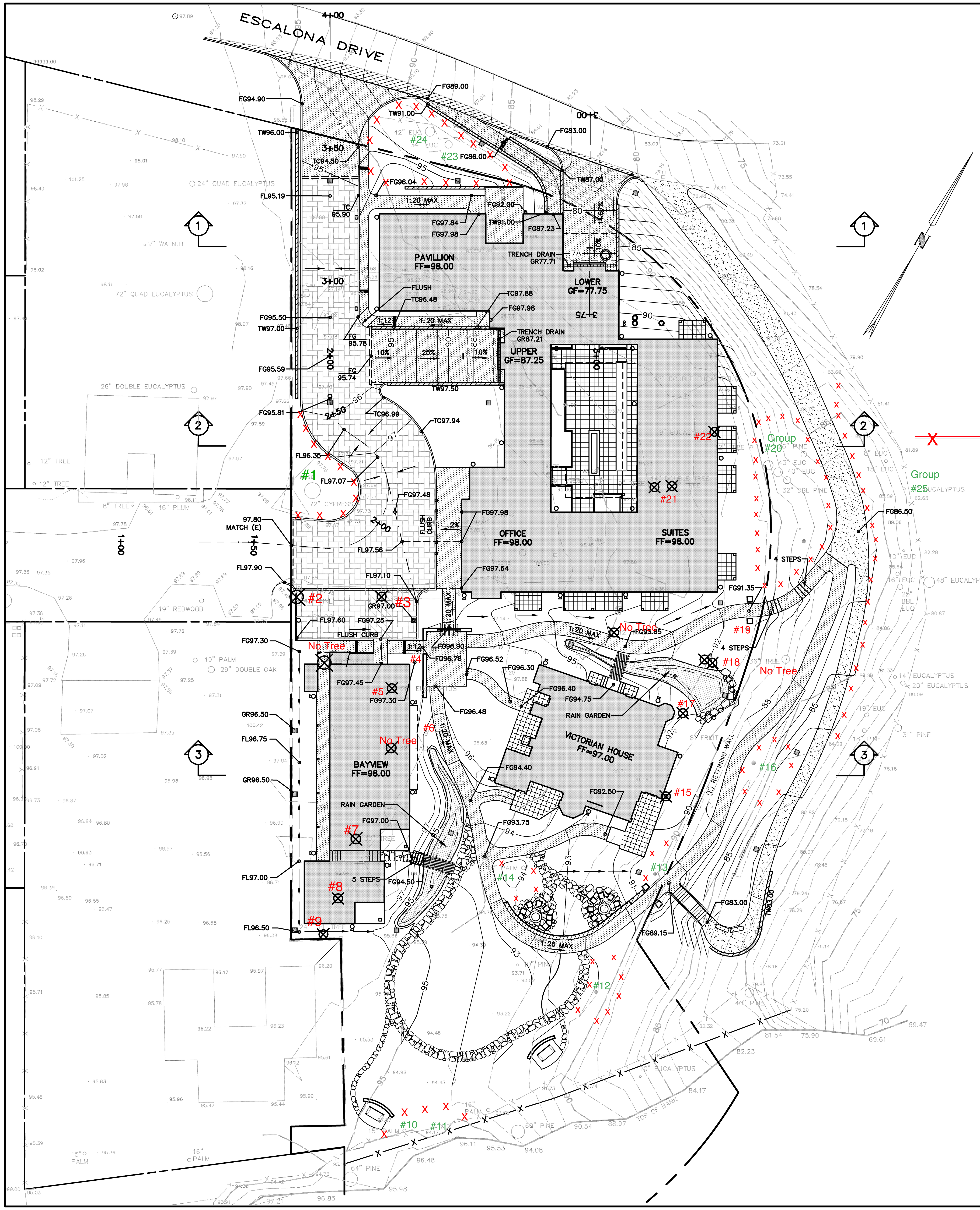
Monarch Cove
Tree Inventory
August 2013

Tree #	Species	Diameter @54"	Condition	Potential Impacts: High Moderate Low	Impact Description	Comments/Recommendations
1	Monterey cypress	multi 24-30	fair	moderate	removal of existing asphalt	Pruning to remove large diameter cracked branch and reduce branch length can improve structure/Asphalt removal will be monitored by project arborist. Protect with fencing and straw bales
2	Monterey pine	47.8	poor	high	within new paved area	Remove due to impacts
3	cedar	29.7	poor	high	within new paved area	Remove due to impacts
4	privet	12	fair	high	adjacent to building corner	Remove due to impacts
5	eucalyptus	30	poor	high	within blding footprint	Remove due to impacts
6	fruit	13.7	poor	high	pathway & building	Remove due to impacts
7	privet	2 stems	fair	high	within blding footprint	Remove due to impacts

Tree #	Species	Diameter @54"	Condition	Potential Impacts: High Moderate Low	Impact Description	Comments/Recommendations
8	privet	14	poor	high	within blding footprint	Remove due to impacts
9	magnolia	12 & 12	poor	high	at edge of proposed building	Remove due to impacts
10	coast live oak	10	good	moderate	adjacent to outdoor seating	Protect with fencing and barricades
11	palm	17	good	moderate	adjacent to outdoor seating	Protect with fencing and barricades
12	palm	20	good	moderate	adjacent to proposed pathway	Protect with fencing and barricades
13	palm	19.8	good	moderate	adjacent to proposed pathway	Protect with fencing and barricades
14	palm	19.5	good	moderate	adjacent to proposed pathway	Protect with fencing and barricades

Tree #	Species	Diameter @54"	Condition	Potential Impacts: High Moderate Low	Impact Description	Comments/Recommendations
15	cherry	10.6	fair	high	at edge of proposed building	Remove due to impacts
16	eucalyptus	25.8	fair	moderate	between proposed pathways	Protect with fencing and barricades
17	palm	7.2	good	high	at edge of proposed building	Remove due to impacts
18	yucca	6 & 7	good	high	at edge of proposed rain garden	Remove due to impacts
19	yucca	3 stems	good	high	at edge of proposed pathway	Remove due to impacts
20	eucalyptus & pine group	24-44	fair	low	adjacent to proposed access	Protect with fencing and barricades
21	maple	13.8	good	low	within blding footprint	Protect with fencing and barricades

Tree #	Species	Diameter @54"	Condition	Potential Impacts: High Moderate Low	Impact Description	Comments/Recommendations
22	eucalyptus	11.6	fair	low	within blding footprint	Protect with fencing and barricades
23	eucalyptus	36.8	fair	moderate	adjacent to proposed retaining walls	Monitor excavation, proper root pruning/Protect with fencing and barricades
24	eucalyptus	44.4	fair	moderate	adjacent to proposed retaining walls	Monitor excavation, proper root pruning/Protect with fencing and barricades
25	eucalyptus group	8 to 29	fair	low	adjacent to proposed access	Protect with fencing and barricades



MONARCH COVE
TREE LOCATION AND PROTECTION PLAN

Prepared by Maureen Hamb, Project Arborist

#2 REMOVE DUE TO CONSTRUCTION IMPACTS

#1 RETAIN AND PROTECT

PROTECTION FENCING & BARRICADES

ABBREVIATIONS

AC	ASPHALT CONCRETE	LT	LEFT
AP	ANGLE POINT	MAX	MAXIMUM
BC	BEGIN CURVE	MIN	MINIMUM
BW	BACK OF WALL	(P), P	PROPOSED
BS	BOTTOM OF STEP	PVMT	PAVEMENT
CB	CATCH BASIN	R=	RADIUS
CL	CENTERLINE	RIM	RIM ELEVATION
C.O.S.C.	CITY OF SANTA CRUZ	RT	RIGHT
DTL	DETAIL	S=	SLOPE
DS	DOWNSPOUT	SCWD	SANTA CRUZ WATER DEPARTMENT
EC	END CURVE	SD	STORM DRAIN
ELEV	ELEVATION	SDCO	STORM DRAIN CLEANOUT
(E), EX	EXISTING	SSCO	SANITARY SEWER CLEANOUT
FD	FIRE DEPARTMENT	STA	STATION
FF	FINISHED FLOOR	TC	TOP OF CURB
FG	FINISHED GRADE	TG	TOP OF GRAVEL
FL	FLOWLINE	TP	TOP OF PAVEMENT
FT	FEET	TW	TOP OF WALL
FW	FACE OF WALL	TYP	TYPICAL
GF	GARAGE FLOOR	U.N.O.	UNLESS NOTED OTHERWISE
HP	HIGH POINT	W-SRV	WATER SERVICE
INV	INVERT		
LF	LINEAR FEET		

LEGEND

FINISH GRADE SPOT ELEVATION — 384.60 FG

STORM DRAIN INLET

3" DEEP SWALE, 2% GRADIENT, U.N.O.

REMOVE TREE

RETAINING WALL

PERVIOUS PAVER PAVEMENT

CONC PAVEMENT

POROUS CONCRETE

ASPHALT CONCRETE PAVEMENT

BUILDING AREA

EARTHWORK AND GRADING NOTES

1. WORK SHALL CONSIST OF ALL CLEARING, GRUBBING, STRIPPING, PREPARATION OF LAND TO BE FILLED, EXCAVATION, SPREADING, COMPACTION AND CONTROL OF FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADES, AND SLOPES, AS SHOWN ON THE APPROVED PLANS AND AS SPECIFIED IN THE GEOTECHNICAL INVESTIGATION REPORT.
2. ALL GRADING SHALL CONFORM TO SECTION 19 OF THE CALTRANS STANDARD SPECIFICATIONS, LATEST APPLICABLE EDITION. ALL EARTHWORK SHALL BE DONE IN ACCORDANCE TO THE GEOTECHNICAL INVESTIGATION –"GEOTECHNICAL INVESTIGATION FOR THE PROPOSED HOTEL STRUCTURES WITH UNDERGROUND PARKING GARAGE" PREPARED BY HARO, KASUNICH AND ASSOCIATES, INC. PROJECT NO. SC10350, DATED JANUARY 2013.
3. THE CONTRACTOR SHALL NOTIFY THE PROJECT GEOTECHNICAL ENGINEER, RICK L. PARKS, AT (931) 722–4175 LEAST 4 WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY GRADING OPERATIONS.
4. ALL EXISTING TRASH, DEBRIS, ROOTS, TREE REMAINS AND OTHER RUBBISH SHALL BE REMOVED FROM THE SITE SO AS TO LEAVE THE AREAS THAT HAVE BEEN DISTURBED WITH A NEAT AND FINISHED APPEARANCE FREE FROM UNSIGHTLY DEBRIS. NO BURNING SHALL BE PERMITTED.
5. AFTER THE EARTHWORK OPERATIONS HAVE BEEN COMPLETED AND THE SOIL ENGINEER HAS FINISHED HIS OBSERVATIONS OF THE WORK, NO FURTHER EARTHWORK OPERATIONS SHALL BE PERFORMED EXCEPT WITH THE APPROVAL OF AND UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER.

EARTHWORK VOLUMES

AREA	EXCAVATION (CY)	FILL (CY)	NET (CY)
SITE	1050	220	830 (EXPORT)
BLDG OVER–EXECAVATION	6,120	–	6,120 (EXPORT)

EARTHWORK VOLUMES SHOWN ARE FOR PERMITING PURPOSES. EARTHWORK VOLUMES SHOWN ON THESE PLANS ARE TAKEN AS THE DIFFERENCE BETWEEN EXISTING GRADE AS SHOWN ON THE TOPOGRAPHIC SURVEY AND THE FINISH GRADES SHOWN HEREON. ACTUAL EARTHWORK VOLUMES WILL VARY.

CONTRACTOR SHALL VERIFY THE EARTHWORK VOLUMES TO HIS SATISFACTION PRIOR TO CONSTRUCTION.

* PER SANTA CRUZ COUNTY CODE 16.20.050 ITEM 'C'

ALL EXCESS EXCAVATION (CUT) TO BE OFFHAULED FROM SITE AND DISPOSED AT COUNTY LANDFILL OR APPROVED SITE.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DISCLAIMER

PRELIMINARY
NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
JOEL FRANCIS RICCA
No. 53588
CIVIL
STATE OF CALIFORNIA

APN 036–142–11 & 27, 036–143–31

REVISED

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
1011 CEDAR STREET
SANTA CRUZ, CA 95060
(831) 426–3560

REGISTERED CIVIL ENGINEER NO. 53588

GRADING PLAN

MONARCH COVE INN
620 EL SALTO DRIVE
SITUATE IN
CAPITOLA, CALIFORNIA

SCALE 1" = 20'	DRAWN TPC	JOB NO. 24788	SHEET
DATE APRIL 19, 2013	CHECKED JFR	INDEX SOQUEL 2	C1.0
DESIGN JFR	DWG 24788–C1	FILE NO. 24788	OF

Maureen Hamb- Certified Arborist WE2280
Professional Consulting Services

Rincon Consultants Inc.
Attention: Megan Jones

Project: Monarch Cove
Phase: Arborist Report Update

As you requested the tree removal inventory has been updated to reflect the scientific names of the tree species.

Tree height range from 10 to 35 feet. The landscape type trees (privet, magnolia and fruit trees are less than 20 feet) the Monterey pine (tree #2 is no taller than 35 feet). The height of individual trees was not requested nor officially recorded these are estimates.

Tree #	Species	diameter	Comments
2	*Pinus radiata*	47.8	Within new paved area at entry
3	*Thuja plicata*	29.7	Within new paved area at entry
4	*Ligustrum sp*	12	At edge of proposed structure
5	*Eucalyptus globulus*	30	Within proposed structure
6	*Prunus sp*	13.7	Between proposed path and structure
7	*Ligustrum sp*	2 stems	Within proposed structure
8	*Ligustrum sp*	14	Within proposed structure
9	*Magnolia*	12 & 12	Adjacent to proposed structure
15	*Prunus*	10.6	At edge of proposed structure
17	*Phoenix canariensis*	7.2	At edge of proposed structure
18	*Yucca*	6 & 7	At edge of proposed “rain garden” area
19	*Yucca*	Multi	Within proposed pathway
21	*Acer macrophyllum*	13.8	Within proposed structure
22	*Eucalyptus globulus*	11.6	Within proposed structure

The following narrative describes the methodology used to inspect and evaluate the tree resources on the site. Please let me know if you have additional questions.

849 Almar Ave. Suite C #319
Santa Cruz, CA 95060
email: maureenah@sbcglobal.net
Telephone: 831-763-6919
Fax: 831-763-7724
Mobile: 831-234-7735

In July of this year, I visited the Monarch Cove site (620 El Salto Drive, Capitola California) on three occasions. While on site, I completed a detailed inspection and evaluation of trees growing within and adjacent to the property boundaries. These boundaries were defined on a site plan prepared by Bowman and Williams Civil Engineers. In addition, the boundaries were identified by perimeter fencing. The site plan contained some minor discrepancies, which included surveyed locations of several trees that are no longer on the property. These trees are noted on the tree location plan.

The trees were evaluated to determine health status, structural integrity and suitability for incorporation into a development project. For purposes of identification, numbered metal tags have been affixed to the tree trunks with corresponding locations documented on the attached site map.

Ratings for tree health, structural integrity and suitability for incorporation into the developed site have been completed and are listed in the attached inventory. Ratings are determined following the completion of a visual tree assessment. This type of evaluation is based on methods developed by Claus Mattheck and documented in The Body Language of Trees. The assessment involves an analysis of the biology and mechanics of each tree, which are then rated as “good”, “fair” or “poor”.

Suitability is determined using overall tree condition and industry data on species characteristics, including tolerances to site changes and specific construction impacts.

Construction related impacts were determined after reviewing architectural plans provided by Charles Eadie, the project representative from Hamilton Swift.

The biological assessment determines the health status of the tree and includes an evaluation of the following:

- Vitality of the leaves, bark and twigs
- Presence of fungi or decay
- Percentage and size of dead branching
- Status of old wounds or cavities

Healthy trees in “good” condition display dense full canopies with dark green foliage. Dead branching is limited to small twigs and branches less than one inch in diameter. No evidence of disease, decay or insect activity is visible. Vigorous, healthy trees are much better able to tolerate site alterations and invasive construction impacts than less vigorous trees of the same species.

Trees in “fair” health have 10-30% foliar dieback, dead branching greater than one inch in diameter and minor evidence of disease, decay or insect activity.

Trees in “poor” health display greater than 30% foliar dieback, dead branches greater than two inches in diameter and/or areas of decay, disease or insect activity.

The mechanical assessment is used to determine the structural integrity of the tree and includes an evaluation of the following:

- Integrity of the framework of the tree (supporting trunk and major branches)
- External symptoms (bulges, ribs or cracks) that can indicate internal defects
- Lean of main trunk and canopy configuration
- Development of root buttress

Trees with “good” structure are well rooted with visible taper in the lower trunk leading to buttress root development. These qualities indicate that the tree is solidly rooted in its growing site. No significant structural defects such as codominant stems (two stems of similar size that emerge from the same point on the trunk), weakly attached branches, cavities or decay are present.

Trees with “fair” structural integrity may have defects such as poor taper in the trunk, inadequate root development or growing site limitations. They may have multiple trunks, included bark (where bark turns inward at an attachment point), or suppressed unbalanced canopies. Small areas of decay or evidence of previous limb loss may be present in these trees. Trees in fair condition can be improved using common maintenance procedures.

Poorly structured trees display one or more serious defects that may lead to the failure of branches, trunk, or the whole tree due to uprooting. Trees in this condition my have had root loss due to decay or site conditions. The supporting trunk or large stems could be compromised by decay or structural defect (large codominant stems with included bark). Trees in this condition represent a risk. In some situations maintenance, including cable support systems, props or severe pruning can reduce, but not eliminate the potential hazard.

Trees that contain large dead branches, decayed areas or other structural defects that cannot be mitigated are not suitable for preservation adjacent to high use areas (dwellings, roadways etc).

Again, please let me know if you have need of further information regarding the trees on this project site.

Respectfully,
Maureen Hamb-Certified Arborist WE2280

Appendix C.2

Report on Overwintering Monarch Butterflies

Richard A. Arnold, Ph.D.
President

Entomological Consulting Services, Ltd.

104 Mountain View Court, Pleasant Hill, CA 94523-2188 • (925) 825-3784 • FAX (925) 827-1809
bugdctr@comcast.net • www.ecsltd.com

7 August 2013

Mr. Richard Grunow, Director
Community Development
City of Capitola
420 Capitola Ave.
Capitola, CA 95010

RE: Monarch Cove Inn Project at 620 El Salto Drive in the City of Capitola
APNs 036-142-27 & 28, 036-143-31 & 35
Report on Overwintering Monarch Butterflies

Dear Mr. Grunow:

This letter reports the findings of my recent observations of wintering Monarch butterflies (*Danaus plexippus*) at the Monarch Cove Inn and neighboring roost site at Escalona Gulch. This information was gathered to evaluate potential impacts of the Inn's proposed expansion on the Monarch butterfly and its wintering habitat to assist with the environmental review of the project. I used the attached site plan (Figure 1) for my analysis. This site plan was prepared by Thacher & Thompson Architects of Santa Cruz. In addition, background information on the winter roosting habitat for the Monarch and recommendations for project planning are presented in this report.

REGULATORY SETTING

The Monarch butterfly is not a State or Federally-listed endangered or threatened species. However, policies in the Local Coastal Plan for the City of Capitola protect the butterfly's wintering habitat. Additionally, the City of Capitola's Municipal Code 17.95 provides guidelines for protection of Monarch butterfly habitat within the city and specifically at Escalona Gulch.

PROJECT DESCRIPTION

The existing Monarch Cove Inn occurs on four adjacent parcels in the City of Capitola. The preliminary expansion plan includes the following features:

a) demolition of several existing smaller cottages and other existing structures;
b) retention of the existing main guest building (the Victorian Inn), although its position will be slightly relocated;
c) construction of a 2-story, subterranean parking garage for visitor and staff vehicles;
d) construction of two new buildings to accommodate guests; and
e) new landscaping at the property, which would include specific sheltered areas with nectar

plants visited by adult Monarchs.

OVERWINTERING HABITAT OF THE MONARCH BUTTERFLY

Monarchs cannot survive the colder winter months of most parts of North America. For this reason, Monarch butterflies travel to their wintering areas during the fall months of each year. Monarchs that live west of the Rocky Mountains migrate to coastal areas of California, while those that live east of the Rockies travel to a few sites in the mountains of Central Mexico. In coastal California, winter roosting sites range from northern Baja California to southern Mendocino County. Although most winter roosting sites in California are usually located within 0.5 to 1 mile of the coast (Weiss et al. 1991, Nagano and Lane 1985), roosts have been found as far inland as Bakersfield in Kern County (Davenport 1983), Saline Valley in Inyo County (Nagano and Lane 1985), and Fairfield in Solano County (Fadem and Shapiro 1979).

Along the Santa Cruz County coastline, there are several locations where Monarchs form winter roosts between Moore Creek just north of the City of Santa Cruz and Watsonville (California Natural Diversity Data Base 2013; Nagano and Lane 1985; Sakai et al. 1989). The winter roosting site at Escalona Gulch is one of these locations.

In California, clustering or roosting behavior begins once migrating Monarchs reach their overwintering sites in the fall. Two types of clustering occur:

a) temporary aggregations that are transient clusters of short duration; and
b) permanent (also called "full-term") roosts that are long term (past the winter solstice) hibernal clusters which also possess the environmental conditions that allow the butterflies to mate in January and February before their spring dispersal (Urquhart 1960).

In the fall months, typically in September and October, numerous, generally small temporary aggregations are formed, especially in areas where nectar plants are plentiful near the coast. These temporary aggregations in the fall are also referred to as autumnal roosts or clusters. Monarchs at many of these sites disperse to permanent roosting sites as nectar sources, air temperature, and day length decrease. Some sites may serve as permanent roosts one year and temporary aggregations another year, or a mixture of the two. Also, some locations may occasionally not be used for either purpose. The permanent roosts are also referred to as winter roosts.

Thus, roost sites are generally characterized by groves of trees of mixed height and diameter, usually with an understory of brush. Often there is a small clearing within a stand of trees, or formed by a combination of the trees and surrounding topography, to provide shelter for the butterfly. Trees in all directions that surround those upon which the Monarchs cluster provide primary and secondary wind protection and are part of the roost site. These roost sites protect the butterfly from prevailing on-shore winds, winds during storms, freezing temperatures, and exposure to the sun. The vegetation serves as a thermal "blanket" which moderates extreme weather conditions (Calvert and Brower 1982).

Overwintering habitat for the Monarch consists of autumnal and winter roost trees, plus surrounding trees that provide primary and secondary wind protection, as well as sources of nectar and water. Since overwintering Monarchs may stay at a roost site for several months, adult butterflies often forage at flowers of a variety of plant species that bloom at different times during the overwintering period. Some roost sites have adequate nectar plants and water sources such that the roost site provides the full overwintering habitat for the Monarch. But other roost sites may lack an adequate diversity or abundance of nectar plants, so Monarchs will forage on plants that grow beyond the boundaries of the roost site. Similarly, adults obtain water from dew on foliage, but may also seek other water sources outside of the roost site. Thus, the boundaries of the full overwintering habitat may extend well beyond the boundaries of the roost site.

Research has demonstrated that forest canopy structure is a primary determinant of microclimatic conditions in forest stands, and is undoubtedly an important factor in the Monarch's selection of particular locations as overwintering roosts (Leong 1990; Sakai et al. 1989; Weiss et al. 1991). Many of the best overwintering sites provide a heterogeneous mixture of habitat conditions and resultant microclimatic conditions that assist the Monarchs in surviving seasonal changes in climatic conditions during the winter. For example, overwintering habitats must provide wind protected roost locations (usually tree branches that are 15-50 feet above ground), with buffered temperatures, relatively high humidity, and filtered sunlight throughout the fall and winter months. As weather conditions and exposure to sunlight vary over the winter months, high habitat heterogeneity at an overwintering site permits the Monarch roosts to satisfy their thermoregulatory needs by moving from tree to tree in response to changes in weather conditions. Thus during the early part of the overwintering period (October – November), when daily temperature maxima are relatively high, Monarchs tend to cluster in locations that provide brief morning insolation, with mid-day and afternoon shade. Later in the season (December – February), when temperature maxima are lower, they tend to roost in trees that receive afternoon sunlight. Trees surrounding roost locations, known as windbreak or buffer trees, provide both wind protection and ameliorate microclimatic conditions near the roost trees. Buildings can also afford wind protection depending upon their height and locations relative to the roost trees.

A number of roost sites in coastal California are located in groves of introduced trees. Favored trees for Monarch roosts include, Blue Gum *(Eucalyptus globulus),* River Gum *(E. camaldulensis),* Monterey Pine *(Pinus radiata),* and Monterey Cypress *(Cupressus macrocarpa),* although a number of other native and introduced species of trees are also utilized (Lane 1993). Clusters of the butterfly typically form between about 15 and 50 feet above ground, but have been observed as low as 6 feet and as high as 75 feet.

Roost sites are protected from winds by a combination of tree cover (i.e., spatial configuration and density) and topography. Gullies, canyons, creek drainages, and the lee sides of hills are areas where Monarchs will roost, if the appropriate tree cover is present. Although the butterflies are inactive on colder, rainy, or foggy days, they will fly from the cluster on warmer, sunny days to obtain the water and nectar that are needed to sustain the butterflies through the winter. Thus, a nearby source of water and an abundance of fall and winter-blooming nectar plants are also important factors in determining where the butterflies will roost. Monarchs can obtain water from natural or man-made bodies of water, runoff from sprinklers, and dew on vegetation (Nagano and Lane 1985). Important nectar plants at many winter roosting sites include, *Eucalyptus* trees, English Ivy (*Hedera helix*), Coyote Bush *(Baccharis),* wild mustard *(Brassica),* and Bottlebrush *(Callistemon),* although other native and introduced species will be used if available.

In concluding this discussion, I would like to emphasize that although a number of basic features are important determinants in the suitability of a particular location to serve as an overwinter roosting site by the Monarch butterfly, there is also an interaction of these factors that is only beginning to be understood by researchers. Also, because features of a site can change due to the growth of trees and understory vegetation, thinning or removal of trees and brush, changes in nectar plant abundance, etc., Monarch usage of a particular site may vary from year-to-year and for longer durations. Indeed, new roosting sites continue to be discovered in California as conditions become favorable, even in areas where roosts were not previously observed. Similarly, when habitat quality deteriorates at locations that previously supported winter roosts, Monarchs will cease to roost at these sites. Clearing of brush and thinning of trees are common vegetation management practices that have adversely impacted Monarch roosting sites, even on public lands (Nagano and Lane 1985; Weiss et al. 1991).

SURVEY METHODS

I visited the Monarch Cove Inn and Escalona Gulch roost site 10 times between October 12, 2012 and March 1, 2013. During this period my visits occurred at approximately two-week intervals. I visited the site at various times of the day, from dawn through dusk, to observe the different behaviors and locations of the wintering Monarchs. On the same day of most site visits, I also briefly stopped by the Lode Street sanitation facility at Moran Lake, which is another winter roost site for the Monarch. My visits occurred during different weather conditions, ranging from too cool and overcast for butterfly activity to warm and sunny weather that allowed the butterflies to actively fly.

During each site visit I surveyed the entire study area by walking throughout the grounds at the Inn as well as well as at Escalon Gulch to observe the locations of wintering Monarchs and their activities. I noted the presence of various plants and features that are known to be important to the Monarch butterfly at occupied winter roosting sites (see Background Information). In particular, I searched for the favored trees that are used as roosts, examined the spatial configuration and density of favored trees, sheltered areas within the grove of roosting trees, trees that provide primary and secondary wind protection, nectar plants, and water sources. Lastly, I also observed Monarchs in the surrounding residential neighborhood and noted their activities at these off-site locations.

ANALYSIS OF POTENTIAL IMPACTS

A Monarch's roost site consists of the trees upon which the butterflies cluster, as well as surrounding trees in all directions that provide primary and secondary wind protection. Monarch overwintering habitat includes the roost site, plus nectar plants and water sources. Nectar plants and water sources may occur within some roost sites, but at other roost locations Monarchs may fly some distance from the roost trees to obtain nectar and water, thus existing residential and even urban areas can be part of the butterfly's overwintering habitat.

The attached aerial photograph (Figure 2) illustrates the findings of my observations of wintering Monarchs at and near the Monarch Cove Inn. The main roost trees are eucalyptus, which are located on state-owned property at Escalona Gulch. They grow in an opening within a larger and dense grove of eucalyptus trees. Several clusters of roosting Monarchs were observed at different locations within the delineated area at different times during their overwintering period. These clusters ranged from a few individuals to 2 or 3 dozen individuals, however most clusters appeared to consist of no more than a dozen individuals. At the time of my visit near Thanksgiving, I counted approximately 1,500 Monarchs clinging to the main roost trees, which was the highest tally I obtained during the entire wintering period of 2012-2013. Roosting Monarchs were present throughout the fall and winter so Escalona Gulch is currently functioning as a permanent or full-term wintering site for the butterfly.

The trees immediately surrounding the main roost trees provide primary wind protection, while those farther away from the roost, including those at the Monarch Cove Inn and other properties that surround the roost trees, provide secondary wind protection. The existing buildings at the Monarch Cove Inn probably also provide some wind protection for the roost trees.

No roost trees were observed at the Monarch Cove Inn. Rather, wintering Monarchs were observed primarily in four locations on the property, labeled #1 to #4 on the attached aerial (Figure 2). All locations have southern exposures and receive full sunlight at mid-day. Area #1 is utilized for both foraging and sunning (i.e., thermoregulating), area #2 is primarily a foraging site, while areas #3 and #4 are primarily sunning sites. I also observed Monarchs flying across other parts of the Inn property, but the four aforementioned locations were where different individuals frequently stopped and spent time feeding or thermoregulating. The nectar plant growing in these areas is English Ivy. Indeed, it was the only plant visited for nectar on the grounds of the Inn. Monarchs were also observed foraging on this ivy at neighboring residential property on the north side of Escalona Drive (i.e., north of area #1). These four locations (as well as the neighboring property north of #1) are somewhat sheltered from winds by surrounding trees and buildings with sunlight at ground level and on the nectar plants. Using a handheld thermometer I observed that the ambient air temperatures were often a degree or two warmer in these four areas than in nearby less sheltered areas.

I also observed Monarchs flying and foraging at other locations in the neighborhood, especially west of the Monarch Cove Inn, and to a lesser degree east of the roost site, so there are other nearby sources of nectar besides what was observed at the project site. I observed more limited foraging occur in the immediate vicinity of the main roost trees. Portions of the roost site remain shaded or are characterized by dappled light during the wintering period, so temperatures were slightly cooler there at least at ground level. This may explain why most of the observed foraging activity was observed outside of the opening with the main roost trees.

The preliminary site plan (Figure 1) for the expansion project looks like it avoids most existing trees at the project site. No roost trees will be removed by the project. Also, the proposed new Main and Bayview buildings will both provide some additional wind protection to the roost trees as they will be 26 to 30 feet tall.

At my request, the project's architect prepared a shading study for the proposed site plan and used December 20th as the date of maximum shading. Results of the shading study are illustrated on Figure 1. Most of the trees that the wintering Monarch utilized for sunning, as well as much of the ivy used for foraging at areas #1 and #3 grow at or just beyond the property boundaries of the Monarch Cove Inn. Shadows from the new building will be cast upon portions of the current sunning and foraging areas #1, #2, and #4 during daytime. Area #3 will be replaced by the proposed new Main Building and its courtyard. Thus the project will result in a reduction of foraging and sunning areas that are currently used by the Monarch and are located near the main roost trees. Adult Monarchs need a minimum temperature of about 58° F to become active. On many days during the wintering period, the daily high temperature may exceed this threshold by only a few degrees. Thus, the presence of sheltered foraging and sunning areas in close proximity to the main roost trees probably help to maintain Escalona Gulch as a viable overwintering site for the Monarch butterfly.

RECOMMENDATIONS FOR PROJECT PLANNING

The recommendations offered herein follow the guidance presented in the City of Capitola's Municipal Code, section 17.95.

a) Construction activities should avoid the wintering period of the Monarch butterfly, which is generally from about October 1st to March 1st. Some variation in this timing may be allowed if Monarchs are not present, so a Monarch biologist may need to confirm that butterflies are present or have left the roost site before any work can be performed during this period.

b) Any trees that are removed to accommodate the project shall be replaced at a 3:1 ratio. Larger-sized trees that are removed should be replaced with similar-sized mitigation trees to maintain secondary wind protection function for the main roost site at Escalona Gulch. Evergreen tree species that provide good windscreen function include Coast redwood (*Sequoia sempervirens*), Monterey Cypress, Swamp mahogany (*Eucalyptus robusta*), Sydney blue gum (*Eucalyptus saligna*), Coolibah (*Eucalyptus microtheca*).

c) Trees, shrubs, and vines that will not be removed during construction should be protected by construction fencing and all workers advised of the need to avoid damage to these areas and the plants in them. Warning signs should be placed on the construction fencing as a reminder to workers.

d) The shading study of the planned new structures illustrates that much of the currently utilized foraging and sunning areas at the property would be shaded by the proposed new buildings at the height of the overwintering period of the Monarch (i.e., at the winter solstice). Additional plantings of preferred nectar plants should be installed as part of the project's landscaping to enable Monarchs to continue to forage in the remaining sunlit portions of these currently utilized foraging areas. The additional plantings may include a mixture of flowering vines and shrubs. Vines such as California blackberry (*Rubus* sp.), and Lauraltinus (*Viburnum tinus*) should be placed to grow on selected retained trees and shrubs, as well as fences or other structures such as trellises. Shrubs, such as Bottlebrush (*Callistemon citrinus*), California lilac (*Ceanothus cuneatus* var. *cuneatus*), Pride of Madeira (*Echium fastuosum*), Escalonia (*Escalonia* spp.), would also be appropriate. I would avoid the use of low-growing nectar plants in these areas so they are not shaded by taller vegetation or nearby structures.

e) The project's landscaping should create additional foraging and sunning areas for the overwintering Monarchs. Areas that are selected for nectar plants should be situated where they will be sheltered from winds by surrounding buildings and vegetation, but are not shaded. The proposed site plan (Figure 1) illustrates eight targeted locations, which collectively measure 15,422 ft^2 or approximately 1.5 times the size of the four currently used sunning and foraging areas. Suggested nectar plants include Bottlebrush, California lilac, Pride of Madeira, Escalonia, Australia tea tree (*Leptospermus laevigatum*), Holly leaf cherry (*Prunus ilicifolia*), Carolina cherry (*Prunus caroliniana*), California blackberry, Lauraltinus, Seaside heliotrope (*Heliotropium curassavicum*), Rosemary (*Rosemarinus officinalis*), Lantana (*Lantana montevidensis*), Mexican bush sage (*Salvia leucantha*), and Black sage (*Salvia melifera*). The cherries can also function as lower windscreen trees, for example along the southern borders of areas #7 and #8. The lower growing nectar plants can be used in locations which receive full sunlight at ground level, while the shrub and vines should be used in other locations to elevate the flowers to sunny above-ground levels. Ideally, these mitigation nectar plants should be available to overwintering Monarchs before the resident nectar plants are removed by the project.

f) Even though it is a nasty invasive, existing stands of English Ivy should be retained to the extent practical at the Monarch Cove Inn during construction and landscaping. In addition, it should be planted at other locations on the grounds of the Monarch Cove Inn. Ideally, it should be planted in portions of the grounds where construction activities will not occur and be available to wintering Monarchs before the project begins. Other nectar plants will require a period of years to mature and provide adequate, substitute sources of nectar for wintering Monarchs. During this interim period, ivy will remain an important nectar source for the Monarch. As the other species of nectar plants mature and flower, the amount of ivy can be gradually reduced and ultimately removed from the grounds of the Monarch Cove Inn. However, annual post-construction monitoring should occur for a period of 5 to 10 years to document that the other nectar plants survive, mature, and fulfill their function as substitute nectar sources for the butterfly before all ivy is removed.

g) Landscaping throughout the remaining grounds at the Inn should emphasize the aforementioned nectar plants for the Monarch, especially in sheltered and or sunny areas. To the extent practical, these mitigation nectar plants should be available to overwintering Monarchs before the resident nectar plants are removed by the project. For example, existing landscaping around the main guest house and deck could be supplemented with nectar plants of the Monarch. Larger plant material should be used, if available, as mature plants produce more flowers which provide greater benefit for the foraging Monarchs. A qualified biologist specializing in monarch butterflies should review the landscape planting plans.

h) The new guest facilities should not have working fireplaces as smoke can cause adverse problems for the wintering Monarch. Even gas fireplaces can be problematic as guests may burn other items in the fireplace, which cause smoke. Also, outdoor barbeques or fire features should not be included in the project's design.

REFERENCES CITED

California Natural Diversity Data Base. 2013. Report on Monarch butterfly overwintering sites in Santa Cruz County, CA. Data base maintained by the California Department of Fish & Game. Sacramento, CA.

Calvert, W.H. and L.P. Brower. 1982. The importance of forest cover for the survival of overwintering Monarch butterflies (*Danaus plexippus* L., Danaidae). Journal of the Lepidopterists' Society 35:216-225.

Davenport, K. 1983. Geographic distribution and checklist of the butterflies of Kern County, California. Journal of the Lepidopterists' Society 37:46-69.

Fadem, C.M. and A.M. Shapiro. 1919. Notes on wintering roosts by Monarchs (Lepidoptera: Danaidae) at an inland site in California. Pan-Pacific Entomologist 55:309-310.

Lane, J.N. 1993. Overwintering Monarch butterflies in California: past and present. IN, Malcolm, S.B. and M.P. Zalucki (eds.), Biology and conservation of the Monarch butterfly. Natural History Museum of Los Angeles County, Science Series, No. 38. pp. 335-344.

Leong, K.L.H. 1990. Micro-environmental factors associated with the winter habitats of the Monarch butterfly (Lepidoptera: Danaidae) in central California. Annals of the Entomological Society of America 83:906-910.

Nagano, C.D. and J. Lane. 1985. A survey of the location of Monarch butterfly *(Danaus plexippus* L.) overwintering roasts in the state of California, U.S.A.: first year 1984/1965. World Wildlife Fund - U.S.

Sakai, W., C.D. Nagano, A.V. Evans, J. Schrumpf, J. Lane, and M. Monroe. 1989. The wintering colonies of the Monarch butterfly *(Danaus plexippus* L.: Nymphalidae: Lepidoptera) in the state of California, USA. California Department of Fish & Game. Sacramento, CA.

Urquhart, F.A. 1960. The Monarch butterfly. University of Toronto Press. 361 pp.

Weiss, S.B., P.M. Rich, D.D. Murphy, W.H. Calvert, and P.R. Ehrlich, 1991. Forest canopy structure at overwintering Monarch butterfly sites: measurements with hemispherical photography. Conservation Biology 5:165-175.

If you have any questions about my report, please contact me.

Sincerely,

Richard A. Arnold

Richard A. Arnold, Ph.D.
President

cc: Robert Blodgett, Monarch Cove Inn
Charlie Eadie, Hamilton & Swift
Matthew Thompson, Thacher & Thompson

Attachment: Figures

Fig. 1. Site Plan

Statistics based on observations taken between 8/2008 - 6/2013 daily from 7am to 7pm local time. You can order the raw wind and weather data in Excel format from our historical weather data request page.

Month of year	Jan 01	Feb 02	Mar 03	Apr 04	May 05	Jun 06	Jul 07	Aug 08	Sep 09	Oct 10	Nov 11	Dec 12	SUM 1-12
Dominant Wind dir.													
Wind probability >= 4 Beaufort (%)	0	1	1	2	2	2	1	1	1	1	0	1	1
Average Wind speed (mph)	2	2	3	5	5	5	5	5	5	3	3	2	3
Average air temp. (°F)	55	53	55	59	59	60	60	60	60	62	59	53	57
Select month (Help)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year

Wind dir. distribution Opal Cliffs/Santa Cruz all year

EXISTING FEEDING ZONES

Area 1	5,020 sf
2	1,881
3	885
4	2,452
TOTAL	10,238 sf

DEVELOPED FEEDING ZONES

Area 1	1,602 sf
2	1,043
3	480
4	1,007
5	1,746
6	4,467
7	3,761
8	1,416
TOTAL	15,422 sf (151% REPLACEMENT)

EXISTING BUILDINGS

SHADOWS FROM DEVELOPED BUILDINGS

NEW WIND BUFFERING PLANTINGS'

PROJECT DATA

TOTAL SITE AREA:	61,892 SF
LESS AREA BELOW CLIFF:	6,374 SF
NET DEVELOPABLE:	55,518 SF
AVERAGE BUILDING HEIGHT:	30 FT
EXISTING GUEST ROOMS:	9
NEW PROPOSED GUEST ROOMS:	32
TOTAL GUEST ROOMS:	41

AREA CALCULATIONS

BUILDING COVERAGE:	14,728 SF	26.5%
TERRACES, FOUNTAINS, PLANTERS:	3,137 SF	5.7%
LANDSCAPE:	25,896 SF	46.6%
PERVIOUS PAVED DRIVEWAY:	5,653 SF	10.2%
CONCRETE SIDEWALKS & DRIVEWAYS:	6,104 SF	11%

RIGHT OF WAY

POROUS PAVING:	2,617 SF	12.7%
CONCRETE DRIVEWAY AND RAMP:	2,494 SF	12.2%
ASPHALT:	450 SF	2.2%
LANDSCAPE PLANTING:	14,950 SF	72.9%

PARKING

GARAGE UPPER LEVEL:	26 SPACES
GARAGE LOWER LEVEL:	30 SPACES
UNCOVERED:	4 SPACES
TOTAL SPACES:	60 SPACES
STANDARD SPACES:	38 SPACES
H.C. ACCESSIBLE SPACES:	2 SPACES
TANDEM SPACES:	20 SPACES
TOTAL SPACES:	60 SPACES
CLASS 1 BIKE PARKING:	16 SPACES
CLASS 2	11 SPACES
TOTAL BIKE PARKING:	27 SPACES

SHEET INDEX

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MONARCH COVE
620 EL SALTO DRIVE
CAPITOLA, CA

SITE PLAN & PROJECT DATA

DRAWING DATE
MARCH 2013

MATTHEW THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION

A1

Figure 2. Monarch Cove Inn and Escalona Gulch –Habitat Use Map for Wintering Monarchs

(based on observations between Oct. 2012 and March 2013 by R.A. Arnold)

Appendix D

Cultural Resources Studies

Appendix D.1

Historic Resources Technical Report

Historic Resources Technical Report

Monarch Cove Hotel

Capitola, California

prepared for

Rincon Consultants, Inc.

Monterey, California

prepared by

Architectural Resources Group

San Francisco, California

REVISED, October 2013

Monarch Cove Hotel

Capitola, California

Historic Resources Technical Report

REVISED, October 2013

Table of Contents

1. INTRODUCTION AND METHODOLOGY

In response to a request from Rincon Consultants, Architectural Resources Group (ARG) has evaluated the potential impacts to historical resources relating to the proposed Monarch Cove Hotel project in Capitola, California. The project entails converting the existing Monarch Cove Inn at 620 El Salto Drive (APNs 036-142-27, 036-142-28, 036-143-31 and 036-143-36) on Depot Hill to a 41-room hotel, to be accomplished through a combination of rehabilitation, demolition, and new construction.

The proposed project is currently occupied by the Monarch Cove Inn. The property was part of a larger private estate known as the English Cottages that the Robertson and Rawlins families formed in the 1890s. In approximately 1911, mining and real estate tycoon Lewis E. Hanchett purchased the English Cottages estate, expanded it, and renamed it El Salto. Joseph Tabacchini converted the El Salto property into a motor court in the late 1940s. Tabacchini served Capitola as city council member and mayor during the 1950s. In 1962, Elizabeth Blodgett purchased the property, and proceeded to subdivide the property into several parcels. Her son Robert Blodgett owns the project site and the Monarch Cove Inn.

To prepare the following historic resource evaluation, ARG:

- Conducted a site visit to examine and photograph the project site on July 24, 2013;

- Reviewed historical documentation and prior evaluations of the site, including, but not limited to, the *Historic Context Statement for the City of Capitola* by Carolyn Swift; “Evaluation of a Proposed Project to Construct a Wall at Monarch Cove Inn” by Dr. Anthony Kirk; DPR evaluations of nearby cottages historically related to the property (Lamplighter’s Cottage, Mariner’s Cottage, and Grandmother’s Cottage); and historic information compiled by the Capitola Museum;

- Visited the Capitola Building Department to compile building permits for the project site;

- Consulted the archival holdings of the University of California at Santa Cruz Special Collections, as well as the County of Santa Cruz Planning Department and County Assessor;

- Searched several online archives for photographs and documents related to the property, including the California State Library, Calisphere, HistoricAerials.com, ProQuest, archive.org, and the California Digital Newspaper Collection; and

- Reviewed proposed project drawings prepared by Thacher and Thompson Architects and dated March 2013.

2. SUMMARY OF FINDINGS

The Monarch Cove Inn property includes the Victorian-style Main House, two cottages, and an L-shaped administrative/garage building. While definitive dates of construction were not available, the Main House appears to date from the late 1890s, while the other three buildings originally date from the 1920s or soon thereafter.

Based on its historical and architectural significance, the Main House appears eligible for listing on the National Register of Historic Places and should be considered a historical resource for purposes of the California Environmental Quality Act (CEQA). The two cottages appear eligible for listing as local historic features and should also be considered historical resources for purposes of CEQA. The L-shaped administrative/garage building has been significantly altered since its original construction and retains insufficient integrity to be considered a historical resource.

This report closes with specification of mitigation measures that would bring the project into full compliance with the *Secretary of the Interior's Standards for Rehabilitation* and thus reduce the project's impact on historical resources to less than significant.

3. SITE AND BUILDING DESCRIPTION

Site Description

The project site is located at 620 El Salto Drive, at the eastern end of the Depot Hill area of the City of Capitola. The site is generally semi-circular and oriented on a slight northwest-southeast axis. The site is bound by Escalona Drive to the north, private properties to the western and eastern sides, and Soquel Cove to the south. The site includes four buildings: the Main House to the south, and two cottages and the L-shaped garage and administrative building to the north. Just south of the Main House is a large wooden deck with covered bar area. The site also features gravel paths, wood fences, planted flower beds, and grass lawns. (Please see Appendix A for photographs of the site and buildings.)

The surrounding neighborhood consists mostly of single-family homes, with a few multi-family residences. Some of these buildings are historic and a few date from the El Salto estate era. The property at 709 El Salto Drive contains two cottages, the Lamplighter's Cottage and the Mariner's Cottage, which were built between 1923 and 1928; both were used to house either staff or guests of the Hanchett family.[1] The property at 723 El Salto drive includes one additional such cottage.

[1] DPR 523 form for Lamplighter's Cottage, prepared by Anthony Kirk, 2002, p. 2.

Building Descriptions

Main House

The Main House, historically referred to as House No. 1, is a two-story building that is mostly square in plan. The hipped roof is clad in asphalt shingles. The house is clad in horizontal wood siding, with accents of decorative shingles on the second-story dormer windows and gabled addition at the east. Fenestration is characterized primarily by casement windows surmounted by small, divided-light windows. There are two polygonal projecting bay windows, one located at the center of the south elevation, and one at the northeast corner of the house. At the east end of the building is a two-story, gabled-roof portion that is not original to the building. The roof of this addition has a shallower pitch than the rest of the building. Because the building has been converted into nine-units, each with its own entryway, there is no discernible main entrance.

The south elevation of the main house contains a four-sided bay window projecting from the center of the façade. Just above this bay window are two gabled dormers that include three small casement windows. Each dormer has diamond-shaped shingles below the gable portion and fish scale-shingles on the sides. To the right (east) of the porch is a series of casement windows of varying sizes surmounted by small six-paned, divided-light windows. To the left (west) of the bay window is a recessed porch that contains groups of two and three casement windows topped by smaller divided-light windows, as well as a three-paneled wooden door with glazing on the upper portion. The porch extends outward and contains a low wooden railing. To the left (west) of this porch are another partially-glazed door and a divided-light picture window.

The west elevation is characterized primarily by a porch with doors at either end and central stairs leading up to the second floor. Fenestration includes casement windows with divided-light upper windows on the first level, and gabled dormers with four casement windows on the second floor.

The north elevation contains two doors—a three-paneled, partially-glazed one on the left and a five-paneled wooden one on the right—separated by a set of two casement windows with divided light uppers to left and three of the same type to the right. A short staircase leads up to the doors. On the second floor of the north elevation are eight dormer windows, both with tripartite glazing above. The four casement windows on the left are slightly wider than those on the right. To the west of the larger dormer windows is a small divided-light dormer window with shed roof.

Figure 1. Undated photograph of House No. 1 (Source: Hanchett family photograph, reproduced in *Historic Context Statement for the City of Capitola*, 26).

Figure 2. House No. 1/Main House today (Source: Architectural Resources Group, July 2013).

The east elevation consists of three main bays. The central bay (the addition referenced above) is clad with horizontal wood siding on the first floor, and shingles on the second. Fenestration on the east elevation is somewhat similar to the building's other elevations, and includes casement and picture windows surmounted by divided-light uppers. The upper story on the east elevation, however, contains a set of small casement windows flanked by larger picture windows. The five-sided projecting bay window located at the northeast corner of the building contains a casement window surmounted by a divided-light window on each of its sides. This projecting bay also has a pointed roof that extends above the main roofline.

Cottage 1
This cottage is nearly square in plan, with a gabled roof and horizontal wood siding. The symmetrical façade consists of a fully-glazed divided light main entryway at the center, surrounded by a trellis. Fenestration on the main (west) façade is characterized by sets of two, 6-over-1, double-hung windows. Other openings include divided-light casement windows, picture windows, and a partially-glazed, paneled door.

Cottage 2
This cottage is smaller and more rectangular than Cottage 1, and further from the Main House. A fully-glazed divided light door surrounded by a trellis comprises the entryway. Fenestration consists of casement and picture windows, double-hung windows, and a sliding glass door on the east façade leading to the deck. To the right (north) of the sliding door is a projecting bay featuring casement and picture windows.

L-shaped Building/Garage
The L-shaped building at the northwestern portion of the property houses administrative offices and several garage spaces. The building consists of two perpendicular structures—one generally running northwest-southeast axis and the other northeast-southwest axis—which form the sides of a courtyard. Both structures feature a gabled roof and vertical wood siding and each consists of four garage bays facing the courtyard. The building on the west side of the courtyard contains a projecting bay at the rear (north), which consists of board-and-batten siding, and a wide picture window and paneled door. On the west-facing façade of the projecting wing is a set of fully-glazed, divided-light French doors.

At the northeast side of the courtyard is a set of fully-glazed French doors that access the resort offices. At the rear (east) side of the building are two steps leading up to another set of fully-glazed French doors. Just to the right (north) of this door is a shed-roofed addition, which joins the two structures at the northeast corner. The east façade of this structure is clad in vertical and diagonal wood siding and contains a picture window to the right of a solid door and small window. The north façade of the shed contains no openings and is clad in vertical wood siding.

4. HISTORICAL BACKGROUND AND CONSTRUCTION HISTORY

The history of the project site and its immediate surroundings are best understood with reference to four historical eras:

- **English Cottages Era (1895-1910)**
  The Robertson and Rawlins families developed the portion of Depot Hill south of El Salto Drive and east of Livermore Avenue with four houses, including the Main House extant on the project site today. The property was used as a private estate by the two families.

- **El Salto Estate Era (1911-1946)**
  Lewis Hanchett and his family significantly expanded the property (see Figure 3 below) and constructed several new buildings and structures, including the two cottages extant on the project site. The property continued to function as a private family estate.

- **El Salto Resort Era (1946-1961)**
  Mary and Joseph Tabacchini converted the Hanchett-era cottages – including the two extant on the project site – into individual rental units with kitchenettes. They also added a wing onto the Hanchett-era garage, creating the L-shaped building present on the site today.

- **Blodgett Era (1962-present)**
  Elizabeth Blodgett subdivided the former El Salto Resort property into multiple lots. Her son Robert Blodgett acquired the portion of the site corresponding to the current project site in 1989.

Additional information regarding each of these eras is included below, along with a discussion of which features remain today. Unfortunately, given the large number of buildings historically present on the larger El Salto property, and the predominately vernacular style of those buildings, the historical record is often too imprecise to associate a given occupant or use with a specific building.

English Cottages Era (1895-1910)

The Depot Hill area of Capitola was first subdivided as part of F.A. Hihn's survey of Camp Capitola in 1884. The property at 620 El Salto Drive was originally developed by two families, the Robinsons and the Rawlins, in the 1890s. James S. Robinson and James E. Rawlins, both from England and both graduates of the Royal Agricultural College, immigrated to California and settled near the town of Hanford around 1875. Both men were significant figures in the Hanford area and played integral roles in its development. In 1881, they formed the firm of Robinson & Rawlins, which established the Hanford Water Works and developed a coal mine near Coalinga, which the firm operated until 1888, when it incorporated as the San Joaquin

Valley Coal Mining Company. Both men helped to establish the Bank of Hanford as well as the Hanford Development Company.[2]

Figure 3. Map showing boundary of English Cottages, El Salto Estate, and current project site. The base map is taken from the *Historic Context Statement for the City of Capitola*, 27.

[2] *A Memorial and Biographical History of the Counties of Fresno, Tulare, and Kern, California* (Chicago: Lewis Publishing Company, 1892), 293-4, 441-42.

The pair, along with their wives Ethel E. Robinson and Margaret A. Rawlins, moved to Capitola in 1895 and purchased property at the eastern end of Depot Hill.[3] Soon, Robertson (formerly Robinson) and Rawlins constructed four houses on the property in the late 1890s; two of these homes, including the Main House, served as summer homes for the families, while the other buildings were used as guest houses or servants' quarters.[4] The site also included a clay tennis court, a boathouse, a greenhouse, a barn, and elaborate gardens.[5] The Robertson and Rawlins families moved back to England around 1906, but continued to rent the property.

The Main House appears to be the only remnant of the English Cottages estate that retains integrity. House No. 2 was destroyed by a fire in the 1980s.[6] House No. 3 was demolished by the Tabacchinis in 1956. The integrity of House No. 4 (Grandmother's Cottage) at 106 Livermore Avenue was lost through the construction of a 3,200-square-foot, two-story addition in the early 2000s.[7]

Extant features from this era:

- Main House, 620 El Salto Drive

The gardens associated with the English Cottages era are no longer fully extant. The existing garden immediately west of the Main House, however, may be an important remnant of that garden and may contribute to the Main House's historic significance. This is addressed further in Section 8 below.

El Salto Estate Era (1911-1946)

In 1909, Lewis E. Hanchett rented House No. 1 (the Main House) from the Robertson and Rawlins families. Hanchett was a wealthy San Franciscan who had amassed a fortune via mining operations in California and Nevada before acquiring the San Jose & Santa Clara Railroad and developing real estate in San Jose and Los Angeles. He purchased the English Cottages property in 1911. By that time, Hanchett's daughter Lucy recalled that the buildings were quite rundown and the estate included the four houses and "a barn, boat house, water tank, clay tennis court, croquet lawn, and...a hot house. It was all fenced in and a road ran completely around the place."[8]

Hanchett proceeded to significantly expand and improve the estate, which he renamed El Salto. He first modernized the existing estate by adding electricity, telephone service, and improved plumbing to the four English Cottages. He also added porches to House No. 1 (the Main House

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[3] Kirk, "Evaluation of a Proposed Project to Construct a Wall at Monarch Cove Inn," 2001, 1-2.
As Dr. Anthony Kirk explains in his text, "For in a curious turn of events, James Robinson had learned that his original family surname was Robertson, and both he and his wife had accordingly changed their names."
[4] Kirk, "Evaluation of a Proposed Project to Construct a Wall at Monarch Cove Inn," 2.
[5] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 2.
[6] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 3.
[7] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 4.
[8] Hanchett Butler, "El Salto," 1967.

extant today) and House No. 2.[9] Hanchett proceeded to significantly increase his landholdings, purchasing virtually the entire portion of Depot Hill east of Sacramento Avenue.

Hanchett demolished the English Cottages-era barn and built a new one at another location on the property, and relocated the greenhouse nearby. The old boat house and old barn area were converted to children's play areas. The family raised horses and cows, which used the field near the new barn for grazing, and grew vegetables and fruit trees.[10]

Hanchett also significantly increased the roster of buildings on the site. He built a four-car garage, a three bedroom cottage with separate bath for the Chinese cook, a second three bedroom cottage with an adjacent laundry building for the maids, and perhaps as many as eight guest cottages.[11] This new construction included the two extant cottages on the Monarch Cove project site, though it is unknown whether they were used as guest or servant cottages. Lucy Hanchett Butler recalled that "four garages [were] built with a circle turnaround,"[12] which likely refers to the L-shaped building on the project site before it was expanded by the Tabacchinis in 1959.

Lewis Hanchett lived in Santa Barbara and Los Angeles from 1923 to 1929, during which time El Salto was used by Lucy, her husband Vincent Kingwell Butler, and their two small children.[13] When he was on-site, Hanchett hosted several famous guests at El Salto, including silent film star Mary Pickford, professional golfer Marion Hollins, local baseball star Harry Hooper, and tennis champion Helen Wills.[14]

Since Hanchett's time, the property has greatly diminished in size and many of the buildings have been demolished or relocated. As of 2002, six cottages built by Hanchett remained, and two of these had been significantly altered through additions.[15] These six cottages included the two on the Monarch Cove project site, the Mariner's Cottage at 709 El Salto Drive, the Lamplighter's Cottage at 709 El Salto Drive, and two other cottages near the Tabacchini fourplex at 723 El Salto Drive.[16] Review of present-day aerials implies that one of these unnamed cottages is no longer extant, or has been absorbed into a considerably larger building.

Extant features from this era:

- Cottage 1, 620 El Salto Drive
- Cottage 2, 620 El Salto Drive
- L-shaped administrative/garage building (altered), 620 El Salto Drive
- Lamplighter's Cottage, 709 El Salto Drive

[9] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 2.
[10] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 2.
[11] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 2. Hanchett Butler, 2.
[12] Ibid.
[13] Hanchett Butler, 3.
[14] Duval and Maggi, 3.
[15] Lehmann, 1; Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 3.
[16] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 4.

- Mariner's Cottage, 709 El Salto Drive
- Cottage, 723 El Salto Drive

El Salto Resort Era (1946-1961)

Following their relocation to Santa Barbara, the Hanchett family sold the property to Joseph and Mary Tabacchini in 1946. Joseph Tabacchini was a prominent figure in Capitola, serving on the City Council for eleven years and acting as mayor for six. As mayor, Tabacchini updated the sewer system and acquired funds for the sanitation district outfall.[17]

The Tabacchinis converted the private El Salto estate into a rental property they called El Salto Resort. Specifically, they converted the Hanchett-era cottages – including the two extant on the project site – into individual rental units with kitchenettes.[18] In addition, they painted the cottages white. (Previously they were dark green with red and white trim.)[19]

The Tabacchinis significantly altered the property by replacing House No. 3 from the English Cottages era with a 4,000-square-foot fourplex.[20] They also relocated one of the other English Cottages.[21] In 1959, they added a wing that more than doubled the size of the Hanchett-era garage complex, creating the L-shaped building present on the site today.

Extant features from this era:

- Fourplex, 723 El Salto Drive
- Addition to L-shaped administrative/garage building

Blodgett Era (1962-present)

In 1962 Elizabeth Blodgett acquired a substantial portion of the El Salto property, which then consisted of about a dozen houses and cottages. Beginning in the 1980s, Elizabeth Blodgett subdivided the property into more than a dozen lots that she sold individually. House No. 3 from the English Cottage era burnt to the ground in the early 1980s and the City of Capitola declared the remaining cottages unsafe in 1989, at which point Elizabeth's son Robert Blodgett acquired the portion of the site corresponding to the current Monarch Cove Inn property.[22] In 1998, Douglas and Robert Dodd bought two parcels to the west of Robert Blodgett's property (709 and 723 El Salto Drive) that include the Lamplighter's Cottage, the Mariner's Cottage, one other Hanchett-era cottages and the Tabacchini-era fourplex.

[17] Capitola Museum, "Historical Information: Background on the English Cottages/El Salto Resort," n.d.
[18] Swift, *Historic Context Statement for the City of Capitola*, 27.
[19] Duval and Maggi, 3.
[20] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 3.
[21] Duval and Maggi, 3. The relocated cottage was neither the Main House nor the Grandmother's Cottage, which were never moved.
[22] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 3.

Building Permit History

The following is a selection of building permits relating to 620 El Salto Drive that were obtained from the Capitola Building Department. Unfortunately, most of the building permits do not specify which building on the site they involve. The most recent modification of the Main House was the 1999 addition of a utility room and a handicap accessible bathroom to the north end of the west façade (Permit #1999-193, 5/12/1999). Although not indicated on the permit, it appears that new windows were installed in the west part of the south façade as well. Other notable permits associated with the site are included for reference below. In most cases, it is not clear which building was modified.

Main House

- Permit #1999-193 (5/12/1999): Add utility room and bathroom
- Permit #1998-150 (4/7/1998): Repair exterior stairway on two-story building (presumably the Main House).

L-shaped Building/Garage

- Permit #1824 (8/15/1959): Construct 3 new garages and install overhead doors on 5 existing garages

Site

- Permit #2002-118 (3/25/2002): Construct fence.
- Permit #4257 (2/26/1969): Replace two decks.

Other Permits

- Permit #14913 (6/4/1993): Convert of garages to meeting rooms.
- Permit #14355 (7/7/1992): Install laundry room.
- Permit #1691 (10/1/1958): Lower ceiling, apt M. Install hardwood floors, 2 rooms, apt I.
- Permit #1581 (2/4/1958): Comp. shingles over existing roof (unit B).
- Permit #1542 (11/1/1957): Convert kitchen to bedroom, install hall and install counter dividing living room and newly located kitchen (Apt H).
- Permit #1368 (2/8/1957): Tear out closet in bedroom and install closet in living room.
- Permit #1519 (9/26/1957): Repair floors (units L, G, H) and install new oak flooring over existing floors.
- Permit #1558 (12/2/1957): Partition off hallway; install doors; construct stoop (unit H)
- Permit #1154 (12/2/1955): Move bathroom and install partitions (apt 1)
- Permit #1155 (12/2/1955): Move cottage onto new foundations (cottage #3)
- Permit #1048 (4/6/1955): Build 8x10 sun deck and cement block foundation (3), Apt 6.
- Permit #990 (10/7/1954): Refinish interior and repair roof (apt 7)
- Permit #715 (10/6/1952): Add 2 bedrooms and bathroom (cottage #6)
- Permit #406 (2/13/1951): Remove existing chimney and install transite flue, lower ceiling.

5. FEDERAL, STATE AND LOCAL SIGNIFICANCE CRITERIA

The regulatory background provided below offers an overview of local, state and federal criteria used to assess historic significance.

Federal Criteria

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic resources and includes listings of buildings, structures, sites, objects and districts that possess historic, architectural, engineering, archaeological or cultural significance at the national, state or local level. As described in National Register Bulletin Number 15, *How to Apply the National Register Criteria for Evaluation*, a property must have both historical significance and integrity to be eligible for listing in the NRHP.

To be significant, a property must be "associated with an important historic context."[25] The National Register identifies four possible context types, of which at least one must be applicable to the property at the national, state, or local level. As listed under Section 8, "Statement of Significance," of the NRHP Registration Form, these are:

A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

B. Property is associated with the lives of persons significant in our past.

C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

D. Property has yielded, or is likely to yield, information important to prehistory or history.[26]

Second, for a property to qualify under the National Register's Criteria for Evaluation, it must also retain "historic integrity of those features necessary to convey its significance."[27] While a property's significance relates to its role within a specific historic context, its integrity refers to "a property's physical features and how they relate to its significance."[28] To determine if a property retains the physical characteristics corresponding to its historic context, the National Register has identified seven aspects of integrity:

Location is the place where the historic property was constructed or the place where the historic event occurred.

[25] National Park Service, *How to Apply the National Register Criteria for Evaluation*, 3.
[26] National Park Service, *How to Complete the National Register Registration Form*, 75
[27] National Park Service, *How to Apply the National Register Criteria for Evaluation*, 3.
[28] Ibid., 44.

Setting is the physical environment of a historic property.

Design is the combination of elements that create the form, plan, space, structure, and style of a property.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.[29]

Since integrity is based on a property's significance within a specific historic context, an evaluation of a property's integrity can only occur after historic significance has been established.[30]

State Criteria
The California Register of Historical Resources (CRHR) is the authoritative guide to the State's significant historical and archeological resources. It serves to identify, evaluate, register and protect California's historical resources. The CRHR program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for historic preservation grant funding and affords certain protections under the California Environmental Quality Act. All resources listed on or formally determined eligible for the NRHP are automatically listed on the CRHR. In addition, properties designated under municipal or county ordinances are eligible for listing in the CRHR.

The California Register criteria are modeled on the National Register criteria discussed above. An historical resource must be significant at the local, state, or national level under one or more of the following criteria:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

[29] Ibid., 44-45.
[30] Ibid., 45.

2. It is associated with the lives of persons important to local, California, or national history.

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, state or the nation.[31]

Like the NRHP, evaluation for eligibility to the California Register requires an establishment of historic significance before integrity is considered. California's integrity threshold is slightly lower than the federal level. As a result, some resources that are historically significant but do not meet NRHP integrity standards may be eligible for listing on the California Register.[32]

California's list of special considerations is shorter and more flexible than the NRHP. It includes some allowances for moved buildings, structures, or objects, as well as lower requirements for proving the significance of resources that are less than 50 years old and a more elaborate discussion of the eligibility of reconstructed buildings.

In addition to separate evaluations for eligibility to the California Register, the State will automatically list resources if they are listed or determined eligible for the NRHP through a complete evaluation process.[33]

The California Historic Resource Status Codes are a series of ratings created by the California Office of Historic Preservation (SHPO) to quickly and easily identify the historic status of resources listed in the state's historic properties database. These codes were revised in August 2003 to better reflect the many historic status options available to evaluators. The following are the seven major status code headings:

1. Properties listed in the National Register or the California Register.
2. Properties determined eligible for listing in the National Register or the California Register.
3. Appears eligible for National Register or California Register through Survey Evaluation.
4. Appears eligible for National Register or California Register through other evaluation.
5. Properties recognized as historically significant by local government.
6. Not eligible for listing or designation.
7. Not evaluated for National Register or California Register or needs revaluation.

[31] California Office of Historic Preservation, Technical Assistance Series 6, 1.
[32] Ibid., 2.
[33] All State Historical Landmarks from number 770 onward are also automatically listed on the California Register (California Office of Historic Preservation, Technical Assistance Series 5, 1).

Local Criteria
Title 17 of the Capitola Municipal Code contains policies that address the identification of what the City calls "historic features," which are defined in Section 17.03.285:

> Any improvement, or group of improvements on a single site, of historic significance because of special aesthetic, cultural, architectural, archaeological, paleontological characteristic which has been so designated by the city council upon the recommendation of the planning commission (Ord. 515 § 3, 1982)[34]

Designation criteria for City of Capitola historic features are laid out in Section 17.87.030 of the City's Municipal Code, which reads in part:

The planning commission and city council deliberation shall take place at a public hearing. In making the determination whether a particular feature should be designated as an historic feature the commission or council, in order to have a feature designated as historic, must make the following findings:

A. That the potential historic feature evidences one or more of the following qualities:

    1. The proposed feature is particularly representative of a distinct historic period, type, style, or way of life,
    2. The proposed feature is an example of a type of building once common in Capitola but now rare,
    3. The proposed feature is of greater age than most other features serving the same function,
    4. The proposed feature is connected with a business or use which was once common but is now rare,
    5. The architect or builder is historically important,
    6. The site is the location of an important historic event,
    7. The proposed feature is identified with historic persons or important events in local, state, or national history,
    8. The architecture, the materials used in construction, or the difficulty or ingenuity of construction associated with the proposed feature are significantly unusual or remarkable,
    9. The proposed historic feature by its location and setting materially contributes to the historic character of the city,
    10. The proposed historic feature is a long established feature of the city,
    11. The proposed historic feature is a long established feature of the city, or is a prominent and identifying feature of the landscape and is of sufficient aesthetic importance to be preserved;

[34] Capitola Municipal Code, Section 17.03.285 Historic feature, http://qcode.us/codes/capitola/.

B. That the designation, as an historic feature, will not deprive the owner of all reasonable use of his or her property;

C. That after weighing the detriments of the designation to the owner against the value of the public interest in the designation, the designation is worthwhile. (Ord. 515 § 4 (part), 1982)[35]

6. EVALUATION OF HISTORIC SIGNIFICANCE AND INTEGRITY

Prior Evaluations of the Project Site

According to the City of Capitola Historic Structures List, the property at 620 El Salto Drive has a State Historic Resource Code of 7N, indicating that it needs to be reevaluated.[36] The discussion in the draft *Historic Context Statement for the City of Capitola* (2004) associates the Main House with the early development of the Depot Hill Subdivision and states the house "may be eligible for the California Register of Historical Resources and possibly the National Register of Historic Places."[37] This document and the accompanying architectural survey, however, were never finalized or formally adopted and hence do not constitute a "local register of historical resources" as defined in Section 5020.1(k) of the Public Resources Code and referenced in Section 15064.5(a)(2) of the California Environmental Quality Act (CEQA) Guidelines. (See Section 7 below.)

The most thorough historic evaluation of the project site is a report written by Dr. Anthony Kirk in 2001 entitled "Evaluation of a Proposed Project to Construct a Wall at Monarch Cove Inn." In the report, Kirk concluded that the Main House appears to be "potentially eligible" for listing on both the California Register of Historical Resources and the National Register of Historic Places.[38] Kirk also concluded that no other buildings, structures or objects on the site were significant.[39] Specifically, he found that some elements could potentially be considered district contributors, but that the site had changed so extensively that no district from either the English Cottages or El Salto eras in fact remained.

In March 2002, Kirk completed evaluations for two cottages – the Lamplighter's Cottage and the Mariner's Cottage – that were part of the Hanchett-era build-out of the El Salto estate and are located at 709 El Salto Drive, southwest of the Monarch Cove project site. Kirk found that neither cottage possessed sufficient historic or architectural significance to be considered an individual historic resource. Similar to his Monarch Cove evaluation, Kirk also found that no historic district to which the cottages could contribute was present. In Kirk's words, both

[35] Capitola Municipal Code, Section 17.87.030 Hearing, http://qcode.us/codes/capitola/.
[36] City of Capitola Historic Structures List, 2005, http://plancapitola.com/Resources.htm.
[37] Swift, *Historic Context Statement for the City of Capitola*, 28.
[38] Anthony Kirk (2001), 5.
[39] Ibid, 5, 7-8.

cottages constituted "minor element[s] of a large complex [the former El Salto estate] that, over time, has undergone a radical transformation and lost its historic integrity."[41]

In April 2002, The City of Capitola commissioned Ms. Susan Lehmann to conduct a peer review of Kirk's evaluations of the Lamplighter's and Mariner's cottages. In contrast to Kirk, Lehmann concluded that the Lamplighter's Cottage was eligible for local designation as a historical resource for its association with the Hanchett-era El Salto estate and as a representative example of a 1920s tourist cottage. Lehmann also concluded that the cottage was not eligible for listing on the National Register of Historic Places or California Register of Historical Resources. While the Mariner's Cottage shares a similar history, Lehmann found that that cottage had been too extensively altered to be eligible for designation as a historical resource.

At its June 2004 meeting, the Capitola City Council determined that both the Lamplighter's Cottage and the Mariner's Cottage should be considered local historical resources for purposes of the California Environmental Quality Act (CEQA).[42] This determination was not accompanied by any specific findings regarding the cottages, and neither cottage has been formally designated a City of Capitola historic feature.

Summary of Significance and Integrity

District

ARG concurs with Dr. Kirk's findings that no historic district is present on or intersects the project site. As detailed by Kirk, the house's landscape and larger environs have changed significantly, with the dissolution of the former estate and gardens and the addition of several single family homes in the vicinity:

> Since the sale of El Salto to Joseph and Mary Tabacchini, the property has undergone enormous changes. More than twenty single-family residences now stand on lots that previously formed the western two-thirds of the estate. Two of the four houses that dated to the English Cottage era are no longer extant. Only six of the eight to eleven cottages built by Hanchett for guests and staff have not been moved or demolished, and two of these have been significantly altered through additions. Many of the outbuildings have also disappeared from the landscape, including the boathouse, the greenhouse, the tankhouse, and the playhouse. With the exception of a single apricot tree, there is not a trace of Hanchett's small farm, and the tennis court has given way to new construction. The once-famed gardens, which continued to flourish into the Tabacchini era, have been radically altered through both the spatial reorganization of plant beds and pathways and the loss of plant stock.[45]

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[41] Anthony Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 4.
[42] City of Capitola, "Initial Study – 620 & 709 El Salto: Relocation of the Lamplighter and Mariner Cottages to the El Salto Resort," 16.
[45] Kirk, DPR 523 form for Lamplighter's Cottage, 2002, 3.

Because the Monarch Cove project site and its surroundings fail to retain historic integrity from the English Cottages, El Salto estate, or El Salto Resort eras, ARG concludes that no historic district is present.

Main House

Because it possesses both historic significance and integrity, the Main House at the Monarch Cove Inn property should be considered a historical resource for purposes of the California Environmental Quality Act (CEQA). In particular, as the only surviving remnant of the English Cottages estate, the Main House appears to satisfy NRHP/CRHR Criterion A/1 for its association with the early development of the Depot Hill Subdivision as a residential area characterized by vacation homes and private estates. The Main House also appears to satisfy NRHP/CRHR Criterion C/3 as a grand and well-preserved example of late-Victorian architecture. In addition, ARG finds that the building appears to satisfy the following City of Capitola historic feature criteria (see Section 5): 1, 3, 8, 9, 10, and 11. Based on this significance, ARG concludes that the house's period of significance extends from its construction in the late 1890s until Lewis Hatchett acquired the English Cottages property in 1911 and proceeded to modify the estate significantly.

The Main House appears to retain a fair level of integrity. Since it has not been moved, the building retains integrity of location. The house also retains integrity of design, materials and workmanship. Most of the materials present, including wood cladding, doors and window sash, appear to be original. The level of workmanship is high, as there are features throughout the house that display fine craftsmanship, including the doors and ceilings. The house appears to retain most of its original design dating to the late nineteenth century. The addition located on the east façade most likely dates from the first half of the twentieth century. Even with this addition, however, the building retains integrity of feeling and association as a grand, bayside Victorian house.

Cottages

Based on site reconnaissance and a review of the evaluations of related structures conducted by Anthony Kirk and Susan Lehmann, ARG concludes that Cottage 1 and Cottage 2, like the Lamplighter's and Mariner's cottages, appear to date from the 1920s. The cottages are significant for their association with the Hanchett family's build out of the El Salto estate.

In June 2004, the Capitola City Council determined that both the Lamplighter's Cottage and the Mariner's Cottage should be considered local historical resources for purposes of CEQA.[46] As a result, ARG concludes that the Monarch Cove cottages should likewise be considered historical resources for purposes of CEQA. In particular, ARG finds that the each cottage appears to satisfy City of Capitola historic feature criteria 10: "The proposed historic feature is a long established feature of the city." As a representative example of an ancillary building (whether a servant or guest cottage) in support of the larger estate, each cottage also appears to satisfy City of Capitola historic feature criteria 1: "The proposed feature is particularly representative

[46] City of Capitola, 16.

of a distinct historic period, type, style, or way of life." The period of significance associated with the cottages extends from their construction in the 1920s until 1946, when the Tabacchinis assumed ownership of the property and transformed it into the El Salto Resort.

As was previously determined with respect to the Lamplighter's and Mariner's cottages, neither of the Monarch Cove cottages appears eligible for listing as an individual resource on the California Register of Historical Resources or the National Register of Historic Places. They are also not eligible for NRHP/CRHR listing as district contributors because, as described above, no district is present.

Cottage 1 and Cottage 2 appear to retain sufficient integrity to convey their historic significance. Integrity of setting has been reduced through the subdivision and material loss of much of the El Salto estate. Otherwise, the cottages appear to possess a high level of integrity. No record was found indicating that either cottage had been moved, so they appear to retain integrity of location. Both cottages are still legible as simple guest cottages or servant's quarters, and neither appears to have undergone any significant additions or exterior alterations. Modifications to the cottages consist primarily of interior alterations that have not changed the buildings' exterior appearance. Exterior modifications appear to be limited to a few minor additions, including the entry pergolas at both cottages, the small bay at the rear of Cottage 2, and the deck that has been added to the side and rear of Cottage 1. As a result, the cottages retain integrity of design, workmanship, materials, feeling and association.

L-shaped Administrative/Garage Building

Though the historical record is less than definitive, some portion of the L-shaped Building appears to date from the Hanchett-era El Salto estate. The original building, however, was significantly altered in 1959, when the Tabacchinis added a wing to the building, creating the L-shaped configuration extant today. Because the footprint of the building has been so significantly altered, the L-shaped Building is not eligible for consideration as a historical resource.

Landscape

ARG, in consultation with Rincon Consultants, evaluated the extant landscape at the Monarch Cove Inn project site to determine whether any important remnant of the larger garden that formerly occupied the site is present and could be considered a designed historic landscape.

According to the National Register Bulletin *How to Evaluate and Nominate Designed Historic Landscapes*, a designed historic landscape is defined as any of the following:

- A landscape that has significance as a design or work of art;
- A landscape consciously designed and laid out by a master gardener, landscape architect, architect, or horticulturalist to a design principle, or an owner or other amateur using a recognized style or tradition in response or reaction to a recognized style or tradition;

- A landscape having a historical association with a significant person, trend, event, etc. in landscape gardening or landscape architecture; and/or
- A landscape having a significant relationship to the theory or practice of landscape architecture.[47]

Regarding the Monarch Cove Inn site, according to Dr. Kirk, "The once-famed gardens [associated with the English Cottages], which continued to flourish into the Tabacchini era, have been radically altered through both the spatial reorganization of plant beds and pathways and the loss of plant stock."[48]

The Historic Context Statement for the City of Capitola contains three references to the garden on the Monarch Cove Inn site at three different time periods of its development. During the English Cottages era (late 1800s to early 1900s), the grounds were landscaped with a traditional English garden, croquet lawn, and clay tennis court. At the time of the Hanchett ownership, in the early 1900s, the grounds are referenced only as part of the extensive grounds that Hanchett was expanding. Finally, since 1998, the Statement says that the grounds have diminished in size and many characteristics associated with the early estate have been altered or lost due to development. It is clear from this analysis that the garden which was initially described as a traditional English garden was significantly altered by Hanchett in the early 1900s and by its following owners over the next 100 years.

Northern California Historic American Landscapes Survey
The Northern California Historic American Landscapes Survey (HALS) provides an inventory of documented historic landscape sites and candidates for HALS documentation in northern California. There are two identified landscapes in Santa Cruz County: Mission Santa Cruz, which is located approximately 4.5 miles west of the project site; and Rancho del Oso, which is located approximately 20 miles northwest of the project site. Neither the Monarch Cove Inn nor the Depot Hill Neighborhood are included in the inventory.[49]

Other Database Searches
The following databases were accessed online in October 2013. Search terms used included "El Salto," "Hanchett," "English Cottages," and "Capitola gardens."

- The History of Landscape Architecture bibliography maintained by the University of California, Berkeley
- Horticultural Services Division, Smithsonian Institution, including the Archives of American Gardens and the W. Atlee Burpee Collection
- The Cultural Landscape Foundation
- California Natural Resources Agency – CERES
- National Archives – Online Public Access

[47] Keller and Keller, 2.
[48] DPR 523 form for Lamplighter's Cottage, prepared by Anthony Kirk, 2002, p. 3.
[49] Historic American Landscapes Survey, Northern California Chapter, *Landscapes Inventory List,* 2013.

None of these databases contained any reference to the landscape or garden located at the Monarch Cove Inn.

California Garden and Landscape History Society
The California Garden and Landscape History Society (CGLHS) hosted a conference in Santa Cruz County and did extensive research at that time to find historic sites to include in the conference. The gardens at the Monarch Cove Inn were not encountered or considered during this process, making it unlikely that they are historically significant.[50] According to the CGLHS, gardens under single ownership are more likely to maintain their integrity, as new owners typically change the gardens on their properties. The property currently occupied by the Monarch Cove Inn has had five different owners and therefore landscape elements are unlikely to have maintained their integrity.[51] Trees are the landscape element most likely to survive a change in ownership, but the project arborist (see summary below) has confirmed that the trees present in the Monarch Cove Inn garden are not historically significant.

Project Arborist Findings
The plant palette in the current landscape on-site does not contain any species (other than Monterey cypress) that would have been popular in an "English garden," which is how the English Cottages era site is described. Therefore it is unlikely that any of the trees present on the property are remnants of the original estate. In the 1920s, the Hanchetts added a fruit orchard, but the cherry tree and other stone fruit trees on the property are no more than 30 years old and cannot be a fragment of the 1920s orchards.[52] It is not possible to accurately determine the exact age of a trees without either removing them and counting rings or using an increment borer to remove a core of the trunk to count rings (a very invasive process). However, the trunk diameters, condition, and appearance of the trees can provide an indication of maturity. In addition, typical life spans of tree species must be taken into account. Based on these observations, it appears that none of the trees present on the property are from the English Cottages-era or 1920s-era landscapes.[53]

Capitola Municipal Code
Chapter 12.12 of the City of Capitola's Municipal Code (Community Tree and Forest Management) includes provisions to protect trees within the City with a policy "to protect the locally significant, scenic and mature trees as listed in the [City's] heritage tree list." A "heritage" tree is any locally significant, scenic and mature tree growing on public or private property that is listed on the City's adopted heritage tree list. The trees on the Monarch Cove Inn project site are not considered "heritage" trees under City of Capitola regulations (Chapter 12.12 – Community Tree and Forest Management) as they are not on the adopted list.

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[50] Marlea Graham, Retired Editor, CGLHS, Personal Communication with Rincon Consultants, October 9, 2013.
[51] Ibid.
[52] Maureen Hamb, Certified Arborist, Personal Communication with Rincon Consultants, October 16, 2013.
[53] Ibid.

Summary
After thoroughly reviewing information from national, state and local resources, including numerous databases, professional contacts, and local ordinances, no evidence has been found to suggest that the garden located at the Monarch Cove Inn project site has historic significance as a landscape. It is not listed in any national or state databases of historic landscapes, nor was it a garden of which the CGLHS had any knowledge. The ownership of the property has changed numerous times since it was first developed in the late 1890s, which increases the likelihood that significant alterations to the landscape have been made. Furthermore, the parcels have been subdivided, making it nearly impossible for the original layout of the garden to retain integrity for the period of significance. The trees on the project site are not considered "heritage" trees under City of Capitola regulations, nor are they historically significant trees that have been on the property since the 1920s. Therefore, we conclude that the extant garden at the Monarch Cove Inn property does not meet the definition of a designed historic landscape and is not a historical resource.

Character-defining Features
A character-defining feature is an aspect of a building's design, construction, or detail that is representative of the building's function, type, or architectural style. Generally, character-defining features include specific building systems, architectural ornament, construction details, massing, materials, craftsmanship, site characteristics and landscaping within the period of significance. In order for a historic resource to retain its significance, its character-defining features must be retained to the greatest extent possible. An understanding of a building's character-defining features is a crucial step in developing a rehabilitation plan that incorporates an appropriate level of restoration, rehabilitation, maintenance, and protection.

ARG has identified the following character-defining features of the Main House:

- Rectangular plan
- Horizontal wood siding with corner boards
- Hipped roof with gabled dormers
- Casement/picture windows with divided-light upper windows
- Shingles at dormers
- Polygonal bays on south elevation and at northeast corner
- Bayside location

ARG has identified the following character-defining features of Cottage 1:

- Rectangular plan
- Single story
- Hipped roof
- Horizontal wood siding
- Wood sash windows, including fixed and six-over-one, double-hung windows
- Wood window and door surrounds

ARG has identified the following character-defining features of Cottage 2:

- Rectangular plan
- Single story
- Gabled roof with exposed rafter tails
- Horizontal wood siding
- Double-hung wood windows
- Wood window and door surrounds

7. CEQA AND HISTORICAL RESOURCES

When a proposed project may cause a substantial adverse change in the significance of an historical resource, the California Environmental Quality Act (CEQA) requires a city or county to carefully consider the possible impacts before proceeding (Public Resources Code Section 21084.1). CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (Section 21084.1). The Act explicitly prohibits the use of a categorical exemption within the CEQA Guidelines for projects which may cause such a change (Section 21084).

A "substantial adverse change" in the significance of a historical resource is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." Further, that the significance of an historical resource is "materially impaired" when a project:

- "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the California Register of Historical Resources; or

- "demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources... or its identification in an historical resources survey..., unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- "demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA." (Guidelines Section 15064.5(b))

CEQA effectively requires preparation of a mitigated Negative Declaration or an EIR whenever a project may adversely impact historic resources. Current CEQA law provides that an EIR must be prepared whenever it can be fairly argued, on the basis of substantial evidence in the administrative record, that a project may have a significant effect on a historical resource (Guidelines Section 15064(f)(1)). A mitigated Negative Declaration may be used where all potentially significant effects can be mitigated to a level of insignificance (Guidelines Section 15064(f)(2)). For example, a mitigated Negative Declaration may be adopted for a project that mitigates significant effects on an historical resource by meeting the Secretary *of Interior's Standards for Rehabilitation* and local historic preservation regulations.

For the purposes of CEQA (Guidelines Section 15064.5), the term "historical resources" shall include the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in, the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et.seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (Public Resources Code Section 5024.1, Title 14 CCR, Section 4852) as follows:

   A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

   B. Is associated with the lives of persons important in our past;

   C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

   D. Has yielded, or may be likely to yield, information important in prehistory or history. (Guidelines Section 15064.5)

8. EVALUATION OF PROPOSED PROJECT

Description of Proposed Project
The project entails converting the existing Monarch Cove Inn at 620 El Salto Drive on Depot Hill to a 41-room hotel. (See Appendix B for project drawings completed by Thacher & Thompson Architects in March 2013.) Cottage 1, Cottage 2 and the L-shaped Building/Garage will be demolished to make way for a new two-story, 16,729-square-foot Main Building that will contain a reception area, two meeting rooms, twenty-two guest rooms, and two levels of below-grade parking. At its closest point, the Main Building will be approximately 25 feet northwest of the Main House. The nine guestrooms in the Main House will be maintained, but the Main House will be seismically strengthened and will be temporarily relocated during construction of the Main Building.

To the southwest of the Main House, the 5,894-square-foot, two-story Bayview Building containing an additional ten guest rooms will be constructed. At its closest point, this building will pass within approximately 30 feet of the Main House. The outdoor deck south of the Main House will be demolished.

Relocation of the Main House
The Main House will be temporarily relocated approximately 20 feet to the south to avoid potential subsidence associated with excavation of the Main Building's below-grade parking structure. The Main House will be moved using a series of hydraulic jacks, which will raise the existing building while keeping it level. Cribbing will be used in conjunction with steel beams to create a temporary lattice sub-structure under the first floor. (The existing crawl space will provide the access needed to perform this initial work.) The hydraulic jacks will lower the house so that the existing floor joists and girders are entirely supported by the temporary sub-structure. House mover's dollies will be placed under the main beams in the sub-structure and the house will then be moved to its temporary location, where it will remain during construction of the Main Building (approximately 6 months).

Excavation for Main Building
The excavation for the below-grade parking structure will use conventional excavating equipment required to fill the trucks to export the excess material. No piers or pile-driving equipment will be used. The maximum excavation depth will be approximately 20 feet, while the average depth will be approximately 15 feet.

New Foundation for Main House
After the Main Building's below-grade parking structure and all permanent grading have been completed, the Main House will be moved into its final location. While the structure is still supported by the temporary sub-structure, a new concrete foundation will be constructed directly below the Main House. With the foundation complete, the Main House will be lowered with the hydraulic jacks on to its new foundation and attached. The new foundation will be reinforced concrete with pressure treated sill plates. The house's existing lattice skirting

between the first floor and the foundation will be preserved, but new plywood shear panels will be constructed behind them to attach the first floor diaphragm to the new foundation walls.

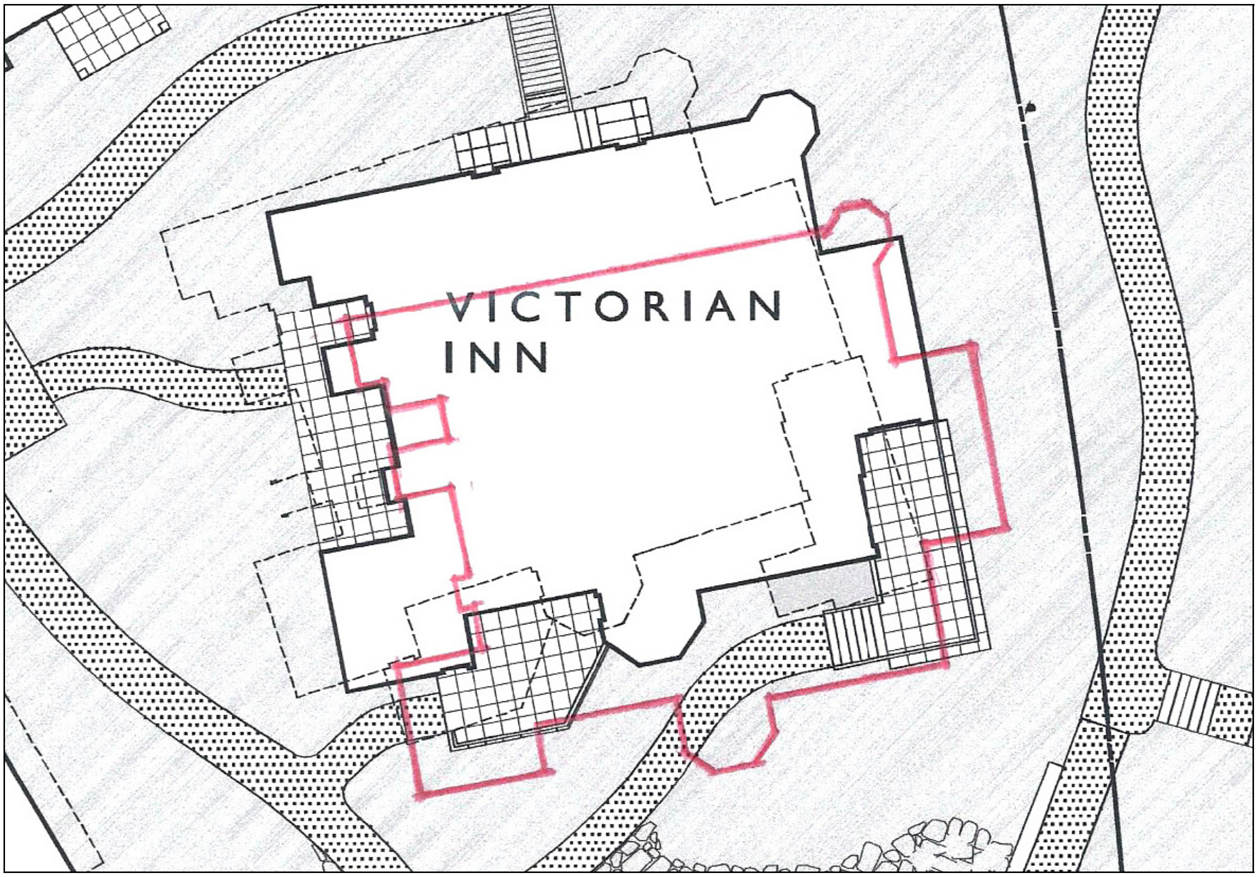


Figure 4. *Marked-up version of project site plan (Appendix C) showing current location of Main House (in dashed line), temporary location (in red line), and final location (in solid black line). Charles Eadie of Hamilton Swift and Associates submitted this graphic to ARG on August 16, 2013.*

Project Impacts and Mitigation Measures
The following analysis is based on project drawings prepared by Thacher and Thompson Architects and dated March 2013. (These drawings are included below as Appendix B.) We consider in turn four kinds of potential impacts to historical resources:

1) Impacts related to the demolition of three buildings and a deck on the site;
2) Impacts related to the treatment of the Main House;
3) Impacts directly related to the construction of the Main Building and the Bayview Building; and
4) Impacts related to the design of the proposed new construction.

Demolition
Because they do not appear eligible for consideration as historical resources, the proposed demolition of the deck and L-shaped administrative/garage building does not constitute a potential impact to historical resources for purposes of CEQA. In addition, both of these

buildings/structures is sufficiently far from the Main House that their demolition would not physically endanger the Main House.

Because the two cottages appear eligible for designation as local historical resources, their demolition would constitute a significant impact to historical resources.

Impact 1. The project includes demolition of Cottage 1 and Cottage 2, both of which appear eligible for listing in the Capitola Register of Historic Features. As a result, the proposed project would have a significant impact on historical resources.

> Mitigation Measure 1. The Cottages shall, if feasible, be stabilized and relocated to a site in the vicinity that is generally in keeping with the character of the buildings' current coastal setting. After relocation, the preservation, rehabilitation, and restoration, as appropriate, of the cottages shall follow the *Secretary of the Interior's Standards* to ensure that the buildings retain their integrity and historical significance.

If implemented, Mitigation Measure 1 would reduce demolition-related impacts to less than significant.

Treatment of Main House

As described above, the Main House will be moved and set atop a new foundation. The building will ultimately be shifted less than 10 feet from its existing location and the house's final location will overlap considerably with its existing location. As such, the proposed relocation itself is not anticipated to cause a substantial adverse change in the historic significance of the Main House.

Central to any assessment of whether a proposed action is in accordance with *the Secretary's Standards* is an evaluation of the effect the action will have on character-defining features. To meet the *Secretary's Standards*, care need be taken to, wherever possible, preserve character-defining features, to repair instead of replace deteriorated features, and to replace-in-kind features that are too severely deteriorated to repair.

Based on communication from the project applicant, the only portions of the Main House that will be detached as part of the relocation process are the existing foundation, along with four decks (two on the north elevation and two on the south elevation) consisting of wooden floorboards and railings. The decks will be reconstructed using materials similar to the existing, and the house will receive a new concrete foundation.

None of the existing decks appears to be original to the building. The sizable deck at the house's southeast corner does not appear in the only available historic photograph of the building (Figure 1, above). The other deck on the south elevation has been significantly reconfigured since this historic photograph was taken, and none of the existing floorboards or railing appears to be original. Given their size and configuration, the two small decks on the north side of the house appear to date from the post-WWII conversion of the house into nine separate rental units. Because the decks do not date from the building's period of significance, their removal and reconstruction using in-kind materials does not constitute a significant impact to historical resources.

New Design

According to the project drawings, the proposed Main Building will rise to a maximum height of 30 feet, while the Bayview Building will reach a maximum height of 26 feet. The new buildings will feature standing seam metal roofs; painted wood eaves and trim; painted cedar shingle siding; textured concrete bases; metal railings; wood and aluminum doors; and wood and aluminum windows, many of them multi-light. As such, the proposed design of the Main Building and Bayview Building is compatible with the design of the Main House without directly copying it and is generally in conformance with Secretary Standard 9:

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

The new construction will be sited north and west of the Main House, and will not interfere with the house's relationship with the coast. The location proposed for the Main Building is significantly altered and does not contribute to the Main House's historic significance. The proposed location of the Bayview Building would require removal of the garden immediately west of the Main House. As discussed above in section 6, this garden does not meet the definition of a designed historic landscape, and thus should not be considered a historical resource for purposes of the California Environmental Quality Act.

Construction

The proposed construction of the Main Building and the Bayview Building is not anticipated to have an impact on the Main House. Given the distance between the new buildings and the Main House, the new construction will not damage the exterior of the historic house and no protective barriers are necessary. The new construction will not include any pile driving or other activities likely to generate significant ground-borne vibration that would endanger the structural stability of the Main House. Finally, the Main House is proposed for temporary relocation in order to avoid a potential construction-related impact (potential subsidence associated with excavation of the Main Building's below-grade parking structure).

9. BIBLIOGRAPHY

A Memorial and Biographical History of the Counties of Fresno, Tulare, and Kern, California. Chicago: Lewis Publishing Company, 1892, 293-4, 441-42.

California Natural Resources Agency. Website (http://ceres.ca.gov/), accessed October 2013.

California Office of Historic Preservation. *California Register of Historical Resources: The Listing Process*, Technical Assistance Series 5. Sacramento, CA: California Department of Parks and Recreation, n.d.

California Office of Historic Preservation. *California Register and National Register: A Comparison*, Technical Assistance Series 6. Sacramento, CA: California Department of Parks and Recreation, 2001.

California Office of Historic Preservation. *User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory*, Technical Assistance Bulletin 8. Sacramento, CA: California Department of Parks and Recreation, 2004.

Capitola Museum. Historical Information: Background on the English Cottages/El Salto Resort. n.d.

City of Capitola. "Initial Study – 620 & 709 El Salto: Relocation of the Lamplighter and Mariner Cottages to the El Salto Resort." October 2004. [Included in October 16, 2004 Staff Report to City Council.]

Cultural Landscape Foundation. Website (http://tclf.org), accessed October 2013.

Duval C. and F. Maggi. DPR 523 form for Grandmother's Cottage. 2000. City of Capitola Community Development files.

HALS 101: The Historic American Landscapes Survey. Washington, DC: National Park Service, 2012.

Hanchett Butler, Lucy. "El Salto." 1967. City of Capitola Community Development files.

Historic American Landscapes Survey, Northern California Chapter, *Landscapes Inventory List,* 2013. Website (http://halsca.org/landscapes.htm), accessed October 11, 2013.

Keller, J.T., and Genevieve P. Keller. *How to Evaluate and Nominate Designed Historic Landscapes*. Washington, DC: U.S. Dept. of the Interior, National Park Service, Interagency Resources Division, 1987.

Kirk, Anthony. "Evaluation of a Proposed Project to Construct a Wall at Monarch Cove Inn." 2001.

Kirk, Anthony. DPR 523 form for Lamplighter's Cottage. 2002. City of Capitola Community Development files.

Kirk, Anthony. DPR 523 form for Mariner's Cottage. 2002. City of Capitola Community Development files.

Lehmann, Susan. "Review of Historical Evaluation for the Property Located at 709 El Salto Drive Capitola." Prepared for City of Capitola. April 29, 2002.

Lydon, Sandy and Carolyn Swift. *Soquel Landing to Capitola-by-the-Sea*. Cupertino, CA: California History Center, DeAnza College, 1978.

National Archives. *Research Our Records*. Website (http://www.archives.gov/research/search/), accessed October 2013.

National Park Service. *How to Apply the National Register Criteria for Evaluation*, Washington, DC: United States Department of the Interior, 1997.

National Park Service. *How to Complete the National Register Registration Form*. Washington, DC: United States Department of the Interior, 1997.

Smithsonian Institution. *Archives, Manuscripts, Photographs Catalog, Smithsonian Institution Research Information System (SIRIS).* Website (http://siris-archives.si.edu/ipac20/ipac.jsp?session=1Q38C94K41477.40153&profile=all&menu=search&submenu=power&ts=1238794641494#focus), accessed October 2013.

Swift, Carolyn. *Historic Context Statement for the City of Capitola*. June 2004.

University of California, Berkeley. *Library Database*. Website (http://sunsite.berkeley.edu:9876/index.html?ql=a&charset=iso-8859-1&style=LibraryWeb), accessed October 11, 2013.

Appendix A: Existing Conditions Photographs of the Project Site

Monarch Cove Hotel
Historic Resources Technical Report, Architectural Resources Group

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, south elevation, view looking north
(Architectural Resources Group, July 2013)

Main house, south elevation east porch, view looking north
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, south elevation dormers, view looking northwest
(Architectural Resources Group, July 2013)

Main house, south elevation west porch, view looking north
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, west and south elevations, view looking northeast
(Architectural Resources Group, July 2013)

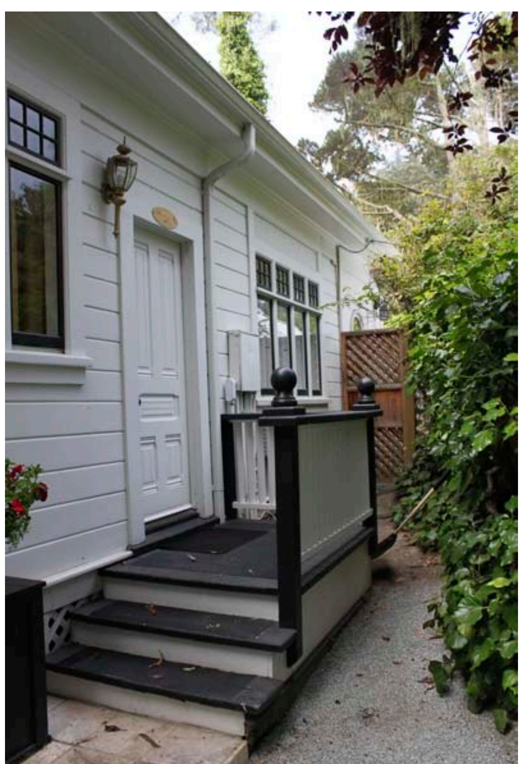
Main house, west elevation porch, view looking east
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, north end of west facade, view looking north
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, north elevation, view looking south
(Architectural Resources Group, July 2013)



Main house, north elevation, view looking west
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, east elevation, view looking west
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house, detail of second-story addition, view looking northwest
(Architectural Resources Group, July 2013)

Main house, east elevation, view looking southwest
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house interior, northeast corner bay window, view looking northeast
(Architectural Resources Group, July 2013)

Example of doors located throughout Main house
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Main house interior
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Garage/L-Shaped building, view looking north
(Architectural Resources Group, July 2013)

Garage/L-shaped building, east elevation, view looking west
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Garage/L-Shaped building, north corner, view looking southwest
(Architectural Resources Group, July 2013)

Garage/L-Shaped building, north elevation, view looking southeast
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Cottage 1, west elevation, view looking east
(Architectural Resources Group, July 2013)

Cottage 1, south elevation, view looking north
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Cottage 2, west and south elevations, view looking north
(Architectural Resources Group, July 2013)

Cottage 2, north and west elevations, view looking southeast
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Grounds, covered bar and wooden deck, view looking east
(Architectural Resources Group, July 2013)

Grounds, view looking southwest
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Grounds, Main house and Cottage 1, view looking north
(Architectural Resources Group, July 2013)

Grounds, Main house and landscaping, view looking north
(Architectural Resources Group, July 2013)

Appendix A: Existing Conditions Photographs of Monarch Cove Inn

Grounds, view looking south
(Architectural Resources Group, July 2013)

Grounds, view looking northeast
(Architectural Resources Group, July 2013)

Appendix B: Monarch Cove Project Drawings, March 2013

1 SITE PLAN

SCALE: 1/20"=1'-0"

PROJECT DATA

TOTAL SITE AREA:	61,892 SF
LESS AREA BELOW CLIFF:	6,374 SF
NET DEVELOPABLE:	55,518 SF
AVERAGE BUILDING HEIGHT:	30 FT
EXISTING GUEST ROOMS:	9
NEW PROPOSED GUEST ROOMS:	32
TOTAL GUEST ROOMS:	41

AREA CALCULATIONS

BUILDING COVERAGE:	14,728 SF	26.5%
TERRACES, FOUNTAINS, PLANTERS:	3,137 SF	5.7%
LANDSCAPE:	25,896 SF	46.6%
PERVIOUS PAVED DRIVEWAY:	5,653 SF	10.2%
CONCRETE SIDEWALKS & DRIVEWAYS:	6,104 SF	11%

RIGHT OF WAY

POROUS PAVING:	2,617 SF	12.7%
CONCRETE DRIVEWAY AND RAMP:	2,494 SF	12.2%
ASPHALT:	450 SF	2.2%
LANDSCAPE PLANTING:	14,950 SF	72.9%

PARKING

GARAGE UPPER LEVEL:	26 SPACES
GARAGE LOWER LEVEL:	30 SPACES
UNCOVERED:	4 SPACES
TOTAL SPACES:	60 SPACES
STANDARD SPACES:	38 SPACES
H.C. ACCESSIBLE SPACES:	2 SPACES
TANDEM SPACES:	20 SPACES
TOTAL SPACES:	60 SPACES
CLASS 1 BIKE PARKING:	16 SPACES
CLASS 2	11 SPACES
TOTAL BIKE PARKING:	27 SPACES

SHEET INDEX

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MONARCH COVE

620 EL SALTO DRIVE
CAPITOLA, CA

SITE PLAN & PROJECT DATA

DRAWING DATE
MARCH 2013

LICENSED ARCHITECT
MATTHEW THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION
STATE OF CALIFORNIA

A1

(1) MAIN AND HISTORIC BUILDINGS WEST ELEVATIONS
SCALE: 1/8" = 1'-0"

TYPICAL MATERIALS

STANDING SEAM METAL ROOF

PAINTED WOOD EAVES AND TRIM

PAINTED CEDAR SHINGLES

METAL RAILINGS

WOOD AND ALUMINUM DOORS AND WINDOWS

TEXTURED CONCRETE BASE

(2) HISTORIC AND MAIN BUILDINGS EAST ELEVATIONS
SCALE: 1/8" = 1'-0"

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620 EL SALTO DRIVE
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MAIN AND HISTORIC BUILDINGS EAST AND WEST ELEVATIONS

DRAWING DATE
MARCH 2013

LICENSED ARCHITECT
MATTHEW THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION
STATE OF CALIFORNIA

A3.1

1 MAIN BUILDING SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

2 MAIN BUILDING NORTH ELEVATION

SCALE: 1/8" = 1'-0"

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620 EL SALTO DRIVE
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MAIN BUILDING
SOUTH AND
NORTH
ELEVATIONS

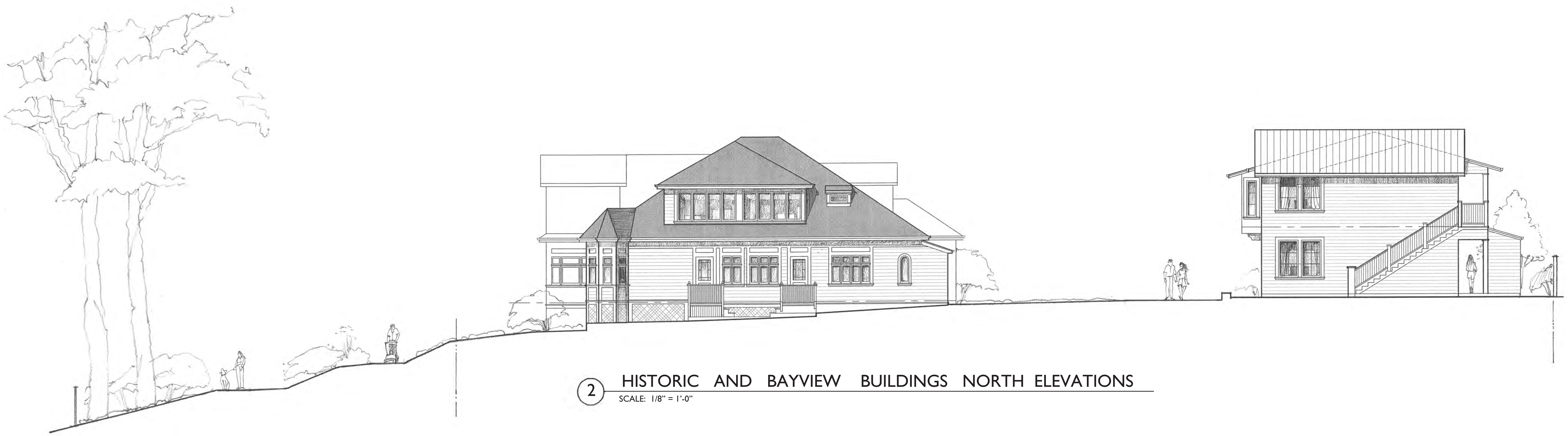
DRAWING DATE
MARCH 2013

LICENSED ARCHITECT
MATTHEW
THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION
STATE OF CALIFORNIA

A3.2

1 BAYVIEW AND HISTORIC BUILDINGS SOUTH ELEVATIONS

SCALE: 1/8" = 1'-0"



2 HISTORIC AND BAYVIEW BUILDINGS NORTH ELEVATIONS

SCALE: 1/8" = 1'-0"

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BAYVIEW AND
HISTORIC BUILDINGS
SOUTH AND NORTH
ELEVATIONS

DRAWING DATE
MARCH 2013

LICENSED ARCHITECT
MATTHEW
THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION
STATE OF CALIFORNIA

A3.3

1 BAYVIEW BUILDING EAST ELEVATION

SCALE: 1/8" = 1'-0"

2 BAYVIEW BUILDING WEST ELEVATION

SCALE: 1/8" = 1'-0"

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MONARCH COVE

620 EL SALTO DRIVE
CAPITOLA, CA

BAYVIEW BUILDING
WEST AND EAST
ELEVATIONS

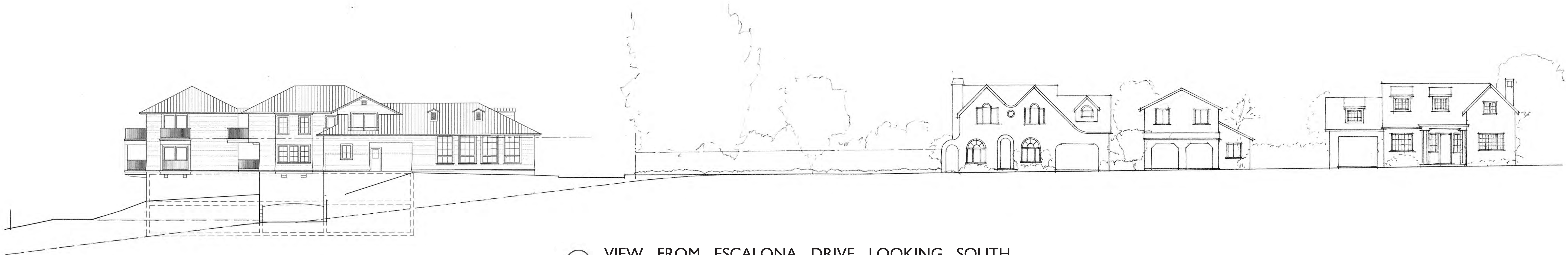
DRAWING DATE
MARCH 2013

LICENSED ARCHITECT
MATTHEW
THOMPSON
C 17004
AUGUST 31, 2013
EXPIRATION
STATE OF CALIFORNIA

A3.4

1 VIEW FROM EL SALTO DRIVE LOOKING NORTH

SCALE: 1/16" = 1'-0"



2 VIEW FROM ESCALONA DRIVE LOOKING SOUTH

SCALE: 1/16" = 1'-0"

3 VIEW LOOKING EAST WITH ESCALONA DRIVE ON THE LEFT AND MONTEREY BAY ON THE RIGHT

SCALE: 1/16" = 1'-0"

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COMPOSITE NEIGHBORHOOD STREET ELEVATIONS

DRAWING DATE
MARCH 2013

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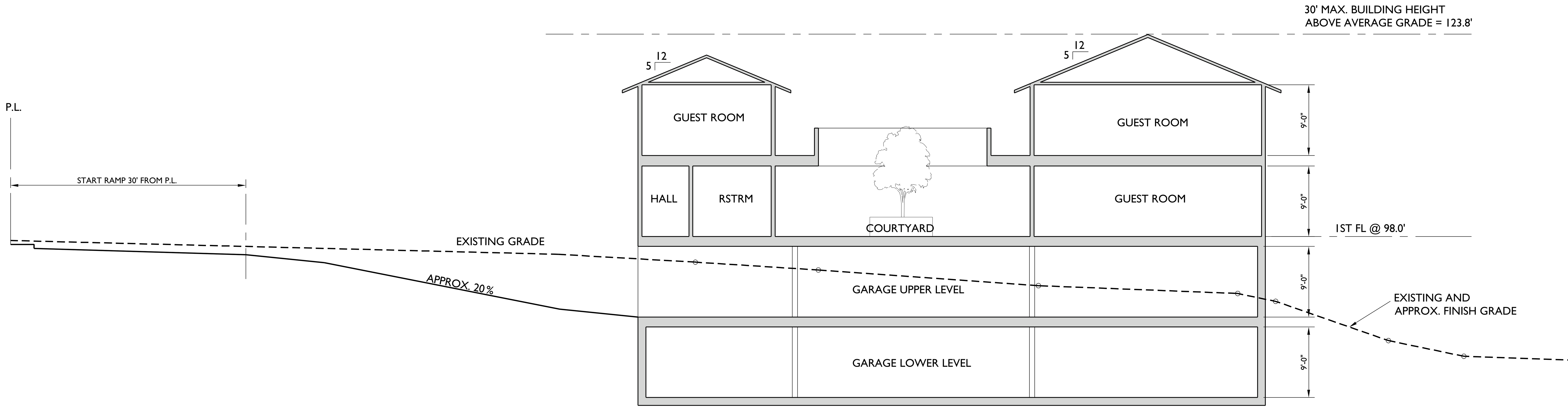
EXPIRATION
STATE OF CALIFORNIA

A3.5



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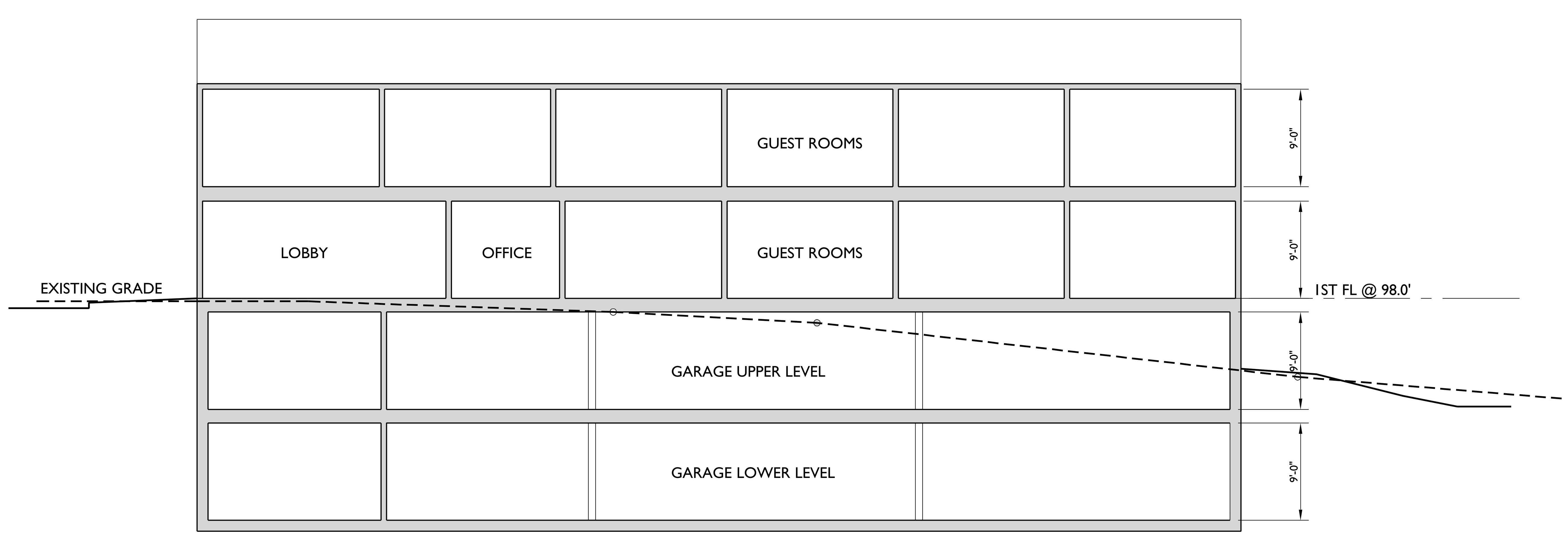
SCALE: 1/8"=1'-0"



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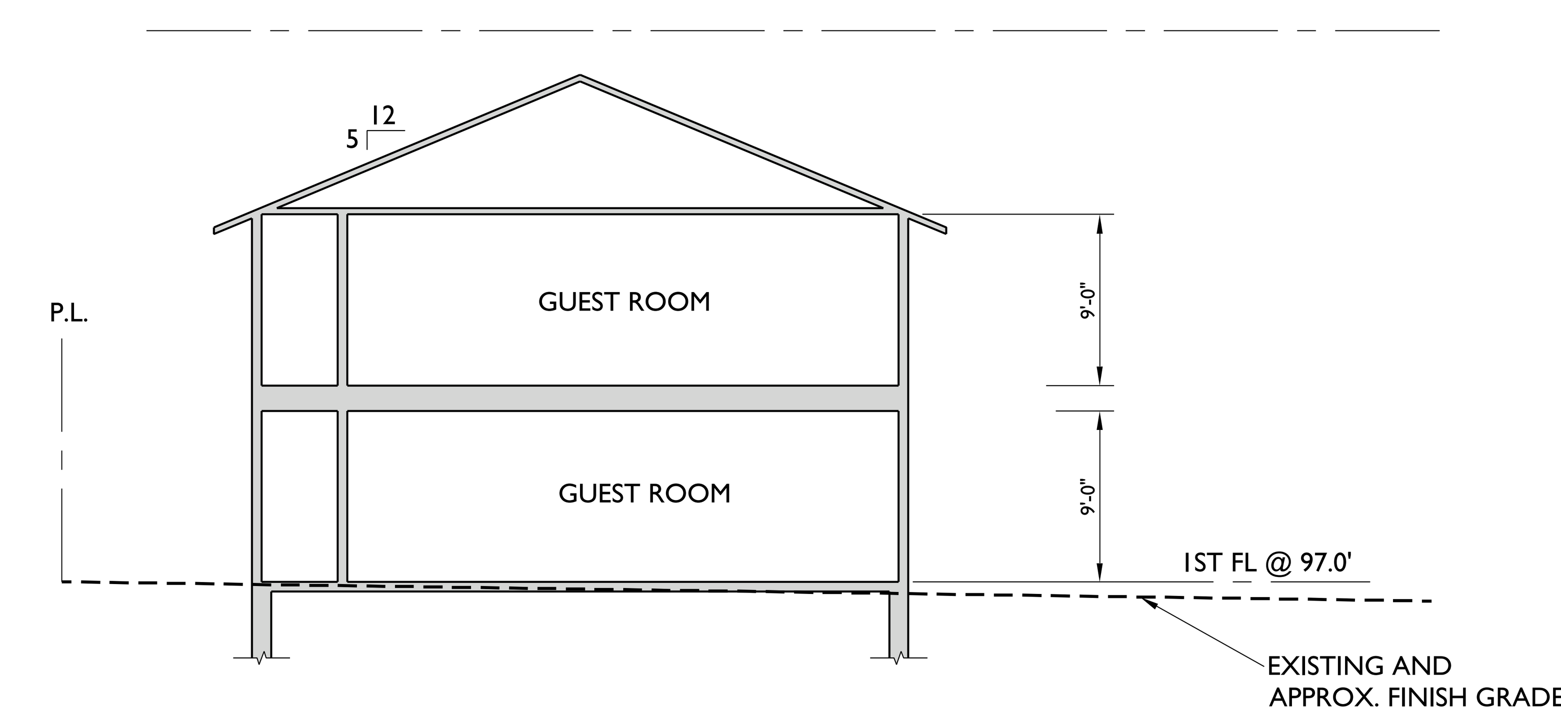

3 SECTION D
SCALE: 1/8"=1'-0"

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620 EL SALTO DRIVE
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SECTIONS

DRAWING DATE
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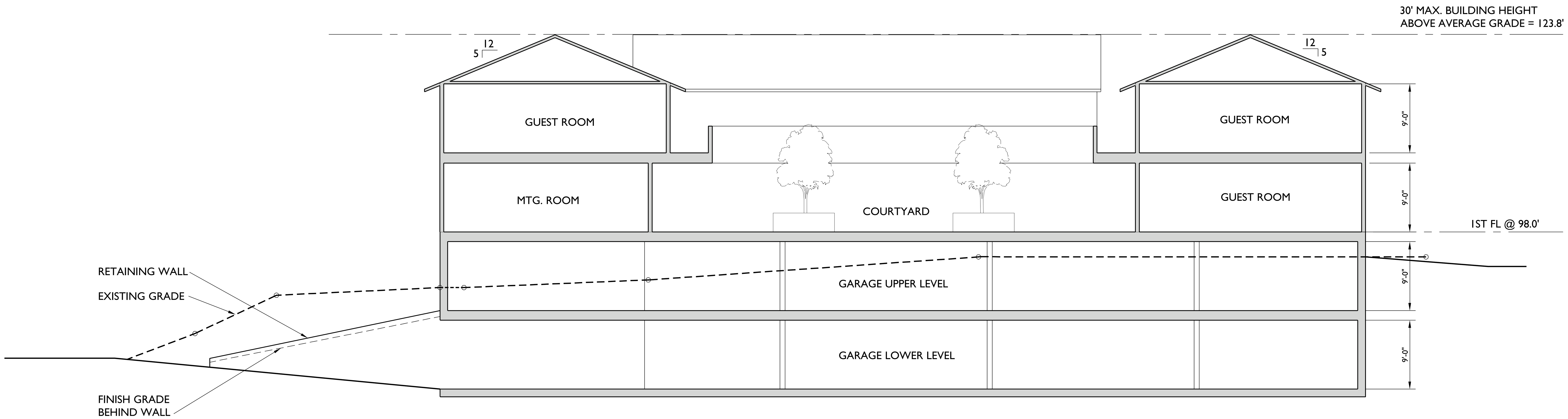
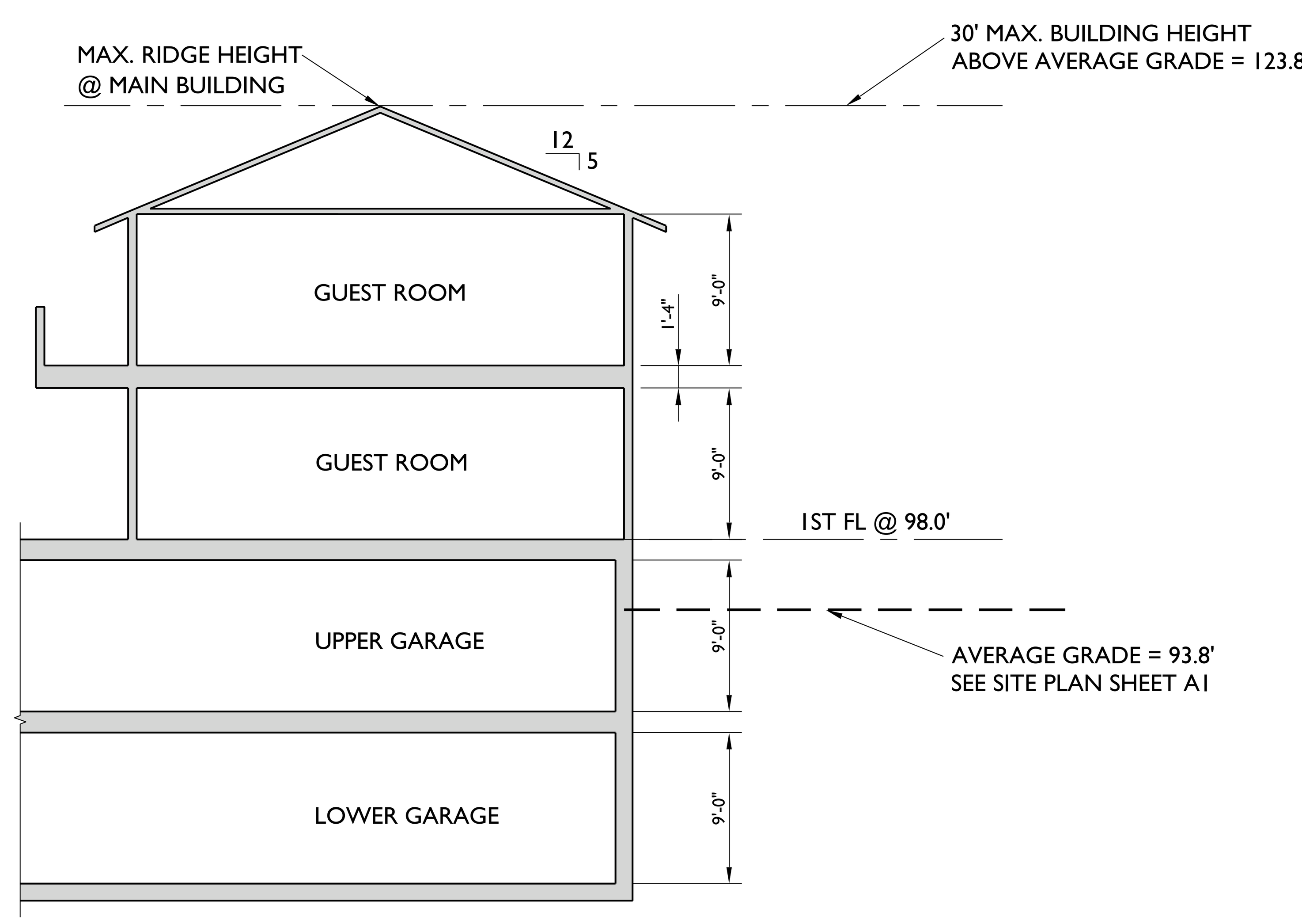
EXPIRATION
STATE OF CALIFORNIA

A4.1



1 SECTION C
SCALE: 1/8"=1'-0"



2 BUILDING HEIGHT DIAGRAM
SCALE: 1/8"=1'-0"

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A4.2

VIEW LOOKING EAST ON EL SALTO DRIVE

VIEW LOOKING EAST ON ESCALONA DRIVE

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A 0

Appendix C: The Secretary of the Interior's Standards for Rehabilitation

Appendix C: The Secretary of the Interior's Standards for Rehabilitation

The Secretary of the Interior is responsible for establishing standards for all programs under Departmental authority and for advising Federal agencies on the preservation of historic properties listed in or eligible for listing in the National Register of Historic Places. The *Standards for Rehabilitation* (codified in 36 CFR 67 for use in the Federal Historic Preservation Tax Incentives program) address the most prevalent treatment. "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the *Standards for Rehabilitation* (the *Standards*) have been widely used over the years—particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. In addition, the *Standards* have guided Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and State and local officials in reviewing both Federal and nonfederal rehabilitation proposals. They have also been adopted by historic district and planning commissions across the country.

The intent of the *Standards* is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The *Standards* pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction. To be certified for Federal tax purposes, a rehabilitation project must be determined by the Secretary of the Interior to be consistent with the historic character of the structure(s), and where applicable, the district in which it is located.

The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

The ten Standards are:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

In general, projects that are in compliance with the *Standards* are considered under CEQA to have a less-than-significant impact on historic resources.

Appendix D.2

Phase I Archaeological Resources Survey

Phase I Archaeological Resources Survey for the Monarch Cove Hotel Project Capitola, Santa Cruz County, California

U.S.G.S. *Soquel, CA* quadrangle

Prepared for:
City of Capitola
420 Capitola Avenue
Capitola, California 95010

Prepared by:
Rincon Consultants
437 Figueroa, Suite 203
Monterey, CA 93940

Authors: Hannah G. Haas, B.A.
and Robert Ramirez, M.A., RPA

November 14, 2013

Keywords: Soquel, CA quadrangle; no resources

rincon

Environmental Scientists Planners Engineers

H. Haas and R. Ramirez

2013 *Phase I Archaeological Resources Survey for the Monarch Cove Hotel Project, Capitola, Santa Cruz County, California*. Rincon Consultants Report No. 13-01039. Report on file at the Northwest Information Center, Sonoma, California.

Monarch Cove Hotel

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EXECUTIVE SUMMARY

Rincon Consultants was retained by the City of Capitola to conduct a Phase I archaeological resources survey of the area to be affected by the expansion of the Monarch Cove Hotel. The project site is approximately 1.4 acres, located at 620 El Salto Drive in Capitola, Santa Cruz County, California. The City of Capitola will conduct an environmental review for the project in accordance with California Environmental Quality Act guidelines. This archaeological resources study has been conducted in support of the environmental review and included a records search, Native American scoping, intensive pedestrian survey, and report of results.

The results of the cultural resources records search, Native American scoping, and intensive pedestrian survey did not identify any archaeological resources within the project site. The following measures are recommended in the case of unanticipated discoveries.

UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's *Professional Qualifications Standards* for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation may be warranted.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities; if human remains are found, State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to 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 will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

1.0 INTRODUCTION

Rincon Consultants (Rincon) was retained by the City of Capitola to conduct an archaeological resources survey for the Monarch Cove Hotel Project (project). The hotel complex (project site) is located on an approximately 1.4 acre parcel within the City of Capitola, Santa Cruz County, California. The City of Capitola will conduct an environmental review for the project in accordance with California Environmental Quality Act (CEQA) guidelines. A separate historic resources report has been prepared for the project.

1.1 PROJECT DESCRIPTION

The project, located at 620 El Salto Drive on Depot Hill in the City of Capitola, proposes the expansion of the existing Monarch Cove Inn. The proposed project would involve demolition of two small cottages, an L-shaped building housing garage spaces and the hotel office, and the outdoor event deck. These structures would be replaced by two new buildings. The proposed new Monarch Cove Hotel would consist of two new buildings and the existing Victorian structure. A two-level, below grade parking garage (8,322 square feet on each level) with 56 parking stalls and 27 bicycle parking spaces is also proposed. A separate bicycle entrance would be included to the below grade parking garage. Four additional surface parking spaces would be included near the entrance to the main building.

1.2 REGULATORY SETTING

CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC, Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Imagery provided by ESRI and its licensors, 2013. USGS Topo, Copyright: © 2013 National Geographic Society. Soquel Quadrangle. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Area
One-Half Mile Buffer

N

0 1,000 2,000 Feet
0 250 500 Meters
1:24,000

Project Location Map

Figure 1

A *historical resource* is a resource listed in, or determined to be eligible for listing, in the CRHR, a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

Section 15064.5(a)(3) also states that a resource shall be considered by the lead agency to be "historically significant" if the resource meets any of the following criteria for listing on the CRHR:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or posses high artistic values; or
4) Has yielded, or may be likely to yield, information important in prehistory or history.

1.3 PERSONNEL

Rincon Cultural Resources Program Manager Kevin Hunt, B.A., managed the archaeological resources study. Archaeologist Hannah Haas requested the records search from the Northwest Information Center (NWIC), conducted Native American scoping, and served as the primary author of this report. Archaeologist Amber Barton, M.A. conducted the archaeological resources survey. Cultural Resources Principal Investigator Robert Ramirez, M.A., Registered Professional Archaeologist (RPA), coauthored this report and served as principal investigator. GIS and Graphic Technician Craig Huff prepared Figure 1. Rincon Vice-President Duane Vander Pluym, D. Env., reviewed this report for quality control.

2.0 NATURAL SETTING

The project site is located within the corporate limits of the City of Capitola which is situated on the northern coast of Monterey Bay at an elevation of approximately 25 meters (82 feet) above mean sea level. The project site is occupied by the Monarch Cove Inn, a hotel complex built in 1895. The grounds of the inn are landscaped with grass and English rose gardens. Native vegetation would have included plants such as cypress, oak, and beach wild rye. The project site is surrounded by residential neighborhoods to the north, west, and east and the Pacific Ocean to the south.

3.0 CULTURAL SETTING

3.1 PREHISTORIC CONTEXT

The project site lies in what is generally described as the Central Coast Archaeological Region, one of eight organizational divisions of the state (Moratto 1984:Fig. 1). This region extends from the area south of San Francisco to Morro Bay, and includes all of Santa Cruz County.

Several chronological sequences have been devised to understand cultural changes within the Central Coast Region from the Milling Stone period to contact. Jones (1993) and Jones and Waugh (1995) presented a Central Coast sequence that integrated the data results of cultural resource management since the 1980s. Three periods are presented in their prehistoric sequence subsequent to the Milling Stone period: Early, Middle, and Late periods. More recently, Jones and Ferneau (2002:213) updated the sequence following the Milling Stone period as follows: Early, Early-Middle Transition, Middle, Middle-Late Transition, and Late periods. The archaeology of the Central Coast Region subsequent to the Milling Stone period is distinct from that of the Bay Area and Central Valley, although the region has more in common with the Santa Barbara Channel area during the Middle and Middle-Late Transition periods, but few similarities during the Late period (Jones & Ferneau 2002:213).

3.1.1 Paleo-Indian Period (ca. 10,000 to 6,000 B.C.)

When Wallace developed the Early Man horizon in the 1950s, little evidence of human presence was known for the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified numerous sites older than this date, including coastal and Channel Islands sites (e.g., Erlandson 1991; Johnson et al. 2002; Moratto 1984). The earliest accepted dates for occupation are from two of the Northern Channel Islands, located off the coast from Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002).

Only a few archaeological sites within the Central Coast Region are documented prior to 6,000 years ago. It is likely that most earlier coastal sites are presently under water because it is estimated that 10,000 years ago sea levels were 15 – 20 meters lower than today (Bickel 1978:7). Estimates place the early Holocene shore in central and southern California at approximately 10 kilometers farther west than today’s coastline (Breschini and Haversat 1991:126)

The only evidence of human occupation of the Central Coast during this period are isolated fluted projectile points from Nipomo and Santa Margarita in San Luis Obispo County (Jones et al. 2007). Recent data from Paleo-Indian sites in southern California indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002) and on Pleistocene lake shores in eastern California (Moratto 1984:90–92).

3.1.2 Milling Stone Period (6000-3000 B.C.)

The Milling Stone horizon of Wallace (1955, 1978) is characterized by an ecological adaptation to collecting, and by the dominance of the principal ground stone implements generally associated with the horizontal motion of grinding small seeds; namely, milling stones (metates, slabs) and hand stones (manos, mullers), which are typically shaped (Wallace 1955, 1978; Warren 1968). Milling stones occur in large numbers for the first time in the region’s archaeological record, and are even more numerous near the end of this period. As testified by their toolkits and shell middens in coastal sites, people during this period practiced a mixed food procurement strategy. Subsistence patterns varied somewhat as groups became better adapted to their regional or local environments. Millingstone occupations have been identified at least 42 sites in the Central Coast region (Jones et al. 2007).

3.1.3 Early Period and Early-Middle Transition Period (3500-600 B.C.)

Although Jones and Ferneau (2002:213) have distinguished an Early-Middle Transition period, it is not well defined and is difficult to observe. Thus the transition phase is included in the following discussion of the sites and characteristics recognized for the Early Period in the Central Coast Region.

An extensive series of shoreline midden deposits within the Central Coast Region date to the Early period, signifying an increase in occupation of the open coast in this timeframe (Jones 1995; Jones and Waugh 1995, 1997). These include estuarine sites such as CA-SLO-165 in Estero Bay and open-coast sites in Monterey Bay area, including CA-MNT-73, CA-MNT-108, and CA-MNT-1228. Lithic artifact assemblages from these sites include Central Coast Stemmed Series and side-notched projectile points. Square-stemmed and side-notched points have also been found in deposits at Willow Creek in Big Sur (CA-MNT-282), and Little Pico II on the San Luis Obispo coast (CA-SLO-175) (Jones and Ferneau 2002).

The material culture recovered from Early period sites within the Central Coast Region provides evidence for exploitation of inland plant and coastal marine resources. Artifacts include milling slabs and handstones, as well as mortars and pestles, which were used for processing a variety of plant resources. Bipointed bone gorge hooks were used for fishing. Assemblages also include a suite of *Olivella* beads, bone tools, and pendants made from talc schist. Square abalone shell (*Haliotis* spp.) beads have been found in the Monterey Bay area (Jones and Waugh 1997:122).

Shell beads and obsidian are hallmarks of the trade and exchange networks of the central and southern California coasts. The archaeological record indicates a substantial increase in the abundance of obsidian at Early period sites in the Monterey Bay and San Luis Obispo areas (Jones and Waugh 1997:124–126). Obsidian trade continued to increase during the following Middle period.

3.1.4 Middle Period (600 B.C. –A.D. 1000)

A pronounced trend toward greater adaptation to regional or local resources occurred during the Middle period. For example, the remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast. Chipped stone tools used for hunting were more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Large knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common.

Complex maritime technology also proliferated during this period. Notable introductions included circular shell fishhooks between 1000 and 500 B.C. (Jones and Klar 2005:466), and the appearance of compound bone fishhooks between A.D. 300 and 900 (Arnold 1995; Jones and Klar 2005:466; Kennett 1998:357; King 1990:87–88; Rick et al. 2002). The introduction of shell fishhooks and plank canoes in the southern portion of the region and tule reed or balsa rafts in the north, their subsequent modifications, and the increased use of other capture devices such as nets appear to have led to a substantial focus on fishing in most coastal areas. A seasonal round settlement pattern was still followed; however, large, permanently occupied settlements, particularly in coastal areas, appear to have been the norm by the end of the period (Kennett 1998).

3.1.5 Middle-Late Transition Period (A.D. 1000-1250)

The Middle-Late Transition period is marked by relative instability and change, with major changes in diet, settlement patterns, and interregional exchange. The Middle period shell midden sites found along the Central Coast were abandoned by the end of the Middle-Late Transition period, so most Transition period and Late period sites were first occupied during those periods (Jones and Ferneau 2002:213, 219).

During the Middle to Late Transition period, projectile points diagnostic of both the Middle and Late periods are found within the Central Coast Region (Jones and Ferneau 2002:217). These points include large, contracting-stemmed types typical of the Middle period, as well as Late period small, leaf-shaped points, which likely reflect the introduction of the bow and arrow.

3.1.6 Late Period (A.D. 1250 – Historic Contact)

As noted above, Late period sites are marked by small, finely worked projectile points, as well as temporally diagnostic shell beads. The small projectile points are associated with bow and arrow technology. Although shell beads were typical of coastal sites, trade brought many of these maritime artifacts to inland locations, especially during the latter part of the Late period. Thin rectangular beads and small serrated arrow points have been found in areas around Santa Cruz and the Monterey Peninsula (Jones et al. 2007).

Unlike the large Middle period shell middens, Late period sites are more frequently single-component deposits located almost entirely in inland areas (Jones et al. 2007). The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones 1995). An increase in sites with bedrock mortars during the Late period further suggests that nuts and seeds began to take on a more significant dietary role.

3.2 ETHNOGRAPHIC CONTEXT

The project site lies within an area traditionally occupied by the Ohlone (or Costanoan) people. Ohlone territory extends from the point where the San Joaquin and Sacramento Rivers issue into the San Francisco Bay to Point Sur, with the inland boundary most likely constituted by the interior Coast Ranges (Kroeber 1925:462). The Ohlone language belongs to the Penutian family, with several distinct dialects throughout the region (Kroeber 1925: 462).

The pre-contact Ohlone were semi-sedentary, with a settlement system characterized by base camps of tule reed houses and seasonal specialized camps (Skowronek 1998). Villages were divided into small polities, each of which was governed by a chief responsible for settling disputes, acting as a war leader (general) during times of conflict, and supervising economic and ceremonial activities (Skowronek 1998, Kroeber 1925:468). Social organization appeared flexibile to ethnographers and any sort of social hierarchy was not apparent to mission priests (Skowronek 1998).

Ohlone subsistence was based on hunting, gathering, and fishing (Kroeber 1925: 467, Skowronek 1998). Mussels were a particularly important food resource (Kroeber 1925: 467). Sea mammals were also important; sea lions and seals were hunted and beached whales were exploited (Kroeber 1925: 467). Like the rest of California, the acorn was an important staple and was prepared by leaching acorn meal both in openwork baskets and in holes dug into the sand (Kroeber 1925: 467). The Ohlone also practiced controlled burning to facilitate plant growth (Kroeber 1925: 467, Skowronek 1998).

Seven Franciscan missions were built within Ohlone territory in the late 1700s, and all members of the Ohlone group were eventually brought into the mission system (Kroeber 1925: 462, Skowronek 1998). After the establishment of the missions, Ohlone population dwindled from roughly 10,000 people in 1770 to 1,300 in 1814 (Skowronek 1998). In 1973, the population of people with Ohlone descent was estimated at fewer than 300 (Levy 1978:487). The descendants of the Ohlone united in 1971 and have since arranged political and cultural organizations to revitalize aspects of their culture (Skowronek 1998).

3.3 HISTORY

The Monterey Bay coast was first visited by Europeans in 1542 with the expedition of Juan Rodriguez Cabrillo and later in 1602 by Sebastian Vizcaino (Hoover et al. 2002:225; Gudde 1998: 246). Mission Santa Cruz was established in 1791 (Bean 1968). In 1796, the Viceroy Marqués de Branciforte and Spanish Governor Diego de Borica made plans for a pueblo to be colonized by retired soldiers. However, no retired soldiers would go there voluntarily and nearly all the colonists that arrived at the pueblo were men convicted of crimes. Villa de Branciforte, as it was called, did not flourish and was eventually abandoned (Bean 1968).

In 1822 California received word of Mexico’s independence from Spain. Hallmarks of the Mexican Period in California are the secularization of mission lands, which was fully accomplished by 1836, and the issuance of large and numerous land grants to soldiers and prominent citizens (Bean 1968). Mission Santa Cruz was secularized in 1834, with land and livestock granted to settlers (Martin 1892).

The Treaty of Guadalupe Hidalgo was signed in 1848, ending the Mexican-American War and officially making California a territory of the United States. U.S. jurisdiction over California had really begun two years earlier, when on July 7, 1846, Commodore John D. Sloat raised the U.S.

flag after the "Battle of Monterey," when which 50 U.S. Marines and 100 Navy sailors landed unopposed and captured the City of Monterey without firing a shot (Crane 1991). The Gold Rush brought a multitude of new settlers to California in 1848 and the construction of the transcontinental railroad in 1869 contributed further to California's population boom. In 1850, the population of Santa Cruz County was 643, with most people living near the Mission and others living on Ranchos (Martin 1892).

Since that time, California has experienced tremendous growth to become one of the dominant economies in the world. Santa Cruz County is a popular tourist destination; it is famous for its beaches and the Santa Cruz Beach Boardwalk

3.3 City of Capitola

The City of Capitola was built on part of the Soquel Rancho, granted to Martina Castro and Michael Lodge in 1833. In 1850, German immigrant Frederick Hihn acquired the site of present-day Capitola. As the area was settled and a wharf was built, the beach became a busy shipping point. Travelers were drawn to the area, and in 1874 a resort called Camp Capitola was opened by Samuel Hall, a lessee of Hihn's land (City of Capitola 2013; Capitola Historical Museum 2013). Camp Capitola in its early years existed only for a few weeks in July as a summer resort and consisted of a planked stage floor, a stack of tents, and a line of small cabins. The remainder of the year the beach then known as Soquel Landing was inhabited only by an Italian fishing community beside the wharf and the China Beach fishing camp to the south (Capitola Historical Museum 2013). The Santa Cruz-Watsonville Railroad, completed in 1876, provided a steady stream of tourists that made the resort very profitable. Beginning in 1882, Hihn began advertising the resort throughout the state and selling subdivided lots. In 1882 he constructed the Hotel Capitola (City of Capitola 2013).

After Hihn died in 1913, his estate was sold to Henry Allen Rispin. He reconfigured the Esplanade and developed a golf course before selling the land to Benjamin Hays Smith, who subdivided the area and sold to home builders. The City of Capitola was incorporated as the third city in Santa Cruz County in January of 1949. Today, Capitola remains a popular tourist destination and important art center (City of Capitola 2013).

4.0 BACKGROUND RESEARCH

4.1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

At Rincon's request, on October 7, 2013, the Northwest Information Center (NWIC) located at Sonoma State University, conducted a search of the California Historical Resources Information System (CHRIS). The search was conducted to identify all previously conducted cultural resources work within the project site and a 0.5-mile radius around it, as well as to identify previously recorded cultural resources within or near the project site. The CHRIS search included a review of the National Register of Historic Places (NRHP), the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological

Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps.

The NWIC records search identified a total of 50 previously conducted cultural resource studies within a 0.5 mile radius of the project site (Table 1). The NWIC mapped one study (S-10556) as within the project site, but further research identified its location as outside the project site. Therefore, the project site has not been previously studied for cultural resources. The National Archaeological Database listings for these studies are included with the records search summary in Appendix B.

Table 1
Previous Studies Within a 0.5-Mile Radius of the Project Site

NWIC Report No.	Author	Year	Study	Relationship to Project Site
S-848	Fredrickson, David A.	1977	A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore areas, Vol. III, Socioeconomic Conditions, Chapter 7: Historical and Archaeological Resources	Outside
S-3748	Flynn, Katherine	1977	Archaeological Test Excavations on a portion of 4-SCr-79, 318 Capitola Avenue, Capitola	Outside
S-3751	Archaeological Consulting and Research Services, Inc.	1976	Archaeological Reconnaissance and Literature Survey for the Proposed Aptos, Rio Del Mar, La Selva Beach, Wastewater Management Project	Outside
S-3779	Roop, William G., Katherine S. Flynn, and MaryEllen Farley	1975	Archaeological Impact Evaluation, Aptos County Sanitation District, Proposed Pipeline Evaluation, A Phase One Proposal for Right-of-Way Routing Based on a Theoretical Model for Predicting the Archaeological Sensitivity Within the Project Area	Outside
S-3813	Woosley, Anne I.	1977	An Archaeological Resources Study of the Don Shifflet Property, Capitola, California	Outside
S-3847	Woosley, Anne I.	1977	The Archaeological Resources of the Graham K. Knopf Property, Capitola, California	Outside
S-3967	Helcksen, Martin H.	1976	Archaeological Services at Central and Grand Avenues in Capitola, Santa Cruz County, California (letter report)	Outside
S-3987	Reding, James	1972	Superintendent's Office, Hihn Building (National Register of Historic Places Nomination Form)	Outside
S-4032	Archaeological Resource Management	1977	Report of Subsurface Investigations for the Proposed Aptos, Rio Del Mar, La Selva Beach Wastewater Management Project	Outside
S-5537	Treathaway, Gary Breschini, and Rob Edwards	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	Outside

Table 1
Previous Studies Within a 0.5-Mile Radius of the Project Site

NWIC Report No.	Author	Year	Study	Relationship to Project Site
S-6147	Breschin, Gary S. and Trudy Haversat	1983	Preliminary Archaeological Report and Archaeological Management Report for 318-320 Capitola Avenue, Capitola, Santa Cruz County, California	Outside
S-6476	Edwards, Rob and Charlotte A. Simpson-Smith	1984	Archaeological Survey for the Pacific Cove Project, City of Capitola, County of Santa Cruz, California	Outside
S-6944	Archaeological Resource Management	1984	Cultural Resource Evaluation of the Capitola Underground Utility District in the City of Capitola, County of Santa Cruz	Outside
S-7054	Archaeological Resource Management	1984	Summary of the Findings of the Archaeological Monitoring of the Capitola Underground Utility District, Capitola Village, County of Santa Cruz	Outside
S-7338	Breschini, Gary S., Trudy Haversat, John C. Sheppard, and Peter E. Wigand	1985	Radiocarbon Determination from CA-SCR-79, Capitola, California	Outside
S-7589	Breschini, Gary S. ad R. Paul Hampson	1985	Preliminary Archaeological Reconnaissance of a Parcel at 306 Cherry Avenue, Capitola, Santa Cruz County, California	Outside
S-7599	Breschini, Gary S. and R. Paul Hampson	1985	Preliminary Archaeological Reconnaissance of a Parcel at 306 Cherry Avenue, Capitola, Santa Cruz County, California	Outside
S-9462	Miller, Teresa Ann	1977	Identification and Recording of Prehistoric Petroglyphs in Marin and Related Bay Area Counties	Outside
S-10556	Dietz, Stephen A.	1988	An Archaeological Reconnaissance of the Blodgett Property in Capitola, California (Letter Report)	Mapped by NWIC as Within
S-11607	Mikkelsen, Pat	1990	Cultural Resources Assessment of the Bugge Property at 516 and 518 Capitola Avenue, Santa Cruz County, California	Outside
S-12601	Whitlow, Jan and Gary S. Breschini	1991	Preliminary Cultural Resources Reconnaissance of Assessor's Parcel Numbers 35-094-16 &17, Soquel, Santa Cruz County, California	Outside
S-12609	Runnings, Anna and Gary S. Breschini	1991	Preliminary Cultural Resources Reconnaissance of Assessor's Parcel Number 35-161-17, Soquel, Santa Cruz County, California	Outside

Table 1
Previous Studies Within a 0.5-Mile Radius of the Project Site

NWIC Report No.	Author	Year	Study	Relationship to Project Site
S-15529	Gearthart, Robert L. II, Clell L. Bond, Steven . Hoyt, James H. Cleland, James Anderson, Pandora Snethcamp, Gary Wesson, Jack Neville, Kim Marcus, Andrew York, and Jerry Wilson	1993	California, Oregon, and Washington: Archaeological Resource Study	Outside
S-18217	Gmoser, Glenn	1996	Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report: April 1996	Outside
S-20128	Morgan, Christopher and Thomas L. Jackson	1998	Archaeological Reconnaissance of the Proposed Seacave Protection Development, Capitola, California	Outside
S-21598	Duval, Charlene and Franklin Maggi	1999	Historic Report for an Existing Residential Building Located at 112 Central Avenue, Capitola, California	Outside
S-22795	Doane, Mary and Trudy Haversat	2000	Preliminary Archaeological Reconnaissance of Assessor’s Parcel Number 035-183-14	Outside
S-23319	Doane, Mary and Trudy Haversat	2000	Preliminary Archaeological Reconnaissance of Assessor’s Parcel Number 035-161-16	Outside
S-23609	Doane, Mary and Trudy Haversat	2000	Preliminary Archaeological Reconnaissance for the Terrace Way Main Replacement in Capitola, Santa Cruz County, California	Outside
S-23725	Dill, Leslie and Charlene Duval, and Franklin Maggi	2000	Historical and Architectural Evaluation for a Single Family Residence Located at 204 Stockton Avenue, Capitola, California	Outside
S-23727	Dill, Leslie, Charlene Duval, and Franklin Maggi	2000	Historical and Architectural Evaluation for an Existing Single Family Residential Structure an Related Ancillary Buildings Located at 609 Capitola Avenue, Capitola, California	Outside
S-23728	Dill, Leslie, and Charlene Duval, and Franklin Maggi	2000	Historical and Architectural Evaluation for an Existing Single Family Residential Building Located at 107Saxon Avenue, Capitola, California	Outside
S-23729	Dill, Leslie, Charlene Duval, and Franklin Maggi	2000	Historical and Architectural Evaluation for an Existing Single Family Residential Structure Located at 112 Saxon Avenue, Capitola, California	Outside
S-23898	Pomerleau, Monique	2001	Archaeological Monitoring for the Capitola Streetscape Project	Outside
S-24444	Jones and Stokes	2001	Historic Resource Design Review for 505, 505 ½, and 505A Riverview Drive, Capitola, California	Outside
S-24531	Doane, Mary	2001	Project AC 3136 (letter report)	Outside

Table 1
Previous Studies Within a 0.5-Mile Radius of the Project Site

NWIC Report No.	Author	Year	Study	Relationship to Project Site
S-24762	Dill, Leslie	2001	Historic Resource Design Review for Proposed Residential Remodel and Addition Project, 305 Riverview Avenue, Capitola, California	Outside
S-24836	Dill, Leslie	2002	Historic Resource Design Review for a Proposed Residential Deck Addition, 415 Riverview Avenue, Capitola, Monterey County, California	Outside
S-24847	Hart, Daniel	2002	Tannery Well No. 2 Site at 5738 Soquel Drive, Soquel, CA (letter report)	Outside
S-24930	Busby, Colin	2000	Archaeological Resources Assessment, Proposed Addition to Single Family Residence, 106 Livermore Avenue (APN 036-143-22), City of Capitola, Santa Cruz County, California, Application #00-18 (letter report)	Outside
S-26269	Doane, Mary and Trudy Haversat	2002	Preliminary Archaeological Reconnaissance for the Depot Hill Seawall in Capitola, Santa Cruz County, California	Outside
S-26276	Doane, Mary	2002	APN 035-183-14, 1206 Stockton Ave. (letter report)	Outside
S-29120	Doane, Mary and Trudy Haversat	2004	Preliminary Archaeological Reconnaissance of APN 036-131-08, 206 Grand Avenue, Capitola, Santa Cruz County, California	Outside
S-29121	Doane, Mary and Trudy Haversat	2004	Preliminary Archaeological Reconnaissance of APN 036-131-07, 101 Saxon Avenue, Capitola, Santa Cruz County, California	Outside
S-30903	Feldman, Jessica B. and Andrew Hope	2003	Caltrans' Historic Bridges Inventory Update: Concrete Box Girder Bridges	Outside
S-31820	Supernowicz, Dana E.	2006	New Tower ("NT") Submission Packet, FCC Form 620, Capitola City Hall, SF-16660C	Outside
S-35255	Armstrong, Matthew	2008	Results of Archaeological Records Search and Survey at 110 Grove Avenue, Capitola, Santa Cruz County (letter report)	Outside
S-35954	Clark, Matthew	2009	Aptos Transmission Main Relocation Project, National Historic Preservation Act Section 106, Subsurface Reconnaissance for Archaeological Resources, Historic Resources Inventory, and Historic Properties Management Plan	Outside
S-35956	Clark, Matthew R.	2008	Aptos Transmission Main Relocation Project, National Historic Preservation Act Section 106, Historic Resources Inventory and Subsurface Reconnaissance Plan for Archaeological Resources	Outside

Source: Northwest Information Center, October 2013

Dietz 1988

Stephen Dietz prepared *An Archaeological Reconnaissance of the Blodgett Property in Capitola, California* in 1988. This report was mapped by the NWIC as being located within the project site. However, this study actually covered a property to the north of the current project site. The study included a pedestrian survey and the excavation of shovel test pits to a depth of 10 centimeters (cm). The study did not identify any cultural resources.

The NWIC records search identified 22 previously recorded resources within 0.5 mile of the project site, none of which are within the project site (Table 2).

Table 2
Previously Recorded Cultural Resources Within 0.5 Mile of the Project Site

Primary Number	Description	NRHP/CRHR Eligibility Status	Recorded By and Year	Proximity to Project Site
CA-SCr-6	Occupation and Burial Site	Presumed eligible	Pilling 1949	Outside
CA-SCr-34	Prehistoric Midden	Insufficient information	PWL, WJW 1950	Outside
CA-SCr-79	Prehistoric Midden/Possible Human Remains	Insufficient information	A. Lonnberg 1972	Outside
CA-SCr-118	Prehistoric Shell Midden/Possible Human Remains	Insufficient information	D. Wardell 1975	Outside
CA-SCr-120	Prehistoric Shell Midden/Possible Human Remains	Insufficient information	D. Wardell 1975	Outside
CA-SCr-211H	Superintendent's Office	Listed in the NRHP and CRHR	J. Cooper 1979	Outside
CA-SCr-232	Prehistoric Midden	Insufficient information	L. Felton 1980; J. Woodward 1983	Outside
CA-SCr-447	Craftsman Style Residence	Recommended eligible	F. Maggi and C. Duval 2000	Outside
CA-SCr-448	Single-family Residence	Insufficient information	C. Duval and F. Maggi 2000	Outside
CA-SCr-449	Single-family Residence	Recommended eligible	C. Duval and F. Maggi 2000	Outside
CA-SCr-450	Single-family Residence	Insufficient information	F. Maggi an L. Dill 1999	Outside
CA-SCr-451	Single-family Residence	Insufficient information	C. Duval and F. Maggi 2000	Outside
CA-SCr-452	Capitola Theatre	Recommended ineligible	C. Duval and F. Maggi 2000	Outside
CA-SCr-453	Single-family Residence	Insufficient information	C. Duval and F. Maggi 2000	Outside
CA-SCr-454	Single-family Residence	Insufficient infomation	C. Duval and F. Maggi 2000	Outside

Table 2
Previously Recorded Cultural Resources Within 0.5 Mile of the Project Site

Primary Number	Description	NRHP/CRHR Eligibility Status	Recorded By and Year	Proximity to Project Site
CA-SCr-483	Single-family Residence	Listed in the NRHP	K. Oosterhous 2002	Outside
CA-SCr-484	Single-family Residence	Listed in the NRHP	K. Oosterhous 2002	Outside
CA-SCr-490	Single-family Residence	Recommended ineligible	F. Maggi and C. Duval 2002	Outside
P-44-551	New Brighton Beach Chinese Fishing Camp	Listed in the CRHR	N. Way 1963	Outside
P-44-513	Civilian Conservation Corps Picnic Ramada	Insufficient information	P. McGuire 1985	Outside
P-44-583	Reinforced concrete, seven-cell box girder bridge	Insufficient information	J. Feldmen and D. Greenwood 2003	Outside

Source: Northwest Information Center, October 2013

The NWIC also provided historic maps depicting the project site, including the 1860 and 1891 General Land Office (GLO) Plat Maps, the 1914 Weber's Map of Santa Cruz County, and the 1954 USGS Soquel Quadrangle. The 1860 and 1891 GLO Plat Maps and the 1914 Weber's Map depict the project site as vacant. The 1954 USGS Soquel Quadrangle Map depicts the project site as high density residential.

4.2 NATIVE AMERICAN HERITAGE COMMISSION

As part of the process of identifying Native American cultural resources within or near the project site, Rincon Consultants contacted the Native American Heritage Commission (NAHC) on September 20, 2013 to request a review of the Sacred Lands File (SLF). The NAHC emailed a response on October 17, 2013 (Appendix C), and stated that a search of the SLF "failed to indicate the presence of Native American cultural resources in the immediate project area." The NAHC provided a contact list of 10 Native American individuals or tribal organizations that may have knowledge of cultural resources in or near the project site. Rincon prepared and mailed letters (Appendix C) to each of the NAHC-listed contacts on November 6, 2013, requesting information regarding any Native American cultural resources within or immediately adjacent to the project site.

As of November 14, 2013, Rincon has not received any additional responses to the letters.

5.0 SURVEY METHODS

Rincon archaeologist Amber Barton conducted an intensive pedestrian survey of the project site on November 5, 2013. Ms. Barton surveyed the project site in a meandering manner due to the presence of standing buildings, with attention focused on areas of exposed ground surface. Ms.

Barton examined all exposed ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock [FAR]), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were visually inspected.

6.0 RESULTS

Upon arrival, it was noted the project site was completely developed, containing numerous buildings related to the Monarch Cove Inn. Open space surrounding the buildings consisted of cultivated lawns and gardens. Access between buildings and throughout the project site was accomplished by walking gravel walkways and dirt paths. Ground visibility was very poor (10 percent or less) throughout the entirety of the project site. The survey did not identify any archaeological resources within the project site.

Photograph 1. View of portion of project area, including Victorian building and gravel walkway, facing north.

Photograph 2. View of entrance to project site, facing northwest.

Photograph 3. View of dirt path on eastern property boundary, facing northeast

7.0 MANAGEMENT RECOMMENDATIONS

The cultural resources records search, Native American scoping, and pedestrian survey did not identify any previously recorded or newly identified archaeological resources or resources significant to Native Americans within the project site. However, six previously recorded archaeological sites (CA-SCr-6, -34, -79,-118, -120, -232) are located within a 0.5 mile radius of the project site. Of these, four (CA-SCr-6, -79, -118, -120) contain human remains or possible fragments of human remains. The presence of these remains significantly increases the sensitivity of the area for archaeological resources. Even though many of these sites have been impacted by modern development, undiscovered human remains or significant archeological deposits such midden or habitation debris can still be discovered in the area. Therefore, the following measures are recommended for the project.

7.1 ARCHAEOLOGICAL MONITORING

Rincon recommends archaeological monitoring of all project related ground disturbing activities by an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983). If archaeological resources are encountered during ground-disturbing activities, work in the immediate area must halt and the find evaluated for significance under CEQA.

7.2 UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The discovery of human remains is always a possibility during ground disturbing activities; If human remains are found the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to 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 will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

8.0 REFERENCES

Arnold, Jeanne
1995 Transportation, Innovation, and Social Complexity among Maritime Hunter-Gatherer Societies. *American Anthropologist* 97: 733-747.

Bean, Walton
1968 *California: An Interpretive History*. McGraw-Hill: Berkeley.

Bickel, Polly McW.
1978 Changing Sea Levels along the California Coast: Anthropological Implications. *Journal of California Anthropology* 5:6-20.

Breschini, Gary S., and Trudy Haversat
1991 Early Holocene Occupation of the Central California Coast. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by Jon M. Erlandson and Roger H. Colten, pp. 125-132. Perspectives in California Archaeology, Vol. 1. Institute of Archaeology, University of California, Los Angeles.

Capitola, City of
2013 Capitola History. Electronic document, http://www.cityofcapitola.org/general/page/capitola-history. Accessed November 1, 2013.

Capitola Historical Museum
2013 Frank Eugene Reanier – The Superintendent of Capitola. Electronic document, http://www.capitolamuseum.org/reanier.html. Accessed November 4, 2013.

Erlandson, Jon M.
1991 Early Maritime Adaptations on the Northern Channel Islands. In *Hunter-Gatherers of Early Holocene Coastal California,* edited by Jon M. Erlandson and Roger H. Colten, pp. 101–112. Perspectives in California Archaeology, Vol. 1. Institute of Archaeology, University of California, Los Angeles.

1994 Early Hunter-Gatherers of the California Coast. Plenum Press, New York.

Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. University of California Press, Berkeley.

Hoover, M. B., H. E. Rensch, E. G. Rensch, and W. N. Abeloe
2002 *Historic Spots in California*. 5th ed. Revised by D. E. Kyle. Stanford University Press, Stanford, California.

Johnson, J. R., T. W. Stafford, Jr., H. O. Ajie, and D. P. Morris
2002 Arlington Springs Revisited. In *Proceedings of the Fifth California Islands Symposium*, edited by D.R. Brown, K.C. Mitchell and H.W. Chaney, pp. 541–545. Santa Barbara Museum of Natural History, Santa Barbara, California.

Jones, Terry L.
1993 Big Sur: A Keystone in Central California Cultural History. *Pacific Coast Archaeological Society Quarterly* 29(1):1–78.

1995 Transitions in Prehistoric Diet, Mobility, Exchange, and Social Organization along California's Big Sur Coast. Unpublished Ph.D. dissertation, University of California, Davis.

Jones, Terry L., and Jennifer A. Ferneau

2002 Deintensification along the Central California Coast. In *Catalysts to Complexity, Late Holocene Societies of the California Coast*, edited by Jon M. Erlandson and Terry L. Jones, pp. 205-232. Perspectives in California Archaeology Vol. 6. Costen Institute of Archaeology, University of California, Los Angeles.

Jones, Terry L. and Kathryn A. Klar

2005 Diffusionism Reconsidered: Linguistic and Archaeological Evidence for Prehistoric Polynesian Contact with Southern California. *American Antiquity* 70: 457-484.

2007 *California Prehistory: Colonization, Culture, and Complexity*. AltaMira Press, Berkeley, California.

Jones, Terry L. and Georgie Waugh

1995 *Central California Prehistory: A View from Little Pico Creek.* Perspectives in California Archaeology 3. Institute of Archaeology, University of California, Los Angeles.

1997 Climatic Consequences of Population Pragmatism? A Middle Holocene Prehistory of the Central Coast. In *Archaeology of the California Coast During the Middle Holocene*, edited by Jon M. Erlandson and Michael A. Glassow, pp. 111–128. Perspectives in California Archaeology 4. Institute of Archaeology, University of California, Los Angeles.

Jones, Terry L., Nathan E. Stevens, Deborah A. Jones, Richard T. Fitzgerald, and Mark G. Hylkema

2007 The Central Coast: A Midlatitude Milieu. In *California Prehistory: Colonization, Culture, and Complexity*. AltaMira Press, Berkeley, California.

Kennett, Douglas J.

1998 Behavioral Ecology and the Evolution of Hunter-Gatherer Societies on the Northern Channel Islands, California. Ph.D. Dissertation, University of California, Santa Barbara.

King, Chester D.

1990 Evolution of Chumash Society: A Comparative Study of Artifacts Used in Social System Maintenance in the Santa Barbara Channel Region Before A.D. 1804. Revised Ph.D. dissertation with a new preface and updated bibliography. In *The Evolution of North American Indians*, edited by David Hurst Thomas. Garland Publishing, New York.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bulletin 78, Bureau of American Ethnology, Smithsonian Institution. Government Printing Office, Washington, D.C. Reprinted 1976 by Dover Publications, Inc., New York.

Levy, Richard
1978 Costanoan. In *California*, edited by Robert F. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Martin, Ed
1892 Recollections of Forty Years in Santa Cruz County. In *History of Santa Cruz County, California* by E.S. Harrison, pp. 69-89. Pacific Press Publishing Company, San Francisco.

Mills, Wayne, Michael F. Rondeau, and Terry L. Jones
2005 A Fluted Point from Nipomo, San Luis Obispo County, California. *Journal of California and Great Basin Archaeology* 25(2): 68-74.

Moratto, Michael
1984 *California Archaeology.* Academic Press, New York.

National Park Service
1983 *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*. Electronic document accessed December 6, 2011. Online at http://www.nps.gov/history/local-law/Arch_Standards.htm.

Rick, C. Torben R. Vellanoweth, Jon M. Erlandson, and Douglas J. Kennett
2002 On the Antiquity of the Single-Piece Shell Fishhook: AMS Radiocarbon Evidence from the Southern California Coast. *Journal of Archaeological Science* 29:933-942.

Skowronek, Russell K.
1998 Sifting the Evidence: Perceptions of Life at the Ohlone (Costanoan) Missions of Alta California. *Ethnohistory* 45: 675-708.

Wallace, William J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.

1978 Post-Pleistocene Archaeology, 9000 to 2000 B.C. In *California*, edited by Robert F. Heizer, pp. 25–36. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington D.C.

Warren, Claude N.
1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams. Eastern New Mexico University Contributions in Anthropology 1(3):1–14. Portales.

Appendix A

Records Search Summary

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

Date: 7 October 2013 NWIC File No.: 13-0440

To: Kevin Hunt, Rincon Consultants, Inc., 5135 Avenida Encinas, Suite A, Carlsbad, CA 92008

From: Lisa Hagel Lisa C Hagel

re: Monarch Cove Hotel EIR (Rincon project #13-01039)

Soquel 7.5'

Resources In	None
Resources within 0.5-mile radius	CA-SCR-6, 118, 211H, 79, 34, 120, & 232; P-44-583, 483, 449, 447, 452, 490, 450, 448, 454, 451, 453, 511, 513, & 484; and a reported "Chinese fishing village" are within 0.5 mile. Enclosed are copies of the site record forms and the mapped resource locations.
Reports In	S-10556. Enclosed is a copy of the report and the mapped study location.
Reports within 0.5-mile radius	The enclosed database list printout and maps provide information about reports within 0.5 mile.
Other Reports	Five reports are classified as "Other Reports" (reports with little or no field work, missing maps, or inadequate locational information) that include your search area: S-15529, 3779, 18217, 848, & 9462. Information about the reports is on the enclosed database list printout.
OHP HPD	Copied the indices for Capitola.
OHP ADOE	None of the above referenced recorded resources appeared in the Archaeological Determinations of Eligibility.
California Inventory	Copied the index pages that included properties in the Capitola/Soquel area.
Local Inventories	n/a

Historic Maps	Copied the pertinent sections of the 1914 Weber's Map of Santa Cruz County, California; and the 1954 USGS Soquel Quadrangle.
GLO or Rancho Maps	Copied the pertinent sections of the 1860 & 1891 GLO Plat Maps for T11S, R1W. (Nothing was shown in the vicinity of the project on the 1858 Rancho Shoquel Plat Map.)

Appendix B

Native American Correspondence

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd.
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

Kevin Hunt
RINCON
5135 Avenida Encinas , Ste A
Carlsbad, CA 92008

By Fax: 760-918-9449

Number of Pages: 2

Re: Monarch Cove Hotel EIR project, Santa Cruz County

Dear Mr. Hunt;

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3713.

Sincerely,

Katy Sanchez fs

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Santa Cruz County
October 16, 2013

Jakki Kehl
720 North 2nd Street
Patterson , CA 95363
(209) 892-1060
Ohlone/Costanoan

Amah/MutsunTribal Band
Jean-Marie Feyling
19350 Hunter Court
Redding , CA 96003
jmfgmc@sbcglobal.net
530-243-1633
Ohlone/Costanoan

Linda G. Yamane
1585 Mira Mar Ave
Seaside , CA 93955
rumsien123@yahoo.com
831-394-5915
Ohlone/Costanaon

Costanoan Ohlone Rumsen-Mutsen Tribe
Patrick Orozco, Chairman
644 Peartree Drive
Watsonville , CA 95076
yanapvoic@earthlink.net
(831) 728-8471
Ohlone/Costanoan

Amah MutsunTribal Band
Valentin Lopez, Chairperson
PO Box 5272
Galt , CA 95632
vlopez@amahmutsun.org
916-743-5833
Ohlone/Costanoan

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister , CA 95024
ams@indiancanyon.org
831-637-4238
Ohlone/Costanoan

Amah MutsunTribal Band
Edward Ketchum
35867 Yosemite Ave
Davis , CA 95616
aerieways@aol.com
Ohlone/Costanoan
Northern Valley Yokuts

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
PO Box 360791
Milpitas , CA 95036
muwekma@muwekma.org
408-205-9714
510-581-5194
Ohlone / Costanoan

Amah/MutsunTribal Band
Irene Zwierlein, Chairperson
789 Canada Road
Woodside , CA 94062
irennezwierlein@gmail.com
(650) 851-7747 - Home
650-400-4806 cell preferred
(650) 851-7489 - Fax
Ohlone/Costanoan

Trina Marine Ruano Family
Ramona Garibay, Representative
30940 Watkins Street
Union City , CA 94587
510-972-0645-home
soaprootmo@msn.com
Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Monarch Cove Hotel EIR project, Santa Cruz County

Rincon Consultants, Inc.
5135 Avenida Encinas, Suite A
Carlsbad, California 92008

760 918 9444
FAX 918 9449

info@rinconconsultants.com
www.rinconconsultants.com

November 5, 2013

Jakki Kehl
720 North 2nd Street
Patterson, CA 95363

RE: Cultural Resources Study for the Monarch Cove Hotel Project, Santa Cruz County, California

Dear Ms. Kehl:

Rincon Consultants has been retained to conduct a archaeological resources study for the proposed Monarch Cove Hotel Project in Capitola, Santa Cruz County, California. The proposed project entails the development of a 41-room hotel located at the Monarch Cove Inn site, 620 El Salto Drive on Depot Hill. The project proposed the demolition of existing structures, renovations to an existing Victorian structure, construction of a 16,729 square-foot, 2-story main building, construction of a 5,894 square-foot Bayview building, construction of a 56-stall parking structure, new landscaping, protections to the Monarch butterfly habitat, provisions for bicycle parking, and upgrading of drainage, water quality, and stormwater management systems. The proposed project is subject to the California Environmental Quality Act.

As part of the process of identifying cultural resources issues for this project, Rincon contacted the Native American Heritage Commission and requested a Sacred Lands File (SLF) search and a list of Native American tribal organizations and individuals who may have knowledge of sensitive cultural resources in or near the project area. The SLF search results stated that the search "failed to indicate the presence of Native American cultural resources" within the project area but recommended that we consult with you directly regarding your knowledge of the presence of cultural resources that may be impacted by this project.

If you have knowledge of cultural resources that may exist within or near the project area, please contact me in writing at the above address or khunt@rinconconsultants.com, or by telephone at (760) 918-9444, extension 208. Thank you for your assistance.

Sincerely,

Kevin Hunt
Cultural Resources Program Manager
Enclosure: Project Location Map

Appendix E

Geotechnical Report

Geotechnical Investigation
for the
Proposed Hotel Structures with Underground Parking Garage
at the
Monarch Cove Inn
620 El Salto Drive
APN 036-142-27, -28 (partial)
APN 036-143-31, 36
Capitola, California

Prepared for
Robert Blodgett
Capitola, California

Prepared By
HARO, KASUNICH AND ASSOCIATES, INC
Geotechnical & Coastal Engineers
Project No. SC10350
January 2013
Revised August 2013

HARO, KASUNICH AND ASSOCIATES, INC.
CONSULTING GEOTECHNICAL & COASTAL ENGINEERS

Project No. SC10350
31 January 2013
Revised 30 August 2013

MR. ROBERT BLODGETT
P.O. Box 1697
Capitola, California 95010

Subject: Geotechnical Investigation

Reference: Proposed Hotel Structures with Underground Parking Garage
Monarch Cove Inn
620 El Salto Drive
APN 036-142-27, 28 (partial)
APN 036-143-31, 36
Capitola, California

Dear Mr. Blodgett:

In accordance with your authorization, we have performed a Geotechnical Investigation for the proposed improvements at the Monarch Cove Inn located at 620 El Salto Drive in Capitola, California. This report was revised on 30 August 2013 to reflect the deletion of a swimming pool and deck from the proposed project.

The Monarch Cove Inn is situated in the Depot Hill area of Capitola. The existing resort/wedding facility covers 1¼ acres and is bounded by the coastal bluff along its southern perimeter and Escalona Drive along the northern perimeter. The coastal blufftop is approximately 95 feet above the beach below. The bluff face soil profile consists of marine terrace deposits overlying sandstone bedrock.

Project architectural plans have been prepared by Thacher Thompson Architects and are dated September 2012. Within the northern half of the project site, a new hotel structure with two levels of underground parking is proposed. The upper level of the underground parking garage will be entered from El Salto Drive with the lower level entrance from Escalona Drive. Twenty-two guest units will be placed atop and supported by the underground parking structure. Guest unit decks will be cantilevered from the parking structure. In the southern half of the project site, the existing Victorian House will be placed upon a new foundation with the building footprint rotated to the southeast. A new hotel structure containing 10 guest suites is proposed east of the Victorian House. The new hotel structure containing 10 guest suites and the relocated Victorian House will be placed approximately 90 feet from the top of the coastal bluff.

In March 2000 our firm completed the Geotechnical and Coastal Engineering Investigation for the Proposed Coastal Bluff Stabilization at 620 El Salto Drive for a seawall and blufftop retaining wall system at the Monarch Cove Inn. During our 2000 investigation we mapped the bluff face using rock climbing equipment and developed geotechnical design criteria to stabilize the bluff face and mitigate wave action erosion at the blufftoe. The Geologic Investigation of a Coastal Bluff – Lands of Blodgett, APN 036-143-21 dated 25 February 2000 was prepared for the proposed bluff face stabilization system by Foxx, Nielsen and Associates. The proposed bluff face stabilization system was never permitted or installed. The geology report estimated the average bluff recession rate at the project site for the time period of 1928 to 1990 to be 1.1 feet per year.

In July 2012, we drilled and sampled a total of four exploratory borings within the northern half of the project site to 36 feet below existing grade. The collected soil samples were then tested to determine their pertinent engineering and index soil properties.

Based upon our exploratory borings, laboratory testing and bluff face mapping; the general project site subsurface profile consists of 25 to 28 feet of marine or alluvium terrace deposits overlying sandstone bedrock of the Purisima Formation. The blufftop terrace deposits consists of near surface, medium dense silty and clayey sands over medium dense to dense, sands and gravels. The sandstone bedrock was found to be dense to very dense. The retrieved Standard Penetration Testing samples from both the deeper terrace deposits and the underlying sandstone exhibited little to no cementation. Historic fill soil wedges, 2 to 7 feet thick were found along the northern perimeter of the project site. During our July 2012 field investigation, groundwater was encountered perched upon the sandstone bedrock.

For the design and construction of the proposed underground parking structure with guest units above, the primary geotechnical considerations include:

-Maintaining an excavation temporary cut slope of 1.5:1(H:V) or less steep;
-Minimizing the potential for differential settlement between the guest units supported by the underground parking structure foundation and adjacent at-grade portions of the development;
-Design of the underground parking structure retaining walls to accommodate combinations of seismic surcharge loading, buoyant soil weight active earth pressures and a full hydrostatic head;
-Minimizing the potential for moisture intrusion into the basement; and
-Control of project site drainage.

It does not appear possible to drain the proposed basement excavation by gravity flow to a street storm drain system nor feasible from a permitting perspective to convey the collected seepage to the coastal bluff face. It is our understanding an onsite storm water retention system will be incorporated into the project to minimize the offsite impact of the proposed development. To reduce the potential for moisture intrusion into the two levels of underground parking structure, we recommend:

-An expert in waterproofing concrete should be consulted for the proper concrete additives to reduce the permeability of the cured concrete as well as topical treatment of the walls and lower level floor;

-A gravel backdrain should be constructed between the basement walls and the excavation backfill engineered fill. The gravel backdrain should be mechanically compacted and capped at the top with an impermeable material;

-To minimize the potential for floor dampness, a capillary break at least 6 inches thick should be constructed under the basement mat slab. The capillary break should be constructed of mechanically compacted, free draining, clean gravel or rock, such as ¾ inch drain rock;

-A perforated pipe manifold system should be incorporated into the basement slab-on-grade capillary break with the manifold connected to a sump pump reservoir located outside of the basement structure. The sump pump system should convey collected seepage away from basement sidewalls/floor to the onsite storm water retention system drainage system;

-; and

-If possible from a construction perspective, the basement floor slab and at least the lower portion of the basement walls should be poured monolithically.

The underground parking structure may be supported by a raft or mat slab type foundation system bearing upon the medium dense to dense sandy soils encountered during our 2012 subsurface exploration. Raft or mat slabs are typically 10 to 14 inches thick with a mat of steel reinforcement at both the top and bottom of the concrete slab-on-grade. The mat slab should be designed for a buoyant soil condition - allowable soil bearing pressure. Prior to construction of the capillary break manifold system, the exposed bottom of the basement mat slab excavation should be cut to slope toward the sump pump system with the graded excavation bottom compacted to at least 95 percent relative compaction.

The proposed at grade improvements in the southern half of the project site may be supported by shallow conventional spread footings bearing upon firm native soils or engineered fill.

Site soils disturbed during the demolition of the existing improvements should be moisture conditioned and redensified to at least 90 percent relative compaction.

An engineered drainage plan should be developed for the project site development.

Pervious pavers should be placed upon compacted, gap graded gravel placed in a good workman manner. Pervious pavement sections are recommended for light vehicle traffic and parking areas only. Pervious pavement sections will need to be maintained, repaired or replaced over the design life of the project.

Based on the results of our subsurface exploration and engineering analyses, the proposed underground parking structure and the new guest units are compatible with the project site conditions provided our geotechnical engineering recommendations are incorporated into the design and construction of the proposed project. The proposed project will not affect coastal bluff stability nor increase the rate of coastal bluff recession.

The accompanying report presents our conclusions and recommendations, as well as the results of the geotechnical investigation on which they are based.

If you have any questions concerning the data or conclusions presented in this report, please call our office.

Respectfully submitted,

HARO, KASUNICH & ASSOCIATES, INC.

REGISTERED PROFESSIONAL ENGINEER
RICK L. PARKS
No. 2603
Exp. 12/14
GEOTECHNICAL
STATE OF CALIFORNIA

Rick L. Parks, GE 2603
Senior Geotechnical Engineer

RLP/sr

Copies: 2 to Addressee (+ electronic copy)
1 to Thacher Thompson Architects (+ electronic copy)
Attention: Matthew Thompson, AIA
1 to Mesiti-Miller Engineering (+ electronic copy)
Attention: Dale Hensbee, SE
1 to Bowman & Williams (+ electronic copy)
Attention: Joel Ricca, CE

Project No. SC10350
31 January 2013
Revised 30 August 2013

Table of Contents

Project No. SC10350
31 January 2013
Revised 30 August 2013

GEOTECHNICAL INVESTIGATION

Introduction

This report presents the results of our Geotechnical Investigation for the design and construction of the proposed improvements at the Monarch Cove Inn located at 620 El Salto Drive in Capitola, California; see the Site Vicinity Map, Figure 1 in the Appendix of this report.

Project architectural plans have been prepared by Thacher Thompson Architects and are dated September 2012.

Our Boring Site Plan is based upon the Topographic Survey of the project site by Bowman & Williams dated 16 September 2010.

Purpose and Scope

The purpose of our investigation was to explore and evaluate surface and subsurface soil conditions at the site, and to provide geotechnical criteria for design and construction of the proposed project. The specific scope of our services was as follows:

1. Review the data in our files pertinent to the site including:
   -Geotechnical and Coastal Engineering Investigation for the Proposed Coastal Bluff Stabilization at 620 El Salto Drive by our firm dated March 2000; and
   -Geologic Investigation of a Coastal Bluff – Lands of Blodgett, APN 036-143-21 by Foxx, Nielsen and Associates dated 25 February 2000.
2. Explore the subsurface conditions at the site with four (4) exploratory borings to depths of 11.5 to 36 feet below grade.

3. Test selected soil samples to determine their pertinent engineering properties. Laboratory analyses included: moisture content, density testing, and direct shear strength testing.
4. Analyze the field and laboratory data to develop recommendations for site grading, building foundations, slabs-on-grade, and general site improvements.
5. Present the results of our investigation in a report.

Site Description

In accordance with your authorization, we have performed a Geotechnical Investigation for the proposed improvements at the Monarch Cove Inn located at 620 El Salto Drive in Capitola, California

The Monarch Cove Inn is situated in the Depot Hill area of Capitola; see the Site Vicinity Map, Figure 1 in the Appendix of this report. The existing resort/wedding facility is bounded by the coastal bluff along its southern perimeter with Escalona Drive located along the northern perimeter. The coastal blufftop is approximately 95 feet above the beach below and consists of about 28 feet of marine terrace deposits overlying weakly cemented sandstone bedrock.

In March 2000 our firm completed the Geotechnical and Coastal Engineering Investigation for the Proposed Coastal Bluff Stabilization at 620 El Salto Drive for a seawall and blufftop retaining wall system at the Monarch Cove Inn. During our 2000 investigation we mapped the bluff face using rock climbing equipment and developed geotechnical design criteria to stabilize the bluff face and mitigate wave action erosion at the blufftoe. The Geologic Investigation of a Coastal Bluff – Lands of Blodgett, APN 036-143-21 dated 25 February 2000 was prepared for the proposed bluff face stabilization system by Foxx, Nielsen and Associates. The proposed bluff face stabilization system was never permitted or installed. The geology report estimated the average bluff recession rate at the project site for the time period of 1928 to 1990 to be 1.1 feet per year.

Project Description

Project architectural plans have been prepared by Thacher Thompson Architects and are dated September 2012. Within the northern half of the project site, a new hotel structure with two levels of underground parking. The upper level of the underground parking garage will be entered from El Salto Drive with the lower level entrance from Escalona Drive. Twenty-two guest units will be placed atop and supported by the underground parking structure. Guest unit decks will be cantilevered from the parking structure. In the southern half of the inn/event facility, the existing Victorian House will be placed upon a new foundation with the building footprint rotated to the southeast. A new hotel structure with 10 guest suites is proposed east of the Victorian House. The proposed new hotel structure 10 guest suites and the relocated Victorian House will be placed approximately 90 feet from the top of the coastal bluff.

Field Exploration

Subsurface conditions at the project site were investigated on 31 July 2012 by drilling four (4) exploratory borings to depths of 11.5 feet to 36 feet below existing surface grades. The approximate location of the test borings are indicated on the Boring Site Plan, Figure 2. The borings were advanced with 6-inch diameter continuous flight-auger equipment mounted on an all wheel drive truck.

Representative soil samples were obtained from the exploratory borings at selected depths, or at major strata changes. These samples were recovered using the 3.0 inch O.D. Modified California Sampler (L) or the Standard Terzaghi Sampler (T).

The penetration resistance blow counts noted on the boring logs were obtained as the sampler was dynamically driven into the in situ soil. The process was performed by dropping a 140-pound hammer a 30-inch free fall distance and driving the sampler 6 to 18 inches and recording the number of blows for each 6-inch penetration interval. The blows recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches.

The soils encountered in the borings were continuously logged in the field and described in accordance with the Unified Soil Classification System (ASTM D2486). The Logs of Test Borings are included in the Appendix of this report as Figures 3 through 7. The Boring Logs denote subsurface conditions at the locations and time observed, and it is not warranted that they are representative of subsurface conditions at other locations or times.

Laboratory Testing

The laboratory testing program was directed toward determining pertinent engineering and index soil properties.

The natural moisture contents and dry densities were determined on selected samples and are recorded on the boring logs at the appropriate depths.

The strength parameters of the underlying earth materials were determined from field Standard Penetration Testing (SPT) resistance of the in-situ soils and direct shear strength tests. The direct shear test samples were saturated for at least 24 hours prior to shearing.

The results of the field and laboratory testing appear on the "Logs of Test Boring" opposite the sample tested as well as the laboratory test sheets included in the

Appendix of this report; see the Direct Shear Testing Data, Figures 11 and 12.

Subsurface Conditions

Based on our 2012 subsurface exploration and our bluff face mapping in 2000, the general soil conditions at the project site consist of the general project site subsurface profile consists of 25 to 28 feet of marine or alluvium terrace deposits overlying sandstone bedrock of the Purisima Formation. The blufftop terrace deposits soil profile consists of near surface, medium dense silty and clayey sands over medium dense to dense, sands and gravels. The sandstone bedrock was found to be dense to very dense. The retrieved Standard Penetration Testing samples from both the deeper terrace deposits and the underlying sandstone exhibited little to no cementation. Historic fill soil wedges, 2 to 7 feet thick were found along the northern perimeter of the project site.

The Bluff Profile from our March 2000 investigation at the project site is included in the Appendix of this report as Figure 8. Also, two Geotechnical Sections of the proposed underground parking garage with the 2012 subsurface exploration soil profile and groundwater elevations delineated are included in the Appendix of this report as Figures 9 and 10.

Groundwater

During our July 2012 field investigation, groundwater was observed in our three deeper borings at approximately 24 feet to 26 feet below grade within the northern half of the project site. The groundwater was found to be perched upon the sandstone bedrock.

Groundwater levels are expected to rise during the winter rainy season.

Regional Seismic Setting

California contains a broad system of strike-slip faults. Some of these faults have the potential to present a seismic hazard to the project site. The most important of these are the San Andreas, San Gregorio and Zayante Faults. These faults are either active or considered potentially active (Working Group on Northern California Earthquake Potential [WGNCEP] 1996).

San Andreas Fault

The proposed project lies about 9 miles southwest of the San Andreas Fault zone. This is a major fault zone of active displacement which extends from the Gulf of California to the vicinity of Point Arena, where the fault leaves the California coastline. Between these points, the fault is about 700 miles long. The fault zone is a break or series of breaks along the earth's crust, where shearing movement has taken place. This fault movement is primarily horizontal. The largest historic earthquake in Northern California occurred along the San Andreas Fault on 18 April 1906 (M8.3+). The second largest earthquake last century, the 17 October 1989 Loma Prieta earthquake occurred along the Santa Cruz Mountain segment of the San Andreas Fault system.

Although it is uncertain whether the Santa Cruz Mountains segment has a characteristic earthquake independent of great San Andreas Fault earthquakes, the WGNCEP (1996) assumed an "idealized" earthquake of M_w 7.0 with the same right-lateral slip as the 1989 Loma Prieta earthquake, but having an independent segment recurrence interval of 138 years and a multi-segment recurrence interval of 400 years.

Zayante Fault

The Zayante Fault lies west of the San Andreas Fault and trends about 50 miles northwest from the Watsonville lowlands into the Santa Cruz Mountains.

The Zayante Fault zone is situated approximately 4 miles north of the project site and should be considered potentially active. The WGNCEP (1996) considers it capable of generating a M_w 6.8 earthquake with an effective recurrence interval of 8,800 years.

San Gregorio Fault

The San Gregorio fault zone lies about 18 miles southwest of the project site and skirts the coastline of Santa Cruz County northward from Monterey Bay and trends onshore at Point Año Nuevo.

The WGNCEP (1996) divided the San Gregorio fault into the "San Gregorio" and "San Gregorio, Sur Region" segments. The segmentation boundary is located west of Monterey Bay. The San Gregorio segment is assigned a slip rate that results in a M_w 7.3 earthquake with a recurrence interval of 400 years.

Historical Seismicity

The epicenter of the 17 October 1989 Loma Prieta earthquake is located about 5 miles north-northwest of the project site. Experience following the 17 October 1989 Loma Prieta earthquake indicates that the quality of construction is a primary factor affecting the amount of earthquake damage sustained by structures. Most of the structural damage from the Loma Prieta earthquake was sustained where the foundations were not adequately embedded into firm materials, where the structures were not well braced for lateral shear and/or where the structures were not securely tied to the foundation system. Conversely, where structures were supported on foundations embedded into firm material, well braced for lateral shear and securely tied to the foundation, damage was generally minor even in areas quite close to the epicenter where structures sustained very strong to severe ground shaking. Based on these considerations, the risk of substantial structural damage from earthquakes appears relatively low for well built structures which incorporate lateral shear bracing and modern building code requirements into their design and construction.

Geologic Hazards

Liquefaction

During an earthquake, seismic waves travel through the earth and vibrate the ground. In cohesionless, granular materials having low relative density (loose to medium dense sands for example), this vibration can disturb the particle framework leading to increased compaction of the material and reduction of pore space between the framework grains. If the sediment is saturated, water occupying the pore spaces resists this compaction and exerts pore pressure that reduces the contact stress between the sediment grains. With continued shaking, transfer of intergranular stress to pore water can generate pore pressures great enough to cause the sediment to lose its strength and change from a solid state to a liquefied state. This mechanical transformation termed liquefaction can cause various kinds of ground failure at or near the ground surface.

The liquefaction process typically occurs at depths less than 50 feet below the ground surface. Liquefaction can occur at deeper intervals, given the right conditions, however ground manifestations have been found to be relatively minor.

Based on the relatively high blow counts per foot of sampler penetration within the saturated sands above sandstone bedrock encountered in our exploratory borings, there is a low potential for liquefaction to occur at the project site.

Slope Instability

The project site is situated at the top of a 95 feet high coastal bluff subject to wave action erosion at the toe. The blufftoe and bluff face will continue to recede landward until a seawall and bluff face stabilization system are permitted and installed.

The 2000 project site geology report estimated the average bluff recession rate at the project site for the time period of 1928 to 1990 to be 1.1 feet per year. The relocated Victorian House and the proposed 10 guest unit hotel structure will be situated approximately 90 feet from the blufftop. The impact of accelerated sea level rise upon the bluff recession rate is beyond the scope of this report.

Differential Settlement

To mitigate potential differential settlement between the guest units supported by the underground parking structure foundation and any adjacent at-grade improvements, we recommend the guest units placed atop the parking garage be solely supported by the underground parking structure with at-grade decks cantilevered from the underground parking structure. The underground parking structure excavation backfill should be placed as engineered fill on horizontal benches with at least the top 3 feet of engineered fill compacted to at least 95 percent relative compaction. The gravel backdrain should be mechanically compacted in a good workman manner to minimize future consolidation of the gravel section. At grade improvements placed adjacent the underground parking structure and over a portion of the parking structure backfill should be supported by at least 3 feet of engineered fill compacted to at least 95 percent relative compaction. At grade improvements placed adjacent the underground parking structure should be not structurally connected to the parking garage structure except at access/egress points or a directed by the project structural engineer.

With the southern half of the proposed development, the improvements may be supported by shallow spread footings embedded into firm native soils.

Based upon Standard Penetration Testing of the project site soil profile and our recommended allowable bearing capacities, total and differential settlements for the project are anticipated to be less than 1 inch and 0.5 inch respectively.

Surface Displacement

The potential for surface displacement at the project site due to either earthquake fault rupture or liquefaction lateral spreading is very low.

Building Codes

The proposed project should conform to the following current building codes:

-2010 California Building Code (CBC); and

-2010 Green Building Standards Code (CALgreen).

2010 CBC Site Class

In accordance with Section 1613.5.2 of the 2010 California Building Code (CBC), the project site should be assigned the Site Class D.

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our subsurface exploration and engineering analyses, the proposed underground parking structure and the new guest units are compatible with the project site conditions provided our geotechnical engineering recommendations are incorporated into the design and construction of the proposed project. The proposed project will not affect coastal bluff stability nor increase the rate of coastal bluff recession.

For the design and construction of the proposed underground parking structure with guest units above, the primary geotechnical considerations include:

-Maintaining an excavation temporary cut slope of 1.5:1(H:V) or less steep;

-Minimizing the potential for differential settlement between the guest units supported by the underground parking structure foundation and adjacent at-grade portions of the development;

-Design of the underground parking structure retaining walls to accommodate combinations of seismic surcharge loading, buoyant soil weight active earth pressures and a full hydrostatic head;

-Minimizing the potential for moisture intrusion into the basement; and

-Control of project site drainage.

It does not appear possible to drain the proposed basement excavation by gravity flow to a street storm drain system nor feasible from a permitting perspective to convey the collected seepage to the coastal bluff face. It is our understanding an onsite storm water retention system will be incorporated into the project to minimize the offsite impact of the proposed development. To reduce the potential for moisture intrusion into the two levels of underground parking structure, we recommend:

-An expert in waterproofing concrete should be consulted for the proper concrete additives to reduce the permeability of the cured concrete as well as topical treatment of the walls and lower level floor;

-A gravel backdrain should be constructed between the basement walls and the excavation backfill engineered fill. The gravel backdrain should be mechanically compacted and capped at the top with an impermeable material;

-To minimize the potential for floor dampness, a capillary break at least 6 inches thick should be constructed under the basement mat slab. The capillary break should be constructed of mechanically compacted, free draining, clean gravel or rock, such as ¾ inch drain rock;

-A perforated pipe manifold system should be incorporated into the basement slab-on-grade capillary break with the manifold connected to a sump pump reservoir located outside of the basement structure. The sump pump system should convey collected seepage away from basement sidewalls/floor to the onsite storm water retention system drainage system;

-The onsite storm water retention system drainage system should be located at least 20 feet from the parking structure gravel backdrains situated along the exterior of the basement retaining walls to minimize the potential for flooding the gravel backdrain system. The onsite storm water retention system should also be set as far from the coastal bluff as site configuration allows; and

-If possible from a construction perspective, the basement floor slab and at least the lower portion of the basement walls should be poured monolithically.

The underground parking structure may be supported by a raft or mat slab type foundation system bearing upon the medium dense to dense sandy soils encountered during our 2012 subsurface exploration. Raft or mat slabs are typically 10 to 14 inches thick with a mat of steel reinforcement at both the top and bottom of the concrete slab-on-grade. The mat slab should be designed for a buoyant soil condition - allowable soil bearing pressure. Prior to construction of the capillary break manifold system, the exposed bottom of the basement mat slab excavation should be cut to slope toward the sump pump system with the graded excavation bottom compacted to at least 95 percent relative compaction.

The proposed at grade improvements in the southern half of the project site may be supported by shallow conventional spread footings bearing upon firm native soils or engineered fill.

Site soils disturbed during the demolition of the existing improvements should be moisture conditioned and redensified to at least 90 percent relative compaction.

An engineered drainage plan should be developed for the project site development.

Pervious pavers should be placed upon compacted, gap graded gravel placed in a good workman manner. Pervious pavement sections are recommended for light vehicle traffic and parking areas only. Pervious pavement sections will need to be maintained, repaired or replaced over the design life of the project.

The following recommendations should be used as guidelines for preparing project plans and specifications:

Site Grading

1. The geotechnical engineer should be notified at least four (4) working days prior to any site clearing or grading so that the work in the field can be coordinated with the grading contractor and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the geotechnical

engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

2. Where referenced in this report, Percent Relative Compaction and Optimum Moisture Content shall be based on ASTM Test Designation D1557- current.

3. Areas to be graded should be cleared of all obstructions including loose fill, building foundations, trees not designated to remain, or other unsuitable material. Existing depressions or voids created during site clearing should be backfilled with engineered fill.

4. Cleared areas should then be stripped of organic-laden topsoil. Stripping depth should be from 2 to 4 inches. Actual depth of stripping should be determined in the field by the geotechnical engineer. Strippings should be wasted off-site or stockpiled for use in landscaped areas if desired.

5. Areas to receive non-expansive engineered fill should be scarified to a depth of 8 inches, moisture conditioned, and compacted to least 90 percent relative compaction. Portions of the site may need to be moisture conditioned to achieve suitable moisture content for compaction. These areas may then be brought to design grade with engineered fill.

6. Engineered fill should be placed in thin lifts not exceeding 8 inches in loose thickness; moisture conditioned, and compacted to at least 90 percent relative compaction. Slabs on grade and non-pervious pavers supporting vehicles at the project site should be supported by at least 12 inches of aggregate base compacted to

at least 95 percent relative compaction. The sand leveling course for non-pervious pavers should not exceed 1.5 inches thick. Pervious pavers should be placed upon compacted, gap graded gravel placed in a good workman manner. Pervious pavement sections are recommended for light vehicle traffic and parking areas only. Pervious pavement sections will need to be maintained, repaired or replaced over the design life of the project

7. If project site grading is performed during or shortly after the rainy season, the grading contractor may encounter compaction difficulty, such as pumping or bringing free water to the surface, in the upper surface fine grain soils. If compaction cannot be achieved after adjusting the soil moisture content, it may be necessary to over-excavate the subgrade soil and replace it with angular crushed rock to stabilize the subgrade. We estimate that the depth of over-excavation would be approximately 24 inches under these adverse conditions.

8. Import soils utilized as engineered fill at the project site should:

1) Be free of wood, organic debris and other deleterious materials;
2) Not contain rocks or clods greater than 5 inches in any dimension;
3) Not contain more than 25 percent of fines passing the #200 sieve;
4) Have a Sand Equivalent greater than 18;
5) Have a Plasticity Index less than 15;
6) Have an R-Value of not less than 30; and
7) Be approved by the project geotechnical engineer. Contractor should submit to the geotechnical engineer samples of import material or utility trench backfill for compliance testing a minimum of 4 days before it is delivered.

9. Following grading, all exposed slopes should be planted as soon as possible with erosion-resistant vegetation.

10. After the earthwork operations have been completed and the geotechnical engineer has finished his observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the geotechnical engineer.

Underground Parking Structure Design Criteria

Slab-on-Grade Capillary Break Drain System

11. The capillary break underlying the parking structure slab-on-grade should be at least 6 inches thick with the bottom of the basement excavation sloping to drain to the sump pump. The capillary break material should consist of free draining, clean gravel or rock, such as ¾ inch drainrock. The gravel should be washed to remove fines and dust prior to placement on the slab subgrade. The capillary break material should be mechanically compacted prior to placement of the vapor barrier. The capillary break should be covered with a membrane vapor retarder. The vapor retarder should be a high quality membrane at least 10 mil thick and puncture resistant. The primary considerations for installing the vapor retarder are: taping all seams; sealing all penetrations such as pipe, ducting, wire, etc; and repairing all punctures. Concrete may be poured directly upon the vapor retarder.

12. Prior to construction of the capillary break manifold system below the lowest level of the underground parking structure, the bottom of the basement mat slab excavation should be cut to slope toward the sump pump system. The rough graded excavation bottom should be scarified to a depth of 8 inches; moisture conditioned, and compacted to at least 95 percent relative compaction. The bottom of the basement excavation

supporting the capillary break gravels should be sloped to drain at least 2 percent drain toward the sump pump. The excavation bottom along the basement exterior perimeters should likewise be sloped to drain toward the sump pump.

Mat Slab Foundation

13. The underground parking structure may be supported by a raft or mat slab bearing upon the cut native sandy soils within the basement excavation. Mat slabs are typically 10 to 14 inches thick with a mat of steel reinforcement at both the top and bottom of the concrete slab-on-grade. The mat slab should be designed for a buoyant soil condition - allowable soil bearing pressure of 1,500 psf plus a one-third short term increase for dead plus live loads. For the structural design of the underground parking structure mat slab, we recommend a modulus of subgrade reaction of 200 kips per cubic foot should be used.

14. Lateral load resistance for the raft or mat slab bearing on the compacted granular material may be developed in friction between the slab bottom and the supporting subgrade. A coefficient of friction of 0.35 is recommended for design of the structure.

Underground Parking Structure Basement Wall Load Combinations

15. At a minimum, the parking structure basement walls should be evaluated by the project structural engineer for the two following load combinations:

-Load Combination #1 - Sump pump systems are subject to mechanical failure and power outages. The basement retaining walls should be designed to accommodate the applicable buoyant soil weight active earth pressures and a full hydrostatic head as follows:

-For undrained, restrained type retaining walls (rectangular loading condition - near level slope) active earth pressure = 13 psf · H (ft) + 62.4 pcf efw; or

-For undrained, cantilever type retaining walls (at-rest, triangular loading condition – near level slope) active earth pressure = 94 pcf efw.

-Load Combination #2 - The project site retaining walls including the basement walls should be designed to resist seismic surcharge loading equivalent to 13 H/ft acting at 0.6 H where H is the height of the active zone in addition to the following applicable drained condition active earth pressures:

- For drained, restrained type retaining walls (rectangular loading condition – near level slope) active earth pressure = 23 psf · H (ft); and
- For drained, cantilever type retaining walls (at-rest, triangular loading condition – near level slope) active earth pressure = 50 pcf efw.

16. From a geotechnical perspective, the choice between designing for either the restrained, rectangular loading condition or the at-rest, triangular loading condition is construction sequence dependant. If the void space between the basement retaining walls and the excavation sidewalls is to be backfilled with compacted Caltrans permeable material prior to the construction of the overlying floor system or diaphragm, the at-rest, triangular loading condition should be used. If the overlying floor system diaphragm is constructed prior to the backfilling of the basement excavation void space, the restrained or rectangular loading condition is applicable.

At Grade Improvements in the Southern Half of the Project Site Design Criteria

17. In the southern half of the project site, the existing Victorian House will be placed upon a new foundation with the building footprint rotated to the southeast. A new hotel structure containing 10 guest suites is proposed east of the Victorian House. The proposed at grade improvements in the southern half of the project site may be supported by shallow conventional spread footings bearing upon firm native soils.

18. Conventional spread footings should be embedded at least 18 inches below the lowest adjacent grade for an allowable bearing capacity of 2,000 psf one-third to include short-term seismic and wind loads.

19. The foundation trenches should be kept moist and be thoroughly cleaned of all slough or loose materials prior to pouring concrete. In addition, all footings located adjacent to other footings or utility trenches should have their bearing surfaces founded below an imaginary 2:1 plane projected upward from the bottom edge of the adjacent footings or utility trenches.

20. Lateral load resistance for structures supported on footings may be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.35 is considered applicable.

21. Prior to placing steel and concrete, all foundation excavations should be thoroughly cleaned. The foundation excavations must be observed by the geotechnical engineer or his representative prior to placing concrete.

Concrete Slabs-on-Grade

22. Building floor slabs on grade and exterior slabs should be constructed on properly moisture conditioned and compacted soil subgrades as follows:

-At grade, interior and exterior slabs-on-grade should be supported by at least 12 inches of non-expansive engineered fill compacted to at least 90 percent relative compaction; and

-Load bearing slabs on grade and non-pervious pavers supporting vehicles at the project site should be supported by at least 12 inches of aggregate base material compacted to at least 95 percent relative compaction. Prior to placement of the aggregate base, the exposed subgrade should be scarified to a depth of 8 inches; moisture conditioned, and compacted to at least 90 percent relative compaction.

23. The project design professionals should determine the appropriate slab reinforcing and thickness, in accordance with the anticipated use and loading of the slab. However, we recommend that consideration be given to a minimum slab thickness of 5 inches and steel reinforcement necessary to address temperature and shrinkage considerations. It is recommended that rebar in lieu of wire mesh be used for slab reinforcement. The steel reinforcement should be held firmly in the vertical center of the slab during placement and finishing of the concrete with pre-cast concrete dobies.

24. Where floor dampness must be minimized or where floor coverings will be installed, concrete slabs-on-grade should be constructed on a capillary break layer at least 6 inches thick, covered with a membrane vapor retarder. Capillary break material should be free-draining, clean, angular gravel such as 3/4-inch drainrock placed atop at least 12 inches of non-expansive engineered fill compacted to at least 90 percent relative compaction. The capillary break gravels should mechanically rolled or compacted for consistent slab support. The gravel should be washed to remove fines and dust prior to placement on the slab subgrade. The vapor retarder should be a high quality membrane at least 10 mil thick and puncture resistant. The concrete may be poured directly upon the vapor retarder. The primary considerations for installing the vapor retarder are: taping all seams; sealing all penetrations such as pipe, ducting, wire, etc; and repairing all punctures.

25. It should be clearly understood concrete slabs are not waterproof, nor are they vapor-proof. The aforementioned moisture retardant system will help to minimize water

and water vapor transmission through the slab; however moisture sensitive floor coverings require additional protective measures. Floor coverings must be installed according to the manufacturer's specifications, including appropriate waterproofing applications and/or any recommended slab and/or subgrade preparation. Consideration should also be given to recommending a topical waterproofing application over the slab.

26. In general, exterior slab-on-grade reinforcement should not be tied to the building foundations. At the discretion of the project structural engineer, exterior slabs at emergency egress areas may be tied to the perimeter foundation. Exterior slabs can be expected to suffer some cracking and movement. However, thickened exterior edges, a well-prepared subgrade including pre-moistening prior to pouring concrete, adequately spaced expansion joints and good workmanship should minimize cracking and movement.

Pavement Sections

27. Parking and traffic pavement section designs were beyond our designated scope of work. In general, asphaltic concrete and aggregate base should conform to and be placed in accordance with the Caltrans Standard Specifications, latest edition, except that the test method for compaction should be determined by ASTM D1557-current.

28. Exterior slabs on grade and non-pervious pavers supporting vehicle parking or traffic should be supported by at least 12 inches of aggregate base material compacted to at least 95 percent relative compaction. The compacted aggregate base section should extend at least 2 feet laterally beyond the slab on grade or non-pervious paver section perimeters. The exposed soils at the base of the compacted aggregate base section should be scarified at least 8 inches; moisture conditioned and compacted to at

least 90 percent relative compaction. The sand leveling course for non-pervious pavers should not exceed 1.5 inches thick.

29. Pervious pavers should be placed upon compacted, gap graded gravel placed in a good workman manner. Pervious pavement sections are recommended for light vehicle traffic and parking areas only. Pervious pavement sections will need to be maintained, repaired or replaced over the design life of the project.

Site Drainage

30. An engineered Drainage Plan for the project site development should be developed by the project civil engineer. Thorough control of runoff is essential to the performance of the project. Storm water runoff should be directed away from site improvements including structures, pavement sections and exterior slabs-on-grade.

31. It is our understanding an onsite storm water retention system will be incorporated into the project to minimize the offsite impact of the proposed development. The proposed onsite storm water retention system drainage system should be located at least 20 feet from the parking structure gravel backdrains situated along the exterior of the basement retaining walls to minimize the potential for flooding the gravel backdrain system. The onsite storm water retention system should also be set as far from the coastal bluff as site configuration allows

32. Full roof gutters should be placed around all eaves. Discharge from the roof gutters should be conveyed away from the downspouts by splash blocks, lined gutters or closed conduits.

33. The migration of water or spread of extensive root systems below foundations, slabs, or pavements may cause undesirable differential movements and subsequent damage to these structures. Landscaping should be planned accordingly.

Plan Review, Construction Observation, and Testing

34. Our firm should be provided the opportunity for a general review of the final project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be given.

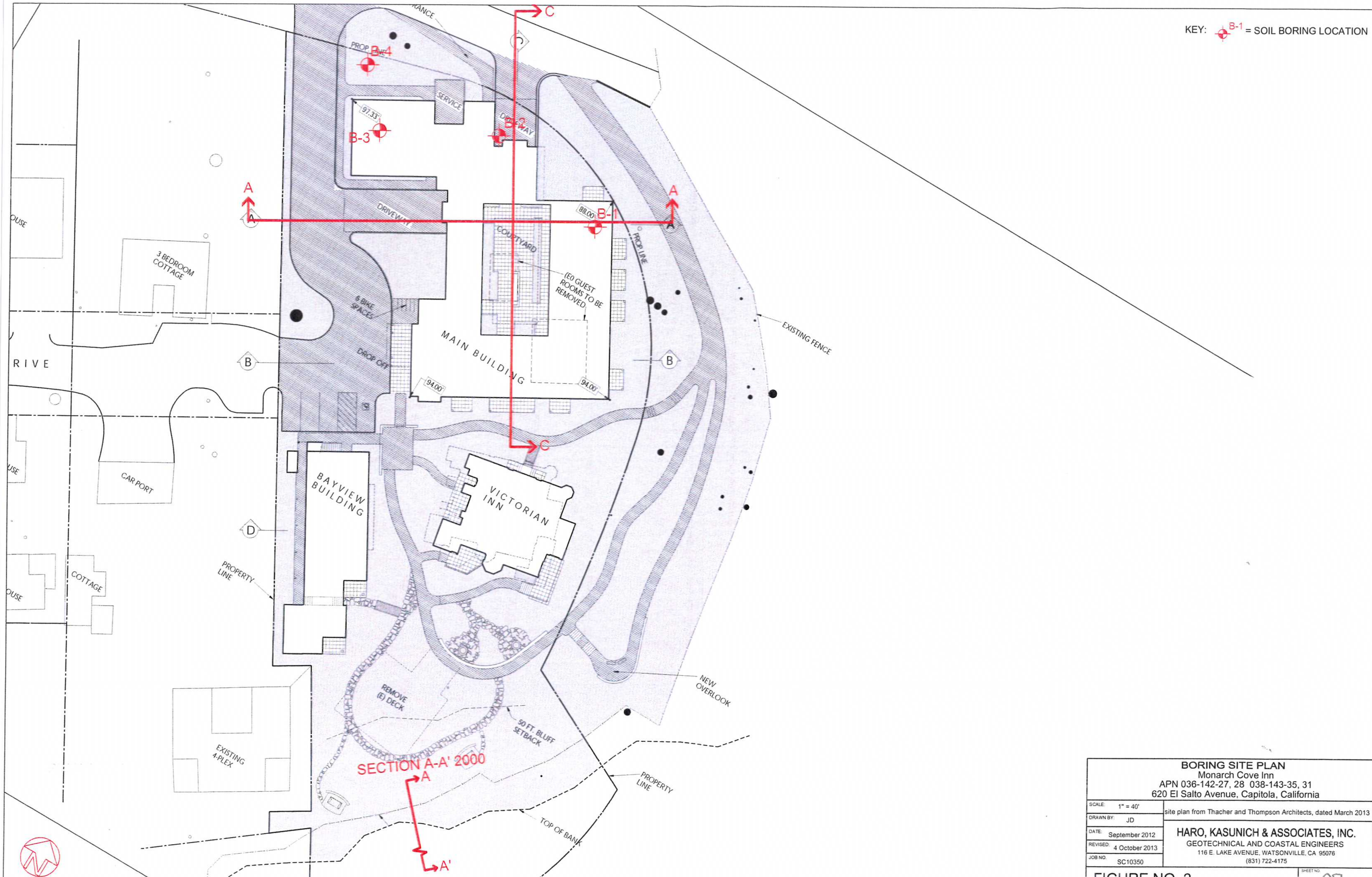
2. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field. The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. No other warranty expressed or implied is made.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside our control. Therefore, this report should not be relied upon after a period of three years without being reviewed by a geotechnical engineer.

Project No. SC10350
31 January 2013
Revised 30 August 2013

APPENDIX A

SITE VICINITY MAP Monarch Cove Inn APN 036-142-27, 28 038-143-35, 31 620 El Salto Avenue, Capitola, California	
SCALE: no scale	Image from Google Earth, dated 6 May 2012
DRAWN BY: JD	
DATE: August 2012	HARO, KASUNICH & ASSOCIATES, INC. GEOTECHNICAL AND COASTAL ENGINEERS 116 E. LAKE AVENUE, WATSONVILLE, CA 95076 (831) 722-4175
REVISED:	
JOB NO. SC10032	
FIGURE NO. 1	SHEET NO. 26



BORING SITE PLAN
Monarch Cove Inn
APN 036-142-27, 28 038-143-35, 31
620 El Salto Avenue, Capitola, California

SCALE: 1" = 40'	site plan from Thacher and Thompson Architects, dated March 2013
DRAWN BY: JD	
DATE: September 2012	HARO, KASUNICH & ASSOCIATES, INC.
REVISED: 4 October 2013	GEOTECHNICAL AND COASTAL ENGINEERS 116 E. LAKE AVENUE, WATSONVILLE, CA 95076 (831) 722-4175
JOB NO. SC10350	

FIGURE NO. 2

SHEET NO. 27

620 El Salto Drive - Monarch Cove Inn

Haro, Kasunich & Associates, Inc.

PROJECT NO. SC10350

LOGGED BY RP   DATE DRILLED 31 July 2012   BORING DIAMETER 6" SS   BORING NO. B-1

Depth, ft.	Sample No. and type	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0								
	1-1 (T)	Fill, Silty SAND with gravel and brick fragments, moist, loose	SP	10			9	
5	1-2 (T)	Fill, brick fragments with Silty SANDS, moist, medium dense		17			10	
		Approximate NATIVE contact at 7 feet						
10	1-3 (T)	Orange brown Silty SAND bedrock fragments with rounded gravels Moist, dense	SM	31			10	
15	1-4 (T)	Interbedded brown Silty SAND, medium to coarse SAND, red brown fine SAND, moist, medium dense	SW	26			10	
20	1-5 (T)	Brown fine to medium SAND moist, dense, no apparent cementation	SW	36			10	
25	1-6 (T)	Purisima sandstone (Tp) Olive brown Silty SAND with Mica wet, dense, auger wet at approximately 24 feet	SM	45				
30	1-7 (T)	Olive brown, fine SAND with Mica, no cementation Red brown/olive brown wet, very dense, little to no cementation		62/6"				
35		Grey brown Silty SAND with Mica, very dense						

HARO, KASUNICH AND ASSOCIATES, INC.

BY: sr   FIGURE NO. 3

Haro, Kasunich & Associates, Inc.

620 El Salto Drive - Monarch Cove Inn

PROJECT NO. SC10350

LOGGED BY RP | DATE DRILLED 31 July 2012 | BORING DIAMETER 6" SS | BORING NO. B-1

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
35	1-8(T)		Dark gray Silty fine SAND, very dense	SM	50/5"				
			Boring terminated at 36 feet. Hole collapsed to 24 feet after 2 hrs.						
40									
45									
50									
55									
60									
65									
70									

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\HKALOGS\SC10350 620 El Salto -Monarch Cove Inn.log Date: 1/30/2013

HARO, KASUNICH AND ASSOCIATES, INC.

BY: sr | FIGURE NO. 4

Haro, Kasunich & Associates, Inc.

620 El Salto Drive - Monarch Cove Inn

PROJECT NO. SC10350

LOGGED BY RP DATE DRILLED 31 July 2012 BORING DIAMETER 6" SS BORING NO. B-2

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0									
	2-1 (T)		Fill, dark brown Silty, Clayey SAND some angular gravels, moist, medium dense	SP	17			12	
5	2-2 (T)		Fill, brick fragments, SAND and Silt, moist, medium dense		24			13	
			Approximate NATIVE contact at 7 to 8 feet	SC					
10	2-3 (T)		NATIVE, motted Clayey SAND and sandstone bedrock fragments, moist, dense		41				
15	2-4 (T)		Interbedded medium to coarse SANDS, moist, medium dense	SW	28			10	
20	2-5 (T)		Fine to medium grain SAND with Mica, moist, medium dense	SW	26			17	
25	2-6 (T)		Olive brown fine SAND, wet, very dense Purisima sandstone (Tp)	SM	58/6"			28	
			Boring terminated at 26.5 feet						
30									
35									

HARO, KASUNICH AND ASSOCIATES, INC.

BY: sr FIGURE NO. 5

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\HKALOGS\SC10350 620 El Salto -Monarch Cove Inn.log Date: 1/30/2013

HARO, KASUNICH & ASSOCIATES, INC.

620 El Salto Drive - Monarch Cove Inn

PROJECT NO. SC10350

LOGGED BY RP DATE DRILLED 31 July 2012 BORING DIAMETER 6" SS BORING NO. B-3

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0									
	3-1 (T)		Orange brown, slightly Silty SAND, moist, medium dense, some dry strength	SM	28			16	
5	3-2 (T)		Light brown mottled/mixed fine SANDS, moist medium dense, some dry strength	SW	26			20	
10	3-3 (T)		Coarse SAND/gravels/bedrock fragments, moist, dense	SM	50/5"		120	20	
15	3-4 (L)		Brown SAND no gravels, moist, medium dense	SW	58		100	11	Phi = 45 degrees C = 188 psf Ms = 37%
20	3-5 (L)		Brown SAND with gravels to 3/4", moist, dense	SW	50/6"		112	20	Phi = 44 degrees C = 270 psf Ms = 33%
25	3-6 (T)		Interbedded medium grain SANDS and coarse SAND with gravels to 1/2"Driller-wet at 25 feet, dense		52			24	
			Purisima Sandstone (Tp) Olive brown fine SAND, dark grey Silty fine SAND, wet, dense	SM					
30	3-7 (T)				54			26	
			Boring terminated at 31.5 feet. Hole collapsed to 26.5 feet 20 minutes after drilling						
35									

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\HKALOGS\SC10350 620 El Salto -Monarch Cove Inn.log Date: 1/30/2013

HARO, KASUNICH AND ASSOCIATES, INC.

BY: sr FIGURE NO. 6

HARO, KASUNICH & ASSOCIATES, INC. — Coastal and Geotechnical Engineers

620 El Salto Drive - Monarch Cove Inn

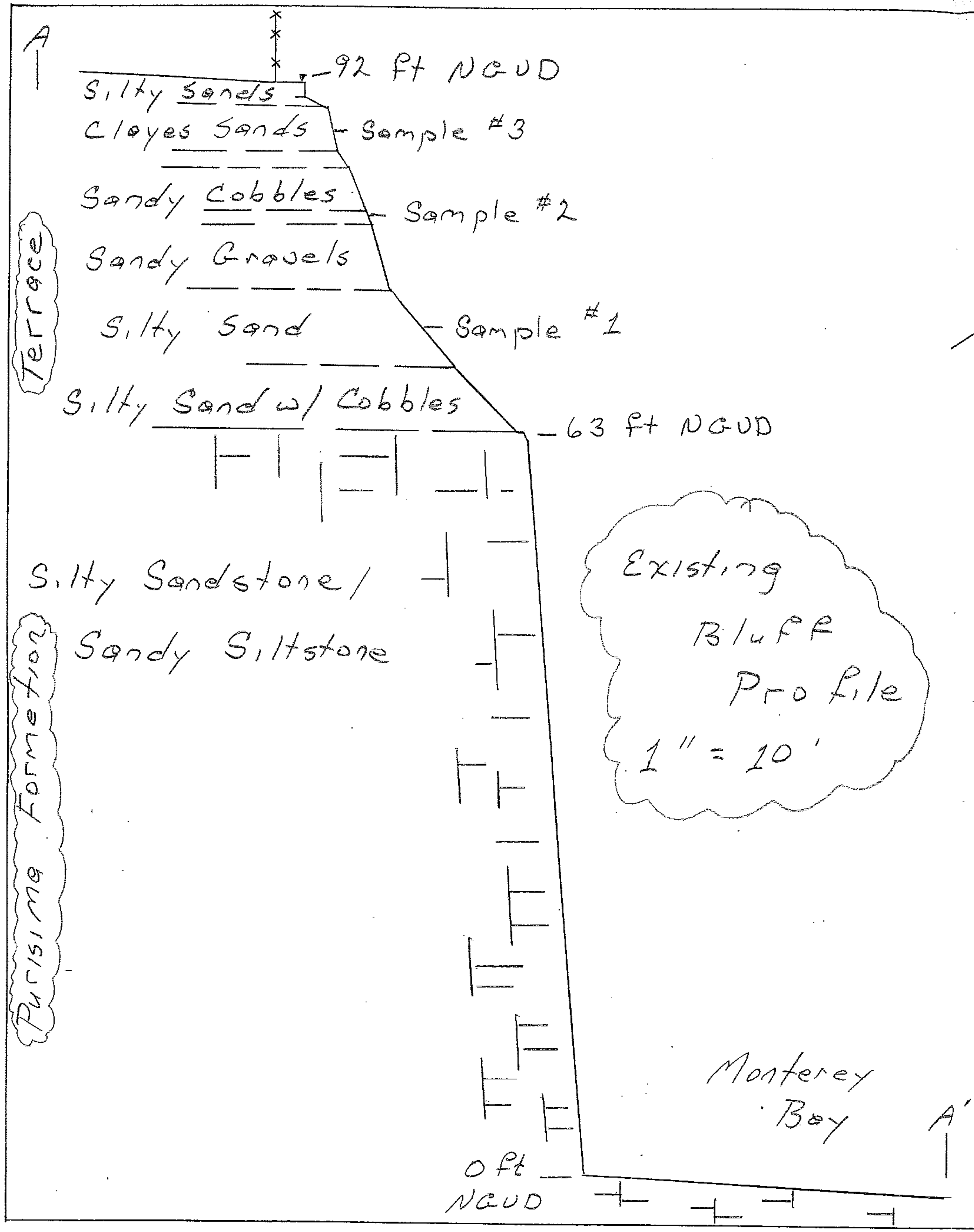
PROJECT NO. SC10350

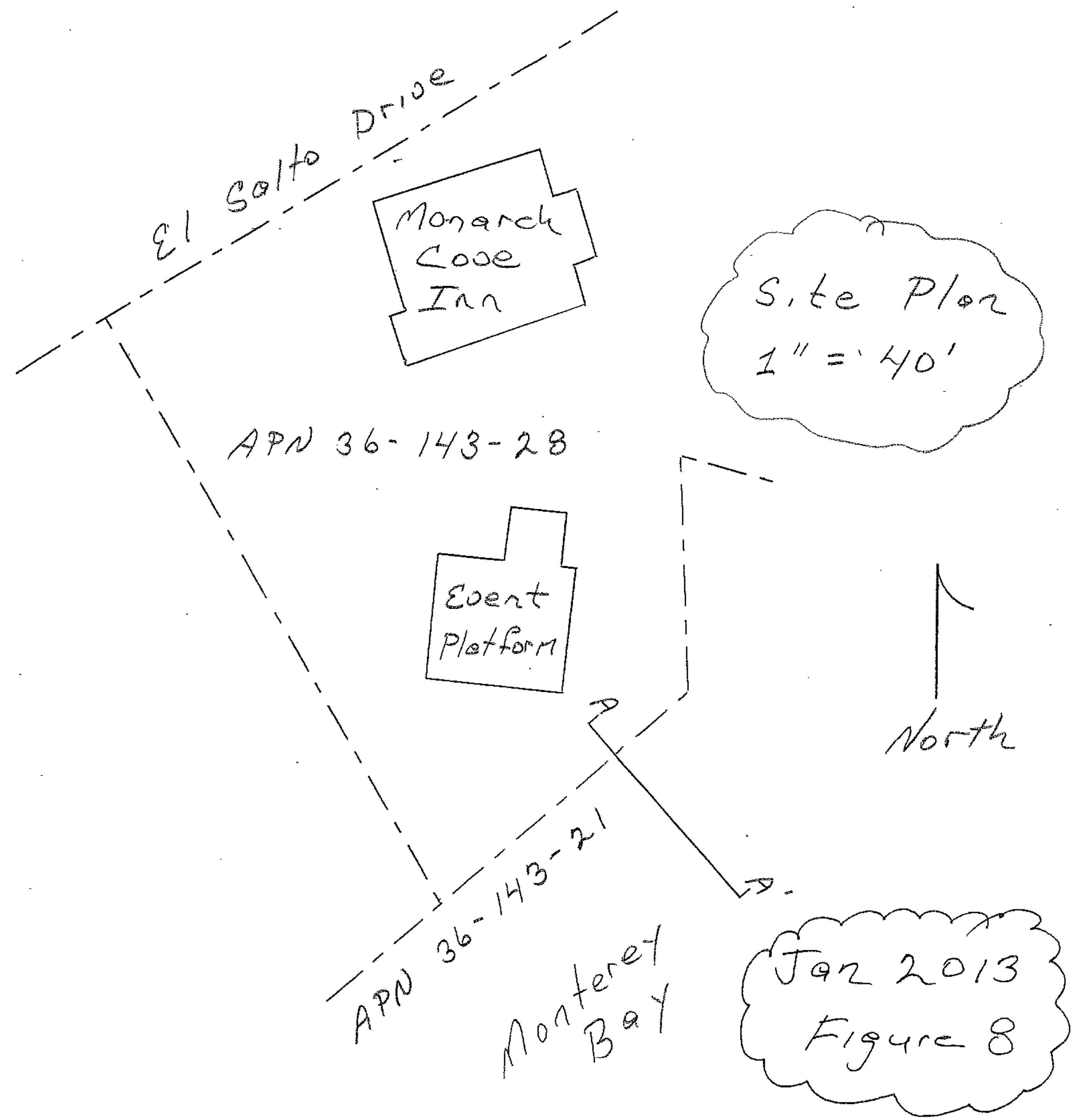
LOGGED BY RP | DATE DRILLED 31 July 2012 | BORING DIAMETER 6" SS | BORING NO. B-4

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft - lbs.	Qu - t.s.f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
0			Fill, Silty SAND with gravels, moist, medium dense	SP					
	4-1 (T)		Brown slightly Clayey SAND, moist, medium dense		26			13	
5	4-2 (T)		Mottled, slightly Clayey SAND with bedrock fragments and rounded gravels (sample similar to B-2 and B-3 at 10 feet)	SC	70			8	
10	4-3 (T)		Moist, dense slightly clayey coarse SAND with rounded gravels, moist, dense	SC	45			8	
			Boring terminated at 11.5 feet						
15									
20									
25									
30									
35									

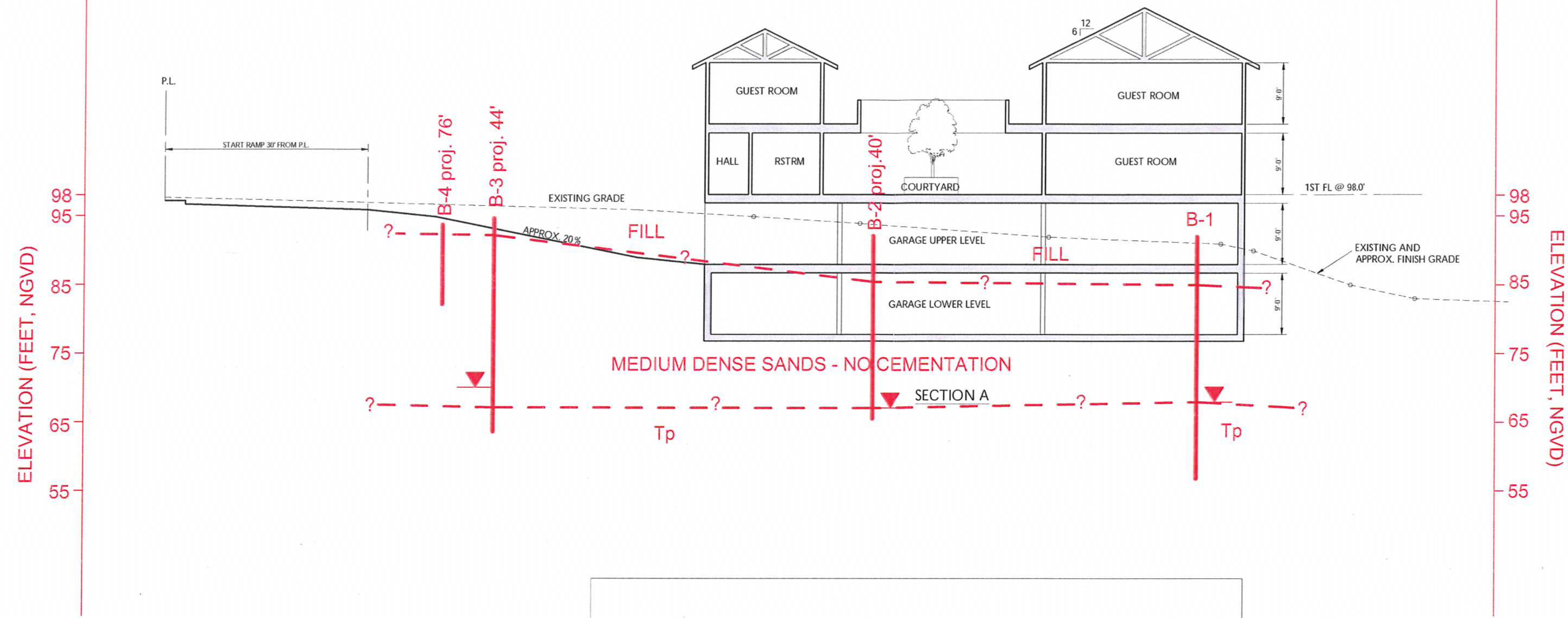
HARO, KASUNICH AND ASSOCIATES, INC.

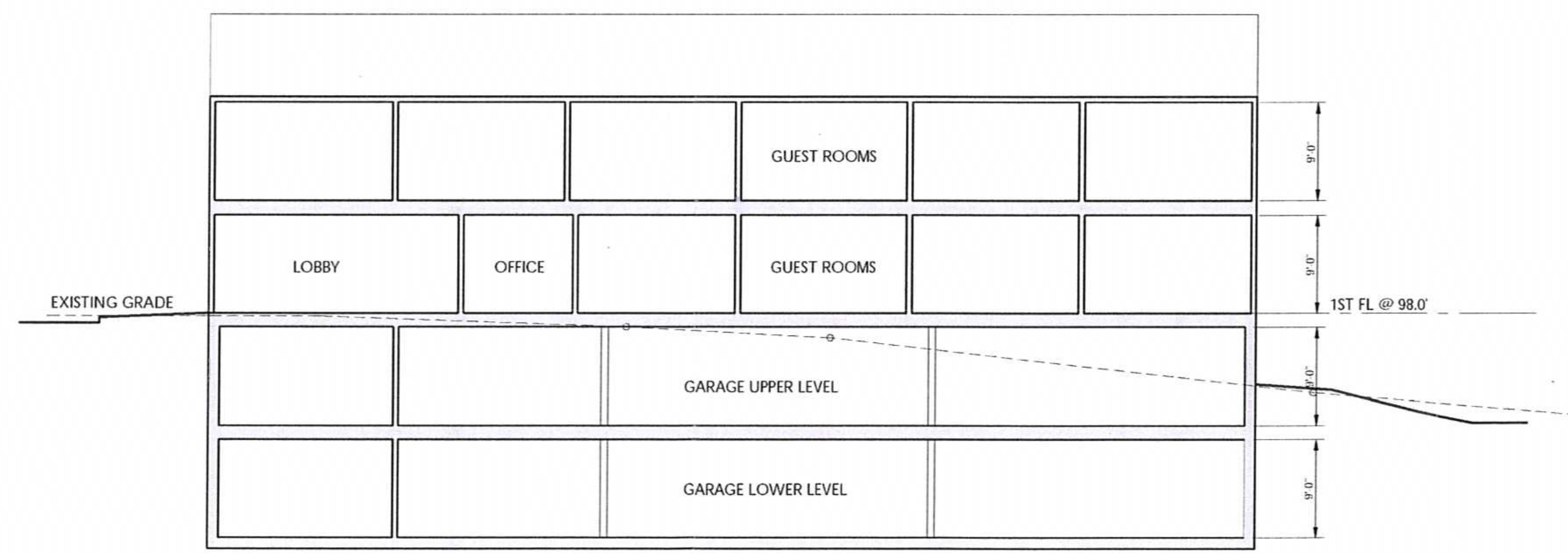
BY: sr | FIGURE NO. 7





Project No: SC6716	Bluff Profile & Site Plan
Date: 21 March 2000	El Salto Drive, Capitola
Scale: 1 inch = 10/40 feet	
Drawn by: RP	
HARO, KASUNICH & ASSOCIATES	Figure No. 8





SECTION B

SCALE: 1/8" = 1'

NORTH

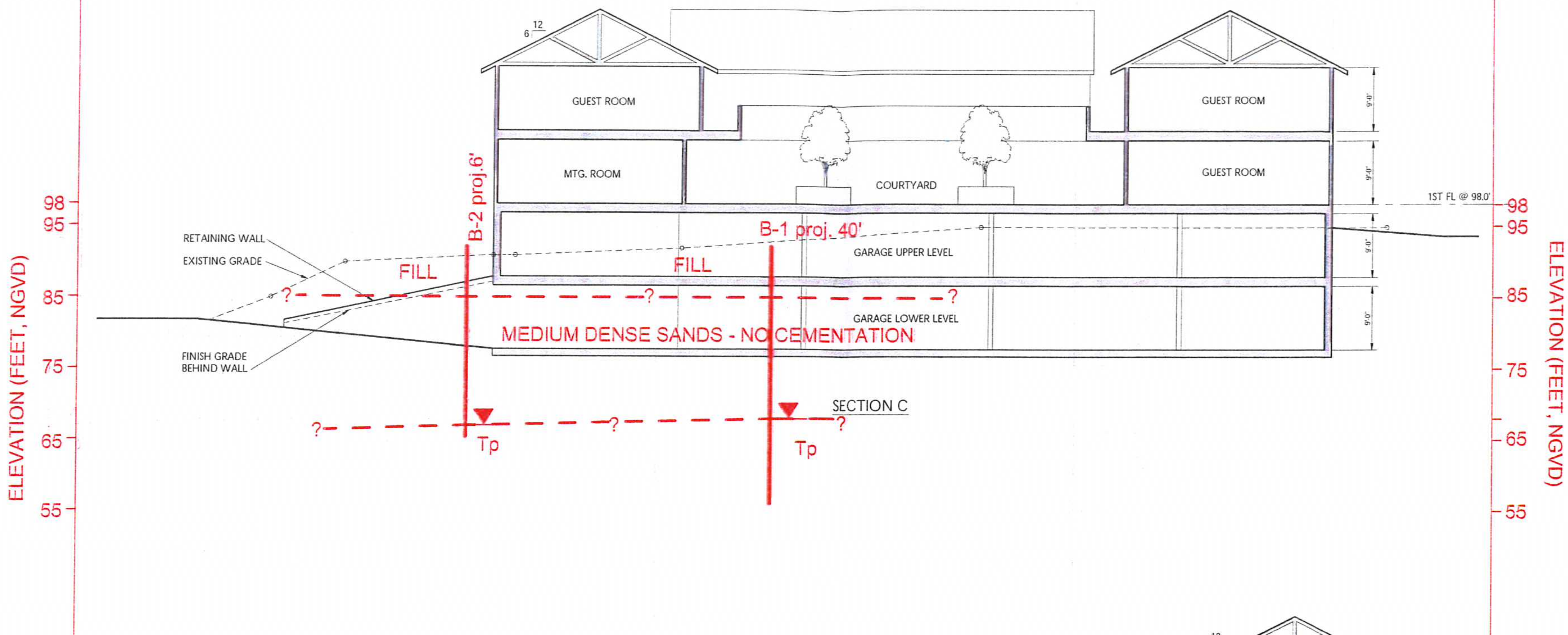
1

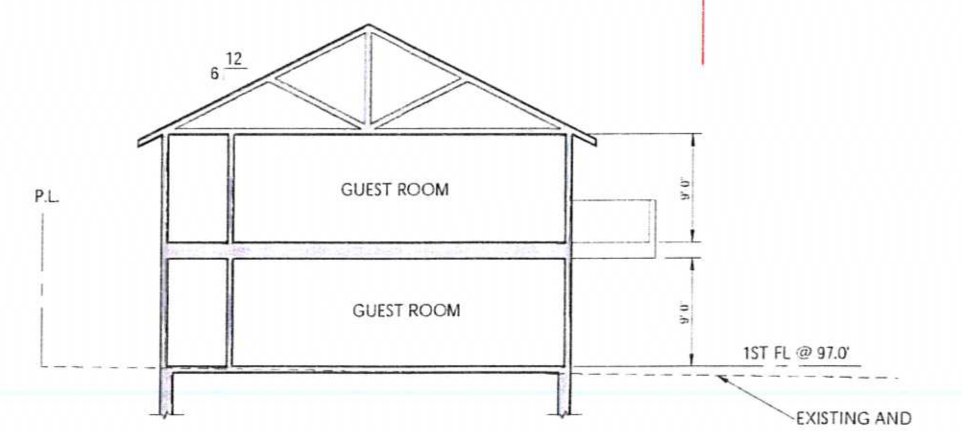
SECTIONS

MONARCH COVE INN

GEOTECHNICAL SECTION A
Monarch Cove Inn
APN 036-142-27, 28 038-143-35, 31
620 El Salto Avenue, Capitola, California

SCALE: 1" = 16' (H = V)	sections from Thacher and Thompson Architects, dated Sept. 2012
DRAWN BY: JD	
DATE: September 2012	HARO, KASUNICH & ASSOCIATES, INC. GEOTECHNICAL AND COASTAL ENGINEERS 116 E. LAKE AVENUE, WATSONVILLE, CA 95076 (831) 722-4175
REVISED:	
JOB NO. SC10350	
FIGURE NO. 9	SHEET NO. 34





SECTION D

SECTIONS

SCALE: 1/8" = 1'
0' 8' 16' 32'
NORTH

GEOTECHNICAL SECTION C
Monarch Cove Inn
APN 036-142-27, 28 038-143-35, 31
620 El Salto Avenue, Capitola, California

SCALE: 1" = 16' (H = V)	sections from Thacher and Thompson Architects, dated Sept. 2012	
DRAWN BY: JD	HARO, KASUNICH & ASSOCIATES, INC. GEOTECHNICAL AND COASTAL ENGINEERS 116 E. LAKE AVENUE, WATSONVILLE, CA 95076 (831) 722-4175	
DATE: September 2012		
REVISED:		
JOB NO: SC10350		
FIGURE NO. 10		SHEET NO. 35

Direct Shear

Project:	620 El Salto Dr.		Date	8/10/2012
Sample #	3-4-2		Tested By:	JR/MA
Description	Brown Sand			

Equation of Trendline	
Intercept	Slope
187.8	0.9937

Test Number	1	2	3	4
Normal Pressure (PSF)	280	530	1030	2030
Max Shear Stress	19.3	19.5	35.2	77.6
Shear Stress (PSF)	567.4		1033.9	2281

C (PSF)	PHI
188	45

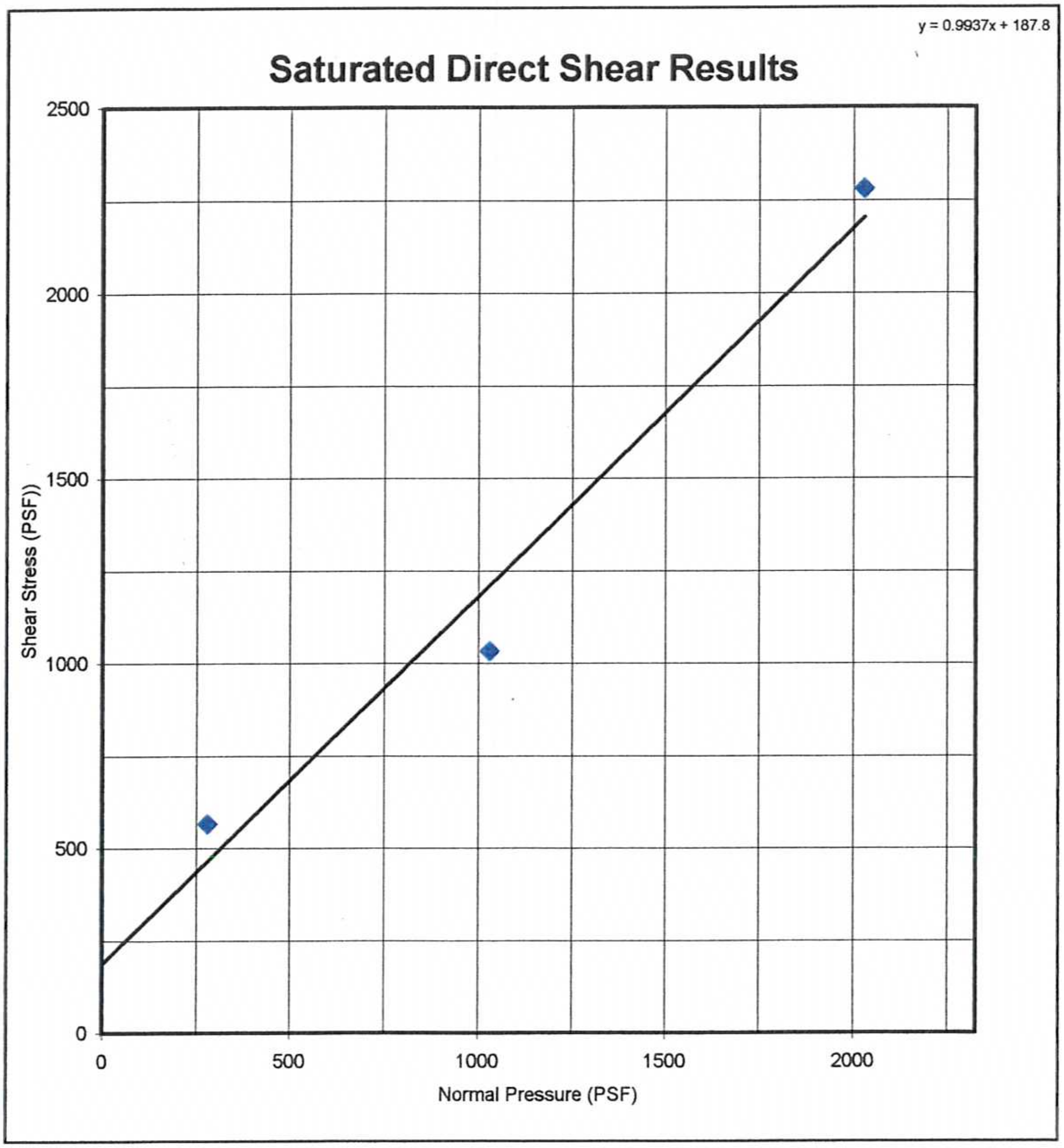


Figure No.

fig 11

Direct Shear

Project:	620 El Salto Dr		Date	8/3/2012
Sample #	3-5-2		Tested By:	JR
Description	Brown Sand Small to Large Gravels			

Test Number	1	2	3	4
Normal Pressure (PSF)	280	530	1030	2030
Max Shear Stress		22.4	48.8	73.3
Shear Stress (PSF)		658.1	1437.1	2155.7

Equation of Trendline	
Intercept	Slope
270.05	0.9584

C (PSF)	PHI
270	44

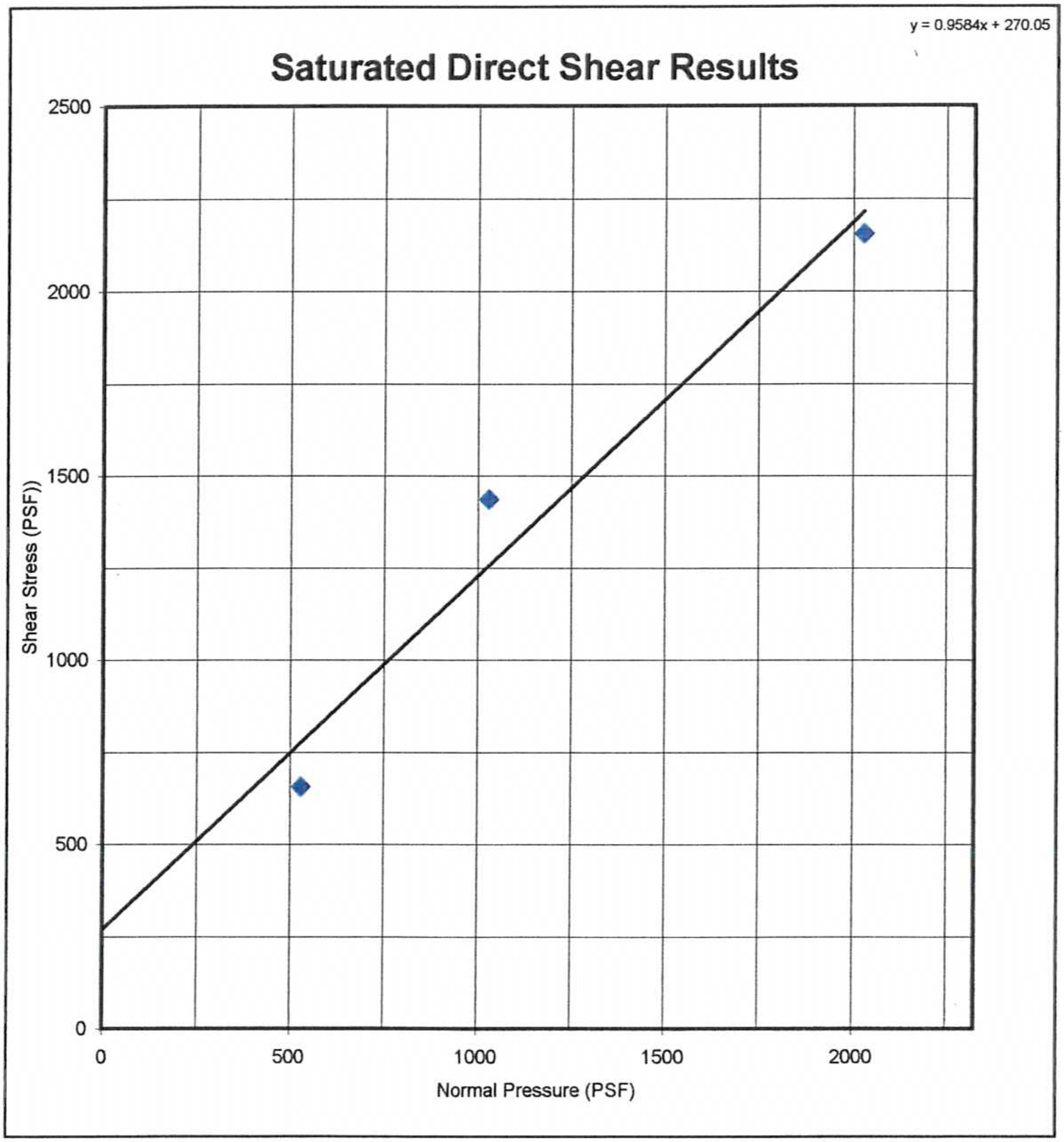


Figure No.

fig 12

Appendix F

Greenhouse Gas Emissions Data

Capitola Monarch Cove EIR

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	56.00	Space	0.10	16,644.00	0
Hotel	30.00	Room	1.30	22,623.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	61
Climate Zone	5			**Operational Year**	2015
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 - Lot acreage and square footage updated based on PD. (Total lot acreage = 1.4, parking structure subterranean.)

Demolition - Demolition of two existing cottages, existing L-shaped building, and the outdoor deck. Est sqft of demo based on Google Earth = 7,600.

Grading - Net soil hauling: grading of approximately 6,950 net cubic yards exported from the site.

Vehicle Trips - Trip generation updated based on driveway counts conducted for Hexagon Trans Traffic Study (Oct, 2013).

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	6,950.00
tblLandUse	LandUseSquareFeet	22,400.00	16,644.00
tblLandUse	LandUseSquareFeet	43,560.00	22,623.00
tblLandUse	LotAcreage	0.50	0.10
tblLandUse	LotAcreage	1.00	1.30
tblProjectCharacteristics	OperationalYear	2014	2015
tblVehicleTrips	ST_TR	8.19	12.91
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	WD_TR	8.17	8.00

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					
2014	0.9814	2.9786	2.2767	3.2100e-003	0.0456	0.1933	0.2389	0.0157	0.1858	0.2014	0.0000	279.4309	279.4309	0.0561	0.0000	280.6087
Total	**0.9814**	**2.9786**	**2.2767**	**3.2100e-003**	**0.0456**	**0.1933**	**0.2389**	**0.0157**	**0.1858**	**0.2014**	**0.0000**	**279.4309**	**279.4309**	**0.0561**	**0.0000**	**280.6087**

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					
2014	0.9814	2.9786	2.2767	3.2100e-003	0.0456	0.1933	0.2389	0.0157	0.1858	0.2014	0.0000	279.4306	279.4306	0.0561	0.0000	280.6084
Total	**0.9814**	**2.9786**	**2.2767**	**3.2100e-003**	**0.0456**	**0.1933**	**0.2389**	**0.0157**	**0.1858**	**0.2014**	**0.0000**	**279.4306**	**279.4306**	**0.0561**	**0.0000**	**280.6084**

	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	tons/yr										MT/yr					
Area	0.1990	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-003
Energy	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	137.5402	137.5402	5.0200e-003	1.7000e-003	138.1724
Mobile	0.4913	0.3722	2.0442	2.6300e-003	0.1839	4.2200e-003	0.1882	0.0493	3.8700e-003	0.0531	0.0000	212.2179	212.2179	0.0142	0.0000	212.5156
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	7.4743
Water						0.0000	0.0000		0.0000	0.0000	0.2414	1.2840	1.5254	0.0249	6.0000e-004	2.2326
Total	**0.6949**	**0.4144**	**2.0807**	**2.8800e-003**	**0.1839**	**7.4300e-003**	**0.1914**	**0.0493**	**7.0800e-003**	**0.0564**	**3.5766**	**351.0443**	**354.6208**	**0.2412**	**2.3000e-003**	**360.3972**

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	0.1990	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-003
Energy	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	137.5402	137.5402	5.0200e-003	1.7000e-003	138.1724
Mobile	0.4913	0.3722	2.0442	2.6300e-003	0.1839	4.2200e-003	0.1882	0.0493	3.8700e-003	0.0531	0.0000	212.2179	212.2179	0.0142	0.0000	212.5156
Waste						0.0000	0.0000		0.0000	0.0000	3.3351	0.0000	3.3351	0.1971	0.0000	7.4743
Water						0.0000	0.0000		0.0000	0.0000	0.2414	1.2840	1.5254	0.0249	6.0000e-004	2.2323
Total	**0.6949**	**0.4144**	**2.0807**	**2.8800e-003**	**0.1839**	**7.4300e-003**	**0.1914**	**0.0493**	**7.0800e-003**	**0.0564**	**3.5766**	**351.0443**	**354.6208**	**0.2412**	**2.3000e-003**	**360.3968**

	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	Demolition	Demolition	1/1/2014	1/28/2014	5	20	
2	Site Preparation	Site Preparation	1/29/2014	1/30/2014	5	2	
3	Grading	Grading	1/31/2014	2/5/2014	5	4	
4	Building Construction	Building Construction	2/6/2014	11/12/2014	5	200	
5	Paving	Paving	11/13/2014	11/26/2014	5	10	
6	Architectural Coating	Architectural Coating	11/27/2014	12/10/2014	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,901; Non-Residential Outdoor: 19,634 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	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
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	5	13.00	0.00	35.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	869.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	16.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

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					3.7400e-003	0.0000	3.7400e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.3048	0.2219	2.5000e-004		0.0194	0.0194		0.0182	0.0182	0.0000	22.9494	22.9494	5.8300e-003	0.0000	23.0718
Total	**0.0316**	**0.3048**	**0.2219**	**2.5000e-004**	**3.7400e-003**	**0.0194**	**0.0231**	**5.7000e-004**	**0.0182**	**0.0187**	**0.0000**	**22.9494**	**22.9494**	**5.8300e-003**	**0.0000**	**23.0718**

3.2 Demolition - 2014

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	1.1500e-003	6.3800e-003	6.2400e-003	1.0000e-005	2.9000e-004	1.1000e-004	4.0000e-004	8.0000e-005	1.0000e-004	1.8000e-004	0.0000	1.1680	1.1680	1.0000e-005	0.0000	1.1683
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	2.8200e-003	1.1200e-003	0.0103	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	1.0192	1.0192	8.0000e-005	0.0000	1.0209
Total	**3.9700e-003**	**7.5000e-003**	**0.0166**	**2.0000e-005**	**1.3200e-003**	**1.2000e-004**	**1.4400e-003**	**3.5000e-004**	**1.1000e-004**	**4.6000e-004**	**0.0000**	**2.1872**	**2.1872**	**9.0000e-005**	**0.0000**	**2.1891**

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					3.7400e-003	0.0000	3.7400e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.3048	0.2219	2.5000e-004		0.0194	0.0194		0.0182	0.0182	0.0000	22.9494	22.9494	5.8300e-003	0.0000	23.0717
Total	**0.0316**	**0.3048**	**0.2219**	**2.5000e-004**	**3.7400e-003**	**0.0194**	**0.0231**	**5.7000e-004**	**0.0182**	**0.0187**	**0.0000**	**22.9494**	**22.9494**	**5.8300e-003**	**0.0000**	**23.0717**

3.2 Demolition - 2014

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	1.1500e-003	6.3800e-003	6.2400e-003	1.0000e-005	2.9000e-004	1.1000e-004	4.0000e-004	8.0000e-005	1.0000e-004	1.8000e-004	0.0000	1.1680	1.1680	1.0000e-005	0.0000	1.1683
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	2.8200e-003	1.1200e-003	0.0103	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	1.0192	1.0192	8.0000e-005	0.0000	1.0209
Total	**3.9700e-003**	**7.5000e-003**	**0.0166**	**2.0000e-005**	**1.3200e-003**	**1.2000e-004**	**1.4400e-003**	**3.5000e-004**	**1.1000e-004**	**4.6000e-004**	**0.0000**	**2.1872**	**2.1872**	**9.0000e-005**	**0.0000**	**2.1891**

3.3 Site Preparation - 2014

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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5500e-003	0.0272	0.0171	2.0000e-005		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	1.6521	1.6521	4.9000e-004	0.0000	1.6623
Total	**2.5500e-003**	**0.0272**	**0.0171**	**2.0000e-005**	**5.8000e-003**	**1.4800e-003**	**7.2800e-003**	**2.9500e-003**	**1.3600e-003**	**4.3100e-003**	**0.0000**	**1.6521**	**1.6521**	**4.9000e-004**	**0.0000**	**1.6623**

3.3 Site Preparation - 2014

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	1.7000e-004	7.0000e-005	6.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0627	0.0627	0.0000	0.0000	0.0628
Total	**1.7000e-004**	**7.0000e-005**	**6.3000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5500e-003	0.0272	0.0171	2.0000e-005		1.4800e-003	1.4800e-003		1.3600e-003	1.3600e-003	0.0000	1.6521	1.6521	4.9000e-004	0.0000	1.6623
Total	**2.5500e-003**	**0.0272**	**0.0171**	**2.0000e-005**	**5.8000e-003**	**1.4800e-003**	**7.2800e-003**	**2.9500e-003**	**1.3600e-003**	**4.3100e-003**	**0.0000**	**1.6521**	**1.6521**	**4.9000e-004**	**0.0000**	**1.6623**

3.3 Site Preparation - 2014

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	1.7000e-004	7.0000e-005	6.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0627	0.0627	0.0000	0.0000	0.0628
Total	**1.7000e-004**	**7.0000e-005**	**6.3000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0627**	**0.0627**	**0.0000**	**0.0000**	**0.0628**

3.4 Grading - 2014

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					0.0102	0.0000	0.0102	5.1100e-003	0.0000	5.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1500e-003	0.0444	0.0283	3.0000e-005		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	2.7137	2.7137	8.0000e-004	0.0000	2.7306
Total	**4.1500e-003**	**0.0444**	**0.0283**	**3.0000e-005**	**0.0102**	**2.4200e-003**	**0.0126**	**5.1100e-003**	**2.2300e-003**	**7.3400e-003**	**0.0000**	**2.7137**	**2.7137**	**8.0000e-004**	**0.0000**	**2.7306**

3.4 Grading - 2014

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	0.0287	0.1584	0.1550	3.1000e-004	7.2700e-003	2.7600e-003	0.0100	1.9900e-003	2.5400e-003	4.5300e-003	0.0000	29.0006	29.0006	2.6000e-004	0.0000	29.0060
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	3.5000e-004	1.4000e-004	1.2700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1254	0.1254	1.0000e-005	0.0000	0.1257
Total	**0.0290**	**0.1585**	**0.1563**	**3.1000e-004**	**7.4000e-003**	**2.7600e-003**	**0.0102**	**2.0200e-003**	**2.5400e-003**	**4.5700e-003**	**0.0000**	**29.1260**	**29.1260**	**2.7000e-004**	**0.0000**	**29.1316**

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					0.0102	0.0000	0.0102	5.1100e-003	0.0000	5.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1500e-003	0.0444	0.0283	3.0000e-005		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	2.7137	2.7137	8.0000e-004	0.0000	2.7306
Total	**4.1500e-003**	**0.0444**	**0.0283**	**3.0000e-005**	**0.0102**	**2.4200e-003**	**0.0126**	**5.1100e-003**	**2.2300e-003**	**7.3400e-003**	**0.0000**	**2.7137**	**2.7137**	**8.0000e-004**	**0.0000**	**2.7306**

3.4 Grading - 2014

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	0.0287	0.1584	0.1550	3.1000e-004	7.2700e-003	2.7600e-003	0.0100	1.9900e-003	2.5400e-003	4.5300e-003	0.0000	29.0006	29.0006	2.6000e-004	0.0000	29.0060
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	3.5000e-004	1.4000e-004	1.2700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1254	0.1254	1.0000e-005	0.0000	0.1257
Total	**0.0290**	**0.1585**	**0.1563**	**3.1000e-004**	**7.4000e-003**	**2.7600e-003**	**0.0102**	**2.0200e-003**	**2.5400e-003**	**4.5700e-003**	**0.0000**	**29.1260**	**29.1260**	**2.7000e-004**	**0.0000**	**29.1316**

3.5 Building Construction - 2014

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	0.3908	2.2533	1.5310	2.2000e-003		0.1596	0.1596		0.1543	0.1543	0.0000	187.2502	187.2502	0.0454	0.0000	188.2036
Total	**0.3908**	**2.2533**	**1.5310**	**2.2000e-003**		**0.1596**	**0.1596**		**0.1543**	**0.1543**	**0.0000**	**187.2502**	**187.2502**	**0.0454**	**0.0000**	**188.2036**

3.5 Building Construction - 2014

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	0.0184	0.0792	0.1163	1.4000e-004	3.8000e-003	1.5700e-003	5.3700e-003	1.0800e-003	1.4400e-003	2.5200e-003	0.0000	12.7085	12.7085	1.4000e-004	0.0000	12.7114
Worker	0.0348	0.0137	0.1268	1.6000e-004	0.0127	1.5000e-004	0.0128	3.3700e-003	1.4000e-004	3.5100e-003	0.0000	12.5437	12.5437	1.0000e-003	0.0000	12.5647
Total	**0.0531**	**0.0929**	**0.2432**	**3.0000e-004**	**0.0165**	**1.7200e-003**	**0.0182**	**4.4500e-003**	**1.5800e-003**	**6.0300e-003**	**0.0000**	**25.2522**	**25.2522**	**1.1400e-003**	**0.0000**	**25.2761**

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	0.3908	2.2533	1.5310	2.2000e-003		0.1596	0.1596		0.1543	0.1543	0.0000	187.2499	187.2499	0.0454	0.0000	188.2034
Total	**0.3908**	**2.2533**	**1.5310**	**2.2000e-003**		**0.1596**	**0.1596**		**0.1543**	**0.1543**	**0.0000**	**187.2499**	**187.2499**	**0.0454**	**0.0000**	**188.2034**

3.5 Building Construction - 2014

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	0.0184	0.0792	0.1163	1.4000e-004	3.8000e-003	1.5700e-003	5.3700e-003	1.0800e-003	1.4400e-003	2.5200e-003	0.0000	12.7085	12.7085	1.4000e-004	0.0000	12.7114
Worker	0.0348	0.0137	0.1268	1.6000e-004	0.0127	1.5000e-004	0.0128	3.3700e-003	1.4000e-004	3.5100e-003	0.0000	12.5437	12.5437	1.0000e-003	0.0000	12.5647
Total	**0.0531**	**0.0929**	**0.2432**	**3.0000e-004**	**0.0165**	**1.7200e-003**	**0.0182**	**4.4500e-003**	**1.5800e-003**	**6.0300e-003**	**0.0000**	**25.2522**	**25.2522**	**1.1400e-003**	**0.0000**	**25.2761**

3.6 Paving - 2014

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	7.1500e-003	0.0755	0.0458	7.0000e-005		4.5900e-003	4.5900e-003		4.2200e-003	4.2200e-003	0.0000	6.3336	6.3336	1.8400e-003	0.0000	6.3722
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.1500e-003**	**0.0755**	**0.0458**	**7.0000e-005**		**4.5900e-003**	**4.5900e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**6.3336**	**6.3336**	**1.8400e-003**	**0.0000**	**6.3722**

3.6 Paving - 2014

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	1.4100e-003	5.6000e-004	5.1500e-003	1.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.4000e-004	1.0000e-005	1.4000e-004	0.0000	0.5096	0.5096	4.0000e-005	0.0000	0.5104
Total	**1.4100e-003**	**5.6000e-004**	**5.1500e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.5096**	**0.5096**	**4.0000e-005**	**0.0000**	**0.5104**

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	7.1500e-003	0.0755	0.0458	7.0000e-005		4.5900e-003	4.5900e-003		4.2200e-003	4.2200e-003	0.0000	6.3336	6.3336	1.8400e-003	0.0000	6.3722
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.1500e-003**	**0.0755**	**0.0458**	**7.0000e-005**		**4.5900e-003**	**4.5900e-003**		**4.2200e-003**	**4.2200e-003**	**0.0000**	**6.3336**	**6.3336**	**1.8400e-003**	**0.0000**	**6.3722**

3.6 Paving - 2014

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	1.4100e-003	5.6000e-004	5.1500e-003	1.0000e-005	5.1000e-004	1.0000e-005	5.2000e-004	1.4000e-004	1.0000e-005	1.4000e-004	0.0000	0.5096	0.5096	4.0000e-005	0.0000	0.5104
Total	**1.4100e-003**	**5.6000e-004**	**5.1500e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.5096**	**0.5096**	**4.0000e-005**	**0.0000**	**0.5104**

3.7 Architectural Coating - 2014

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	0.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2300e-003	0.0139	9.6100e-003	1.0000e-005		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	1.2766	1.2766	1.8000e-004	0.0000	1.2805
Total	**0.4572**	**0.0139**	**9.6100e-003**	**1.0000e-005**		**1.2300e-003**	**1.2300e-003**		**1.2300e-003**	**1.2300e-003**	**0.0000**	**1.2766**	**1.2766**	**1.8000e-004**	**0.0000**	**1.2805**

3.7 Architectural Coating - 2014

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	1.3000e-004	1.1900e-003	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1176	0.1176	1.0000e-005	0.0000	0.1178
Total	**3.3000e-004**	**1.3000e-004**	**1.1900e-003**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1176**	**0.1176**	**1.0000e-005**	**0.0000**	**0.1178**

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	0.4550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2300e-003	0.0139	9.6100e-003	1.0000e-005		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	1.2766	1.2766	1.8000e-004	0.0000	1.2805
Total	**0.4572**	**0.0139**	**9.6100e-003**	**1.0000e-005**		**1.2300e-003**	**1.2300e-003**		**1.2300e-003**	**1.2300e-003**	**0.0000**	**1.2766**	**1.2766**	**1.8000e-004**	**0.0000**	**1.2805**

3.7 Architectural Coating - 2014

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	1.3000e-004	1.1900e-003	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1176	0.1176	1.0000e-005	0.0000	0.1178
Total	**3.3000e-004**	**1.3000e-004**	**1.1900e-003**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1176**	**0.1176**	**1.0000e-005**	**0.0000**	**0.1178**

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	0.4913	0.3722	2.0442	2.6300e-003	0.1839	4.2200e-003	0.1882	0.0493	3.8700e-003	0.0531	0.0000	212.2179	212.2179	0.0142	0.0000	212.5156
Unmitigated	0.4913	0.3722	2.0442	2.6300e-003	0.1839	4.2200e-003	0.1882	0.0493	3.8700e-003	0.0531	0.0000	212.2179	212.2179	0.0142	0.0000	212.5156

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	240.00	387.30	240.00	495,963	495,963
Total	240.00	387.30	240.00	495,963	495,963

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
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.493454	0.038210	0.233257	0.144197	0.050172	0.006938	0.012133	0.004477	0.000959	0.002951	0.009070	0.000719	0.003462

4.4 Fleet Mix

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	91.6044	91.6044	4.1400e-003	8.6000e-004	91.9570
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	91.6044	91.6044	4.1400e-003	8.6000e-004	91.9570
NaturalGas Mitigated	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9358	45.9358	8.8000e-004	8.4000e-004	46.2154
NaturalGas Unmitigated	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9358	45.9358	8.8000e-004	8.4000e-004	46.2154

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					
Enclosed Parking Structure	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
Hotel	860805	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9358	45.9358	8.8000e-004	8.4000e-004	46.2154
Total		**4.6400e-003**	**0.0422**	**0.0354**	**2.5000e-004**		**3.2100e-003**	**3.2100e-003**		**3.2100e-003**	**3.2100e-003**	**0.0000**	**45.9358**	**45.9358**	**8.8000e-004**	**8.4000e-004**	**46.2154**

5.2 Energy by Land Use - NaturalGas

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					
Enclosed Parking Structure	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
Hotel	860805	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2100e-003	3.2100e-003		3.2100e-003	3.2100e-003	0.0000	45.9358	45.9358	8.8000e-004	8.4000e-004	46.2154
Total		**4.6400e-003**	**0.0422**	**0.0354**	**2.5000e-004**		**3.2100e-003**	**3.2100e-003**		**3.2100e-003**	**3.2100e-003**	**0.0000**	**45.9358**	**45.9358**	**8.8000e-004**	**8.4000e-004**	**46.2154**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	109018	31.7146	1.4300e-003	3.0000e-004	31.8367
Hotel	205869	59.8897	2.7100e-003	5.6000e-004	60.1203
Total		**91.6044**	**4.1400e-003**	**8.6000e-004**	**91.9570**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	205869	59.8897	2.7100e-003	5.6000e-004	60.1203
Enclosed Parking Structure	109018	31.7146	1.4300e-003	3.0000e-004	31.8367
Total		**91.6044**	**4.1400e-003**	**8.6000e-004**	**91.9570**

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	0.1990	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-003
Unmitigated	0.1990	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-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	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1534					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-003
Total	**0.1990**	**1.0000e-005**	**1.1400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1300e-003**	**2.1300e-003**	**1.0000e-005**	**0.0000**	**2.2600e-003**

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	0.0455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1534					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.1400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1300e-003	2.1300e-003	1.0000e-005	0.0000	2.2600e-003
Total	**0.1990**	**1.0000e-005**	**1.1400e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1300e-003**	**2.1300e-003**	**1.0000e-005**	**0.0000**	**2.2600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5254	0.0249	6.0000e-004	2.2323
Unmitigated	1.5254	0.0249	6.0000e-004	2.2326

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	0.761003 / 0.0845559	1.5254	0.0249	6.0000e-004	2.2326
Total		**1.5254**	**0.0249**	**6.0000e-004**	**2.2326**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	0.761003 / 0.0845559	1.5254	0.0249	6.0000e-004	2.2323
Total		**1.5254**	**0.0249**	**6.0000e-004**	**2.2323**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.3351	0.1971	0.0000	7.4743
Unmitigated	3.3351	0.1971	0.0000	7.4743

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	16.43	3.3351	0.1971	0.0000	7.4743
Total		**3.3351**	**0.1971**	**0.0000**	**7.4743**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	16.43	3.3351	0.1971	0.0000	7.4743
Total		**3.3351**	**0.1971**	**0.0000**	**7.4743**

9.0 Operational Offroad

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

10.0 Vegetation

Appendix G

Preliminary Drainage Report

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
A CALIFORNIA CORPORATION
1011 CEDAR • PO BOX 1621 • SANTA CRUZ, CA 95061-1621
PHONE (831) 426-3560 FAX (831) 426-9182 www.bowmanandwilliams.com

PRELIMINARY

STORMWATER MANAGEMENT REPORT

For

APN: 036-142-11 & 27, 036-143-31
620 El Salto Drive
Capitola, CA 95010

Prepared for
Robert Blodgett

Date: April 19, 2013

Job No. 24788

BASIS OF DESIGN:

1. **County of Santa Cruz Design Criteria.**
2. **Bowman and Williams Site Plan Drawings**
3. **NRCS Soil Web Survey**

TABLE OF CONTENTS

1.0 INTRODUCTION

A redevelopment is proposed to be constructed on the existing three assessor parcel no.'s 036-142-11 & 27, and 036-143-31 located at 620 El Salto Drive, Capitola, California. The project encompasses an area of about 52,105 sf.

2.0 METHOD OF ANALYSIS

- The Rational Formula (shown below) is used to estimate peak runoff rates.

$$Q = C_a CiA$$

Where:

Q= Estimated Peak Runoff from site (cfs)
C_a= Antecedent Moisture Factor (Unitless)
C= Runoff Coefficient (Unitless)
i= Rainfall Intensity (in/hr)
A= Area of Site (Acres)

- Precipitation data/runoff coefficients are obtained from the Santa Cruz County Design Criteria Manual. Precipitation intensity is based upon the P60 Isopleth for Santa Cruz County (see attached map).

3.0 SYSTEM EVALUATION

County of Santa Cruz Design Criteria, March 2012 Edition:

- The redevelopment project will create 23,550 square feet of impervious area. The project is considered as a **Large Project** because it creates more than 5,000 square feet and must incorporate BMPs to minimize and mitigate pollutant and hydrologic impacts due to redevelopment.

- The project site is divided into two drainage management areas (DMA). Porous pavement are proposed to mitigate pollutant and hydrologic impacts in DMA-A. Rain gardens are proposed to mitigate pollutant and hydrologic impacts in DMA-B.

- Under the County Design Criteria, no mitigation credits are given to the existing impervious areas because the project alters more than 50% of the existing impervious surface

- Mitigation for hydrologic impact is by maintaining pre development discharge rates at 2 Yr – 1 hr and 10 Yr -15 min storm events.

Post-Construction Stormwater Management Requirements Resolution No. R3-2012-0025, September 6, 2012

- There are 15,878 sf of impervious area in the pre-development condition and 23,550 sf of impervious in the post-development condition. The existing impervious area qualifies for 50% reduction; therefore the total effective post development area for mitigation design is 15,612 sf.

DMA – A:	12,948 – (9,633)(1/2) = 8,132 sf
DMA – B:	10,602 – (6,245)(1/2) = 7,480 sf
Total:	8,132 + 7,480 = 15,612

- The project site is located in Watershed Management Zone 4, overlies a designated Groundwater Basin, and has over 15,000 sf of net impervious area. The project shall meet Performance Requirement No. 3: Runoff Retention, see page 27.

- Per Performance Requirements No. 3, the project shall retain the 95th percentile 24 -hour rainfall event with compliance achieved via infiltration. However due to the project topography locating near the ocean cliff, it would be a geotechnical and structural concern having saturated soil near the surface of the cliff.

- With the low soil infiltration rate at the project site, 0.4 in/hr, we find that it is technically infeasible to infiltrate both the 85th and 95th percentile 24-hour storm events.

- We propose a non-retention-based stormwater facility to provide water quality treatment as an alternate design*. The facility will include an underdrain with an orifice to ensure a minimum of 48 hours of extended detention is provided for the Water Quality Volume. The 85th percentile 24-hour rainfall event is used to size the detention system. Low Impact Development design elements are implemented with the stormwater facility to the maximum possible extent without causing geotechnical and structural concerns to adjacent cliff and building foundations.

  * The proposed non-retention-based stormwater system is subjected to approval by the County of Santa Cruz.

4.0 SUMMARY

The table below shows summaries of estimated peak flows and required storage volumes for the project. The calculations assume the entire site as pervious with no credits given to the existing impervious surfaces.

DMA - A

Flow Rates Summary

STORM EVENT	2	10	25	100
Pre Development Flow (CFS)	0.09	0.27	0.35	0.503
Post Development Flow (CFS)	0.21	0.73	0.96	1.36
Runoff Increase Due To Development (CFS)	*0.12*	*0.46*	*0.60*	*0.86*

Detention Summary

STORM EVENT	Required
Detention Volume – 2 Yr (CF)	502
Detention Volume – 10 Yr (CF)	477
85th Percentile 24-Hour Rainfall (CF)	958
Proposed Volume (CF)	1,694

DMA - B

Flow Rates Summary

STORM EVENT	2	10	25	100
Pre Development Flow (CFS)	0.12	0.34	0.45	0.64
Post Development Flow (CFS)	0.21	0.70	0.93	1.32
Runoff Increase Due To Development (CFS)	*0.09*	*0.36*	*0.48*	*0.68*

Detention Summary

STORM EVENT	Required
Detention Volume – 2 Yr (CF)	405
Detention Volume – 10 Yr (CF)	361
85^{th} Percentile 24-Hour Rainfall (CF)	881
Proposed Volume (CF)	923

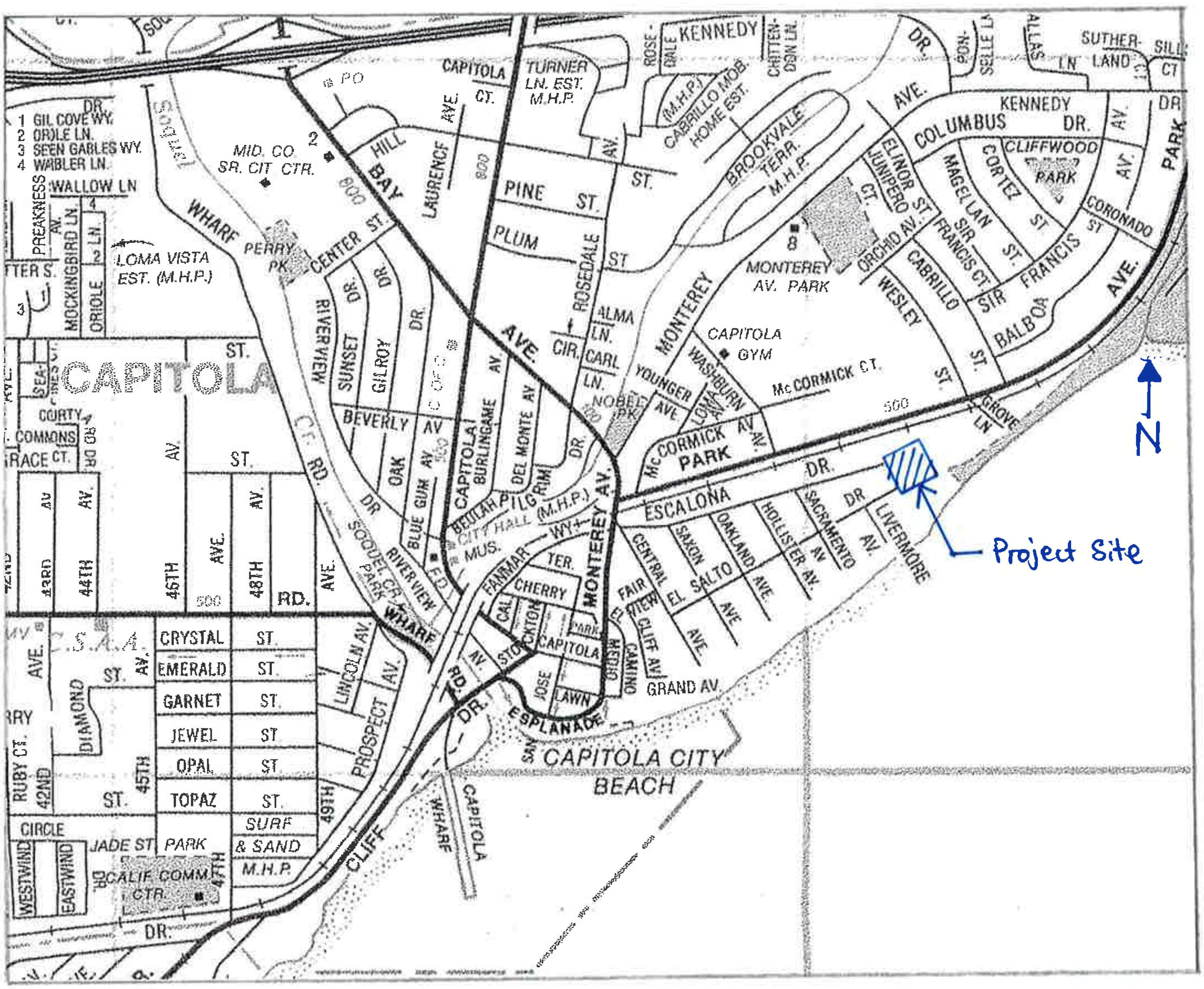
5.0 MITIGATION & CONCLUSION

The project redevelopment will increase the parcel's impervious area from 15,878 to 23,550 sf. This will require 627 cubic feet of detention for DMA–A and 506 cubic feet of detention for DMA–B per the County of Santa Cruz Design Criteria. Release flow rates will be maintained at 2 year – 1 hour and 10 Year – 15 minute.

The Central Coast Regional Water Quality Control Board recently passed a Post-Construction Stormwater Management Requirement Resolution No. R3-2012-0025 on September 6, 2012 requiring additional stormwater treatment measures for different project sizes. Under the new regulation, the project is subjected to Performance Requirement No. 3. Due to the project topography locating near the ocean cliff and low soil infiltration rate, stormwater compliance cannot be achieved via infiltration. A detention system is proposed instead in conjunction with LID treatments measures to provide 48 hour extended detention for water quality treatment for the 85^{th} percentile 24-hour rainfall event.

LID elements, such as porous pavement and rain garden are implemented to the maximum possible extent. The proposed redevelopment retains the existing drainage patterns and incorporated Low Impact Design to capture, slow, and store runoff on-site to the maximum extent possible; therefore it is our opinion that the redevelopment project satisfies the BMPs requirements of the County of Santa Cruz and the Central Coast Regional Water Quality Control Board.

County Design Criteria



Project Location Map
NTS

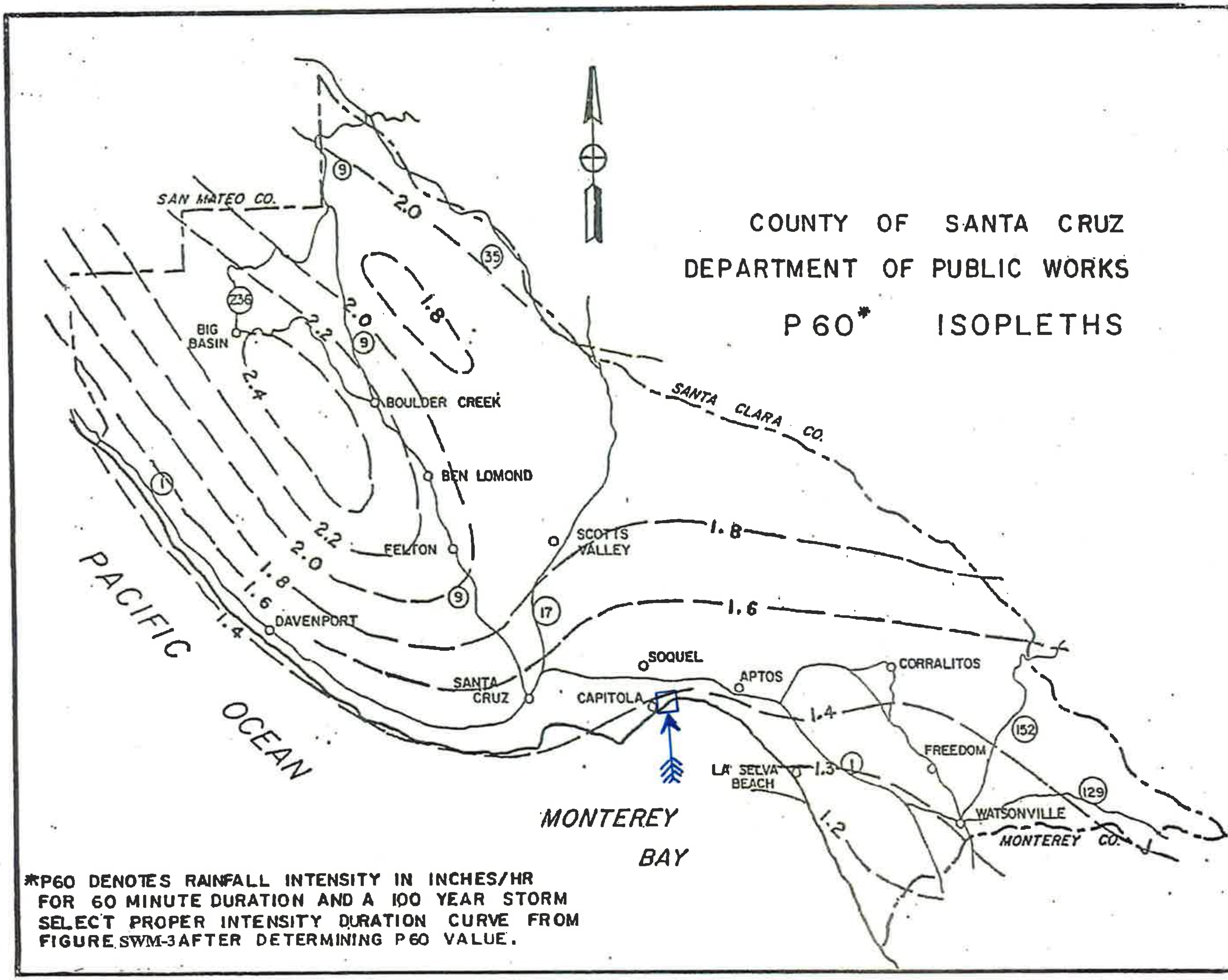
TYPE OF AREA	10- YEAR RUNOFF COEFFICIENTS
Rural, park, forested; agricultural	0.10 - 0.30
Low residential (Single family dwellings)	0.45 - 0.60
High residential (Multiple family dwellings)	0.65 - 0.75
Business and commercial	0.80
Industrial	0.70
Impervious	0.90

REQUIRED ANTECEDENT MOISTURE FACTORS (Ca) FOR THE RATIONAL METHOD*

Recurrence Interval (Years)	Ca
2 to 10	1.0
25	1.1
50	1.2
100	1.25

Note: Application of antecedent moisture factors (Ca) should not result in an adjusted runoff coefficient (C) exceeding a value of 1.00

*APWA Publication "Practices in Detention of Stormwater Runoff"

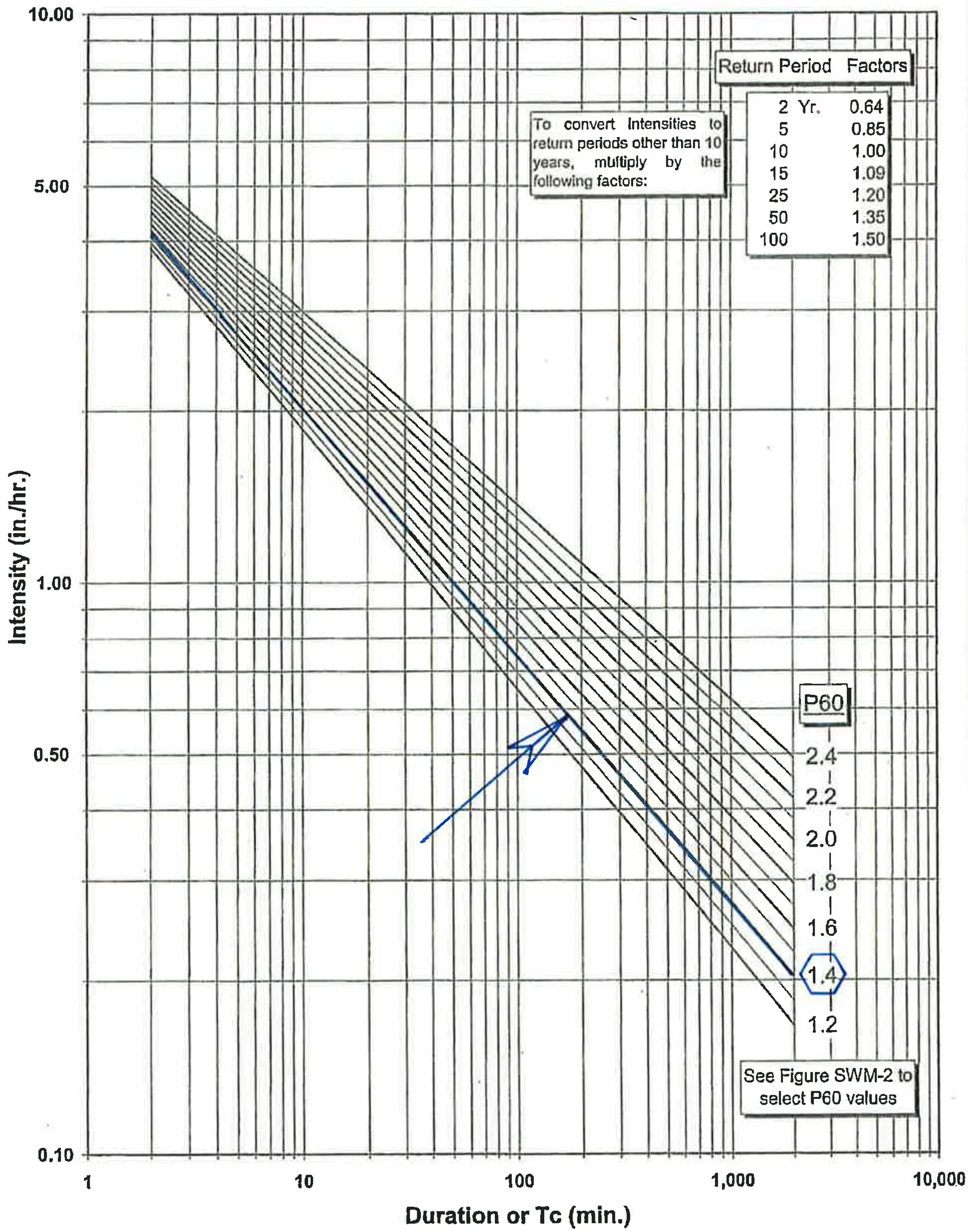


*P60 DENOTES RAINFALL INTENSITY IN INCHES/HR FOR 60 MINUTE DURATION AND A 100 YEAR STORM SELECT PROPER INTENSITY DURATION CURVE FROM FIGURE SWM-3 AFTER DETERMINING P60 VALUE.

FIG. SWM-2

Rainfall Intensity - Duration Curves
10 Yr. Return Period

((4.29112)*(1.1952)^P60_VALUE)/(DURATION^((0.60924)*(0.78522)^P60_VALUE))



Rev. 11-05

FIG. SWM-3

Drainage Maps

PRE-DEVELOPMENT

DEVELOPMENT DRAINAGE SURFACES

	A	B
PERVIOUS, SF	13,301	17,961
SEMI-IMPERVIOUS, SF	0	4,965
IMPERVIOUS, SF	9,633	6,245
SUBTOTAL	**22,934**	**29,171**
TOTAL	**52,105**	

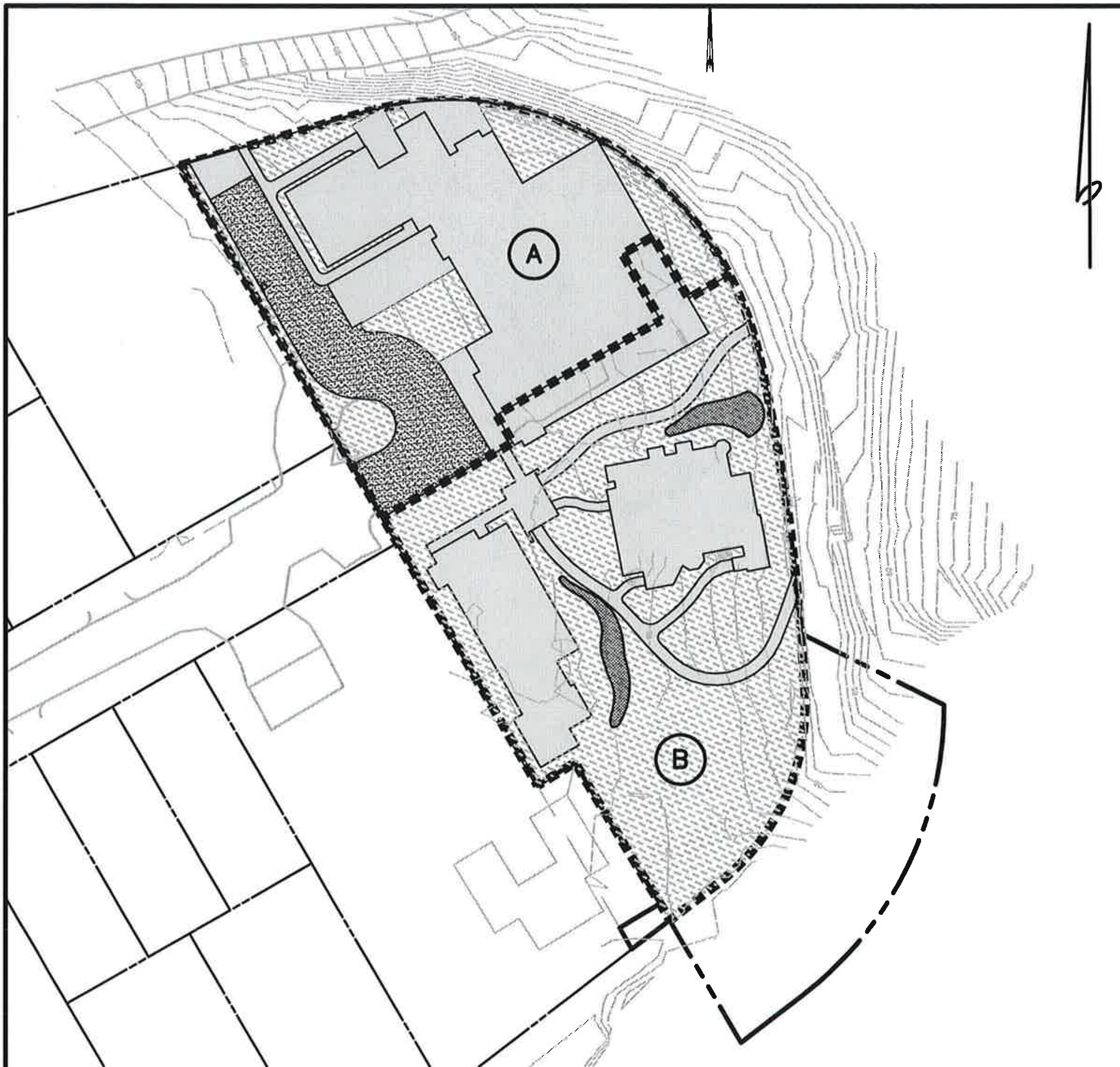
LEGEND

PERVIOUS

SEMI-IMPERVIOUS

IMPERVIOUS

BOWMAN & WILLIAMS CONSULTING CIVIL ENGINEERS 1011 CEDAR STREET SANTA CRUZ CA 426-3560	SCALE 1"=60'	JOB NO. 24788
	DATE APRIL 2013	DWG NAME 24788drn-pre
	DRAWN TPC	FILE NO. 24788



POST-DEVELOPMENT

DEVELOPMENT DRAINAGE SURFACES

	A	B
PERVIOUS, SF	5,144	18,569
SEMI-IMPERVIOUS, SF	4,842	0
IMPERVIOUS, SF	12,948	10,602
SUBTOTAL	**22,934**	**29,171**
TOTAL	**52,105**	

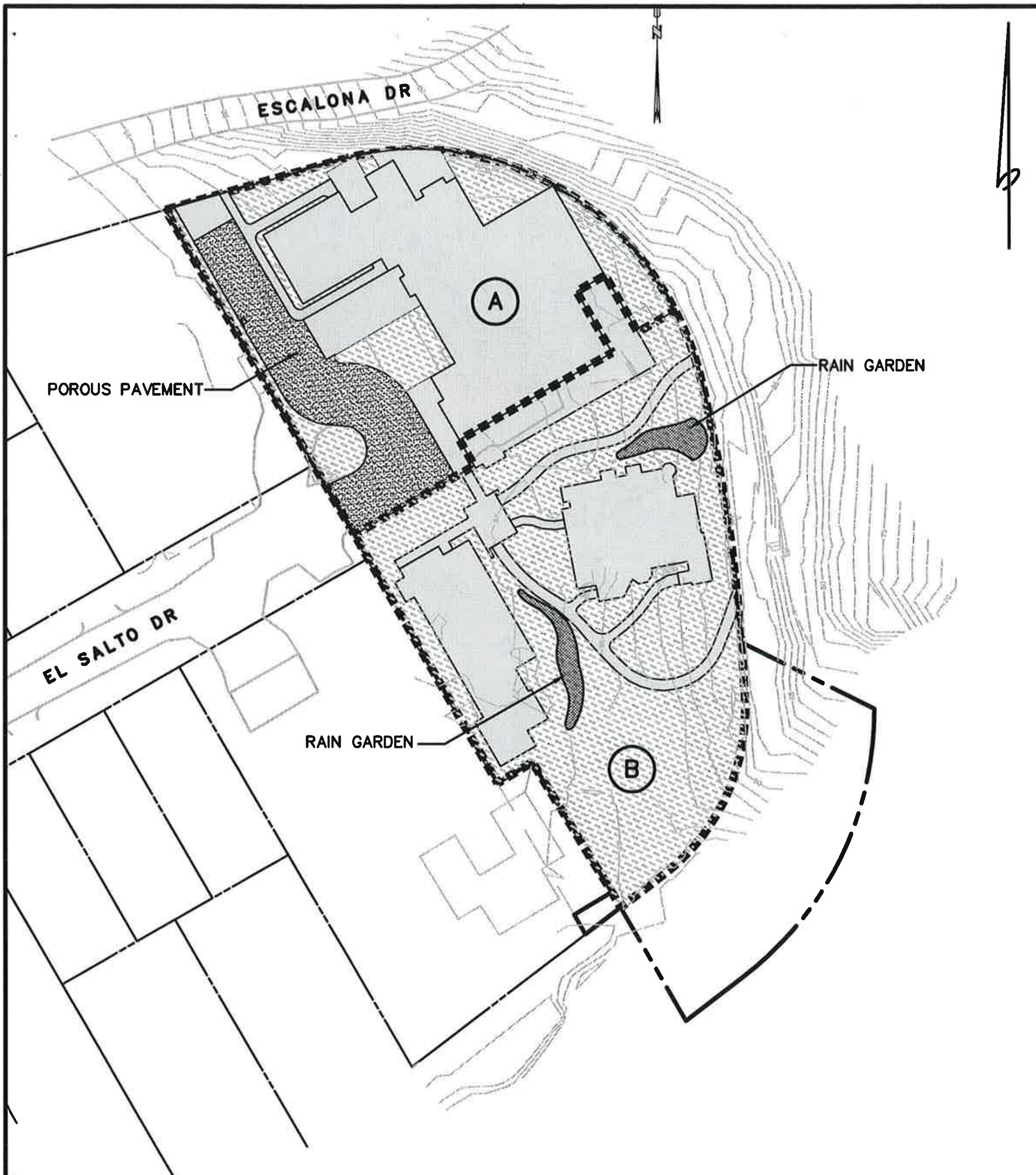
LEGEND

PERVIOUS

SEMI-IMPERVIOUS

IMPERVIOUS

BOWMAN & WILLIAMS CONSULTING CIVIL ENGINEERS 1011 CEDAR STREET SANTA CRUZ CA 426-3560	SCALE 1"=60' DATE APRIL 2013 DRAWN TPC	JOB NO. 24788 DWG NAME 24788drn-post FILE NO. 24788



POST-DEVELOPMENT DRAINAGE MAP

BOWMAN & WILLIAMS CONSULTING CIVIL ENGINEERS 1011 CEDAR STREET SANTA CRUZ CA 426-3560	SCALE 1"=60'	JOB NO. 24788
	DATE APRIL 2013	DWG NAME 24788drn-post
	DRAWN TPC	FILE NO. 24788

Drainage Management Area - A

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - A

Pre Development

Area Description	Area (ft2)	Area (AC)	C	A*C
Pervious	22,934	0.53	0.30	0.16
	Total:	0.53		0.16

Weighted C= 0.30

Post Development

Area Description	Area (ft2)	Area (AC)	C	A*C
Pervious	5,144	0.12	0.30	0.04
Semi-Impervious	4,842	0.11	0.50	0.06
Impervious	12,948	0.30	0.90	0.27
	Total:	0.53		0.36

Weighted C= 0.68

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

Notation

Q_{Post} = Post Development Flow Rate For Project Area
Q_{Pre} = Pre Development (Existing) Flow Rate For Project Area

Basis of Calculation

$I = ((4.29112)*(1.1952^{P60})/(t_c \wedge ((0.60924)*(0.78522^{P60})) * Ia$
$Q = C*C_a*I*A$

Intensity for Storm: 2 Yr

Return Period = 2 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 0.64 (Based on Return Period - See Above Right)

Runoff Flow Calculations						
Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Pre Development	0.53	0.300	1.00	60	0.596	**0.09**
Post Development	0.53	0.681	1.00	60	0.596	**0.21**
					Δ =	0.12

Intensity for Storm : 10 Yr

Return Period = 10 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1 (Based on Return Period - See Above Right)

Runoff Flow Calculations						
Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Pre Development	0.53	0.300	1.00	15	1.699	**0.27**
Post Development	0.53	0.681	1.00	10	2.026	**0.73**
					Δ =	0.46

Intensity for Storm : 25 Yr

Return Period = 25 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1.2 (Based on Return Period - See Above Right)

Runoff Flow Calculations						
Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Pre Development	0.53	0.300	1.10	15	2.039	**0.35**
Post Development	0.53	0.681	1.10	10	2.432	**0.96**
					Δ =	0.60

Intensity for Storm : 100 Yr

Return Period = 100 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1.5 (Based on Return Period - See Above Right)

Runoff Flow Calculations						
Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Pre Development	0.53	0.300	1.25	15	2.549	**0.50**
Post Development	0.53	0.681	1.25	10	3.039	**1.36**
					Δ =	0.86

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - A

Retention Calculations: 2 Yr

Increase Semi-Impervious & Impervious Areas

Area Description	Area (ft2)	Area (AC)	C	A*C
Semi-Impervious	4842	0.11	0.50	0.06
Impervious	12948	0.30	0.90	0.27
	Total:	0.41		0.32

Weighted Post Development C= 0.79

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

P60 Isopleth =	1.4	**(Based on Location - See County Map)**
Detention Return Period =	2	Years
Detention Storm I_a =	0.64	**(Based on Return Period)**
Detention Storm C_a=	1	**(Based on Return Period)**
Pre Development C=	0.30	
Pre Development Runoff=	0.073	CFS (Based on 2 Year Storm & 1 hour time of concentration)

T_c (min)	2- Year Intensity (in/hr)	2-Year Q_{pre} (cfs)	2-Year Q_{post} (cfs)	Detention Rate To Storage (cfs)	Specified Detained Vol (cf)
1440	0.150	0.018	0.048	-0.025	-2123
1200	0.162	0.020	0.052	-0.021	-1482
960	0.179	0.022	0.058	-0.015	-878
720	0.202	0.025	0.065	-0.008	-327
480	0.241	0.030	0.078	0.005	145
360	0.274	0.034	0.088	0.015	333
240	0.326	0.040	0.105	0.032	467
180	0.370	0.045	0.119	0.046	502
120	0.441	0.054	0.142	0.069	500
90	0.499	0.061	0.161	0.088	477
60	0.596	0.073	0.192	0.119	430
45	0.675	0.083	0.218	0.145	392
30	0.805	0.099	0.260	0.187	337
20	0.960	0.118	0.310	0.237	285
15	1.087	0.133	0.351	0.278	251
10	1.297	0.159	0.419	0.346	208
5	1.752	0.215	0.566	0.493	148

Detention Volume = **502**

	Area, sf	Depth, ft	Void Ratio	Volume	Check
Drain Rock =	4841.00	1.00	35%	1694	**OK**

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - A

Detention Calculations: 10 Yr

Increase Semi-Impervious & Impervious Areas

Area Description	Area (ft2)	Area (AC)	C	A*C
Semi-Impervious	4842	0.11	0.50	0.06
Impervious	12948	0.30	0.90	0.27
	Total:	0.41		0.32

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

Weighted Post Development C= 0.79

P60 Isopleth =	1.4	**(Based on Location - See County Map)**
Detention Return Period =	10	Years
Detention Storm I_a =	1	**(Based on Return Period)**
Detention Storm C_a=	1	**(Based on Return Period)**
Pre Development C=	0.30	
Pre Development Runoff=	0.208	CFS (Based on 10 Year Storm & 15 minute time of concentration)

T_c (min)	10-Year Intensity (in/hr)	10-Year Q_{pre} (cfs)	10-Year Q_{post} (cfs)	Detention Rate To Storage (cfs)	Specified Detained Vol (cf)
1440	0.234	0.029	0.076	-0.133	-11452
1200	0.253	0.031	0.082	-0.126	-9095
960	0.279	0.034	0.090	-0.118	-6796
720	0.316	0.039	0.102	-0.106	-4579
480	0.377	0.046	0.122	-0.086	-2486
360	0.427	0.052	0.138	-0.070	-1514
240	0.510	0.062	0.165	-0.044	-626
180	0.578	0.071	0.187	-0.022	-233
120	0.689	0.084	0.223	0.014	103
90	0.780	0.096	0.252	0.044	237
60	0.931	0.114	0.301	0.092	333
45	1.054	0.129	0.341	0.133	358
30	1.257	0.154	0.406	0.198	357
20	1.500	0.184	0.485	0.276	332
15	1.699	**0.208**	0.549	0.341	307
10	2.026	0.248	0.655	0.447	268
5	2.738	0.335	0.885	0.676	203

Detention Volume w/ 25% F.O.S. = **447**

	Length, ft	Depth, ft	Void Ratio	Volume	Check
Drain Rock =	4841.00	1.00	35%	1694	**OK**

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - A

Treatment Volume, WEF/ASCE Method

$W_q = A * P_o$
$P_o = a * C * P_6$

Wq = Treatment Volume (cf)
A = Impervious Area (sf)
a = Drain Time = 1.963 (for 48 hrs)
C = Runoff Coefficient
P6 = 85th Percentile - 24 hr Precipitation (in) or 95th Percentile - 24 hr Precipitation (in)

Existing Impervious Area =	9,633	sf, existing impervious qualifies for 50% reduction credit
New Impervious Area=	12,948	sf
Site Effective Impervious Area =	**8,132**	sf

Site Description	A (sf)	a	C	P_6 (in)	W_q (cf)
85th Percentile	8,132	1.963	0.90	0.8	958
95th Percentile	8,132	1.963	0.90	2.2	2,634

Drainage Management Area - B

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
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DMA - B

Pre Development

Area Description	Area (ft2)	Area (AC)	C	A*C
Pervious	29,171	0.67	0.30	0.20
	Total:	0.67		0.20

Weighted C= 0.30

Post Development

Area Description	Area (ft2)	Area (AC)	C	A*C
Pervious	18,569	0.43	0.30	0.13
Semi-Impervious	0	0.00	0.50	0.00
Impervious	10,602	0.24	0.90	0.22
	Total:	0.67		0.35

Weighted C= 0.52

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

Notation

Q_{Post} = Post Development Flow Rate For Project Area
Q_{Pre} = Pre Development (Existing) Flow Rate For Project Area

Basis of Calculation

$I = ((4.29112)*(1.1952^{P60})/(t_c\text{^}((0.60924)*(0.78522^{P60}))*Ia$
$Q = C*C_a*I*A$

Intensity for Storm: 2 Yr

Return Period = 2 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 0.64 (Based on Return Period - See Above Right)

Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Runoff Flow Calculations						
Pre Development	0.67	0.300	1.00	60	0.596	**0.12**
Post Development	0.67	0.518	1.00	60	0.596	**0.21**
					Δ =	0.09

Intensity for Storm : 10 Yr

Return Period = 10 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1 (Based on Return Period - See Above Right)

Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Runoff Flow Calculations						
Pre Development	0.67	0.300	1.00	15	1.699	**0.34**
Post Development	0.67	0.518	1.00	10	2.026	**0.70**
					Δ =	0.36

Intensity for Storm : 25 Yr

Return Period = 25 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1.2 (Based on Return Period - See Above Right)

Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Runoff Flow Calculations						
Pre Development	0.67	0.300	1.10	15	2.039	**0.45**
Post Development	0.67	0.518	1.10	10	2.432	**0.93**
					Δ =	0.48

Intensity for Storm : 100 Yr

Return Period = 100 Years
P60 Isopleth = 1.4 **(Based on Location - See County Map)**
I_a = 1.5 (Based on Return Period - See Above Right)

Description	Area (ac)	C	C_a	T_c (min)	I (in/hr)	Q (cfs)
Runoff Flow Calculations						
Pre Development	0.67	0.300	1.25	15	2.549	**0.64**
Post Development	0.67	0.518	1.25	10	3.039	**1.32**
					Δ =	0.68

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - B

Detention Calculations: 2 Yr

Increase Semi-Impervious & Impervious Areas

Area Description	Area (ft2)	Area (AC)	C	A*C
Semi-Impervious	0	0.00	0.50	0.00
Impervious	10602	0.24	0.90	0.22
	Total:	0.24		0.22

Weighted Post Development C= 0.90

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

P60 Isopleth =	1.4	**(Based on Location - See County Map)**
Detention Return Period =	2	Years
Detention Storm I_a =	0.64	**(Based on Return Period)**
Detention Storm C_a=	1	**(Based on Return Period)**
Pre Development C=	0.30	
Pre Development Runoff=	0.043	CFS (Based on 2 Year Storm & 1 hour time of concentration)

T_c (min)	2- Year Intensity (in/hr)	2-Year Q_{pre} (cfs)	2-Year Q_{post} (cfs)	Detention Rate To Storage (cfs)	Specified Detained Vol (cf)
1440	0.150	0.011	0.033	-0.011	-922
1200	0.162	0.012	0.036	-0.008	-574
960	0.179	0.013	0.039	-0.004	-251
720	0.202	0.015	0.044	0.001	37
480	0.241	0.018	0.053	0.009	270
360	0.274	0.020	0.060	0.016	355
240	0.326	0.024	0.071	0.028	403
180	0.370	0.027	0.081	0.037	405
120	0.441	0.032	0.097	0.053	382
90	0.499	0.036	0.109	0.066	356
60	0.596	**0.043**	0.130	0.087	313
45	0.675	0.049	0.148	0.104	282
30	0.805	0.059	0.176	0.133	239
20	0.960	0.070	0.210	0.167	200
15	1.087	0.079	0.238	0.195	175
10	1.297	0.095	0.284	0.241	144
5	1.752	0.128	0.384	0.340	102

Detention Volume = **405**

	Area, sf	Depth, ft	Void Ratio	Volume	Check
Ponding =	900.00	0.50	100%	450	**OK**
18" Soil =	900.00	1.50	15%	203	
" Drain Rock =	900.00	1.00	30%	270	
			Ponding =	923	

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - B

Detention Calculations: 10 Yr

Increase Semi-Impervious & Impervious Areas

Area Description	Area (ft2)	Area (AC)	C	A*C
Semi-Impervious	0	0.00	0.50	0.00
Impervious	10602	0.24	0.90	0.22
	Total:	0.24		0.22

Weighted Post Development C= 0.90

Return Period	I_a
2	0.64
5	0.85
10	1.00
15	1.09
25	1.20
50	1.35
100	1.50

P60 Isopleth =	1.4	**(Based on Location - See County Map)**
Detention Return Period =	10	Years
Detention Storm I_a =	1	**(Based on Return Period)**
Detention Storm C_a=	1	**(Based on Return Period)**
Pre Development C=	0.30	
Pre Development Runoff=	0.124	CFS (Based on 10 Year Storm & 15 minute time of concentration)

T_c (min)	10-Year Intensity (in/hr)	10-Year Q_{pre} (cfs)	10-Year Q_{post} (cfs)	Detention Rate To Storage (cfs)	Specified Detained Vol (cf)
1440	0.234	0.017	0.051	-0.073	-6289
1200	0.253	0.018	0.055	-0.069	-4937
960	0.279	0.020	0.061	-0.063	-3624
720	0.316	0.023	0.069	-0.055	-2367
480	0.377	0.028	0.083	-0.041	-1194
360	0.427	0.031	0.094	-0.030	-658
240	0.510	0.037	0.112	-0.012	-179
180	0.578	0.042	0.127	0.002	26
120	0.689	0.050	0.151	0.027	193
90	0.780	0.057	0.171	0.047	253
60	0.931	0.068	0.204	0.080	287
45	1.054	0.077	0.231	0.107	289
30	1.257	0.092	0.275	0.151	272
20	1.500	0.109	0.328	0.204	245
15	1.699	**0.124**	0.372	0.248	223
10	2.026	0.148	0.444	0.320	192
5	2.738	0.200	0.600	0.476	143

Detention Volume w/ 25% F.O.S. = **361**

	Area, sf	Depth, ft	Void Ratio	Volume	Check
Ponding =	900.00	0.50	100%	450	**OK**
18" Soil =	900.00	1.50	15%	203	
' Drain Rock =	900.00	1.00	30%	270	
			Ponding =	923	

DRAINAGE CALCULATIONS FOR :
MONARCH COVE INN
SANTA CRUZ COUNTY, CA
BOWMAN & WILLIAMS FILE: 24788
April 17, 2013

DMA - B

Treatment Volume, WEF/ASCE Method

$W_q = A * P_o$
$P_o = a * C * P_6$

Wq = Treatment Volume (cf)
A = Impervious Area (sf)
a = Drain Time = 1.963 (for 48 hrs)
C = Runoff Coefficient
P6 = 85th Percentile - 24 hr Precipitation (in) or 95th Percentile - 24 hr Precipitation (in)

Existing Impervious Area = 6,245 sf, existing impervious qualifies for 50% reduction credit
New Impervious Area= 10,602 sf
Site Effective Impervious Area = **7,480** sf

Site Description	A (sf)	a	C	P_6 (in)	W_q (cf)
85th Percentile	7,480	1.963	0.90	0.8	881
95th Percentile	7,480	1.963	0.90	2.2	2,423

Supporting Documents

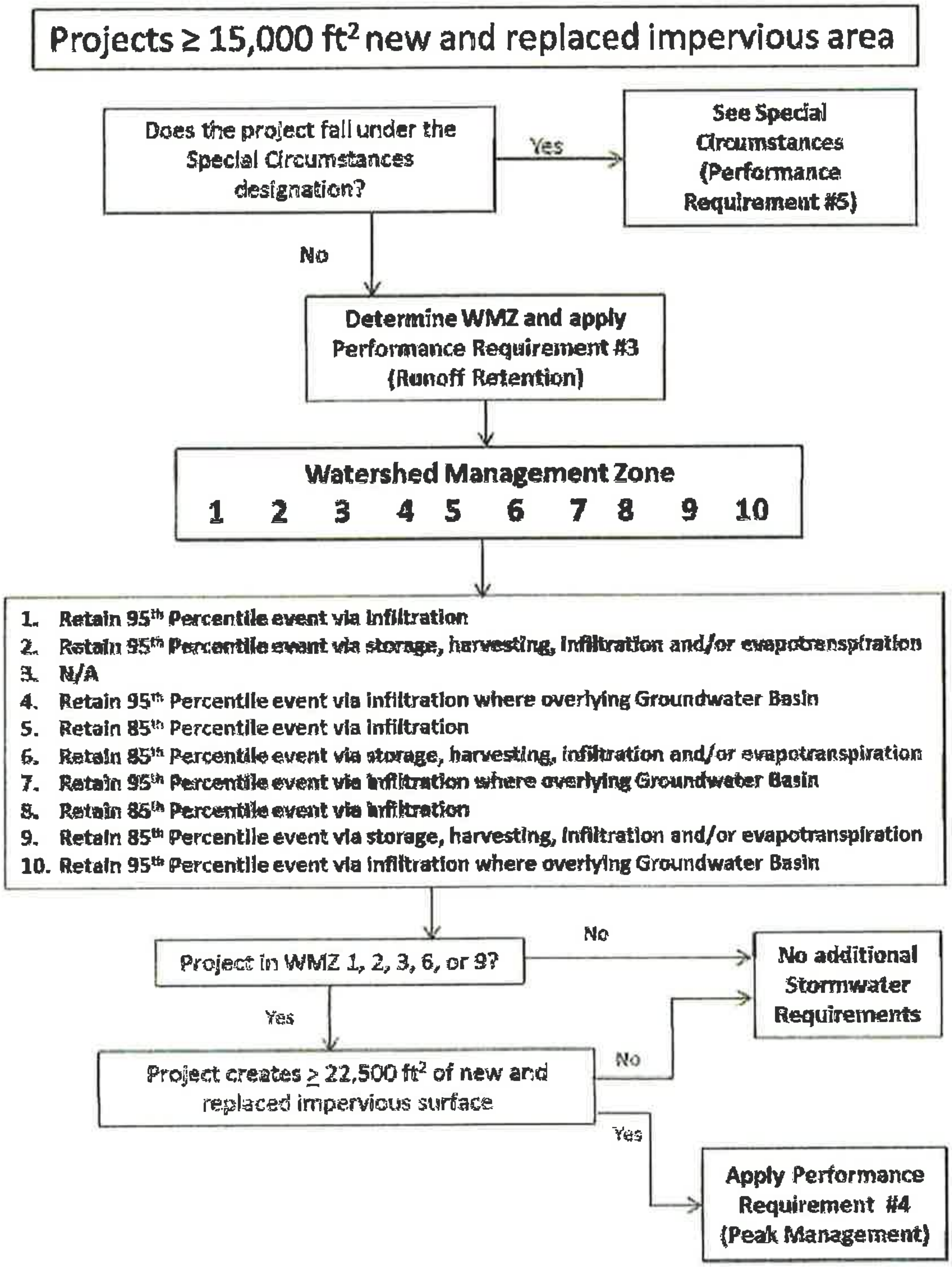
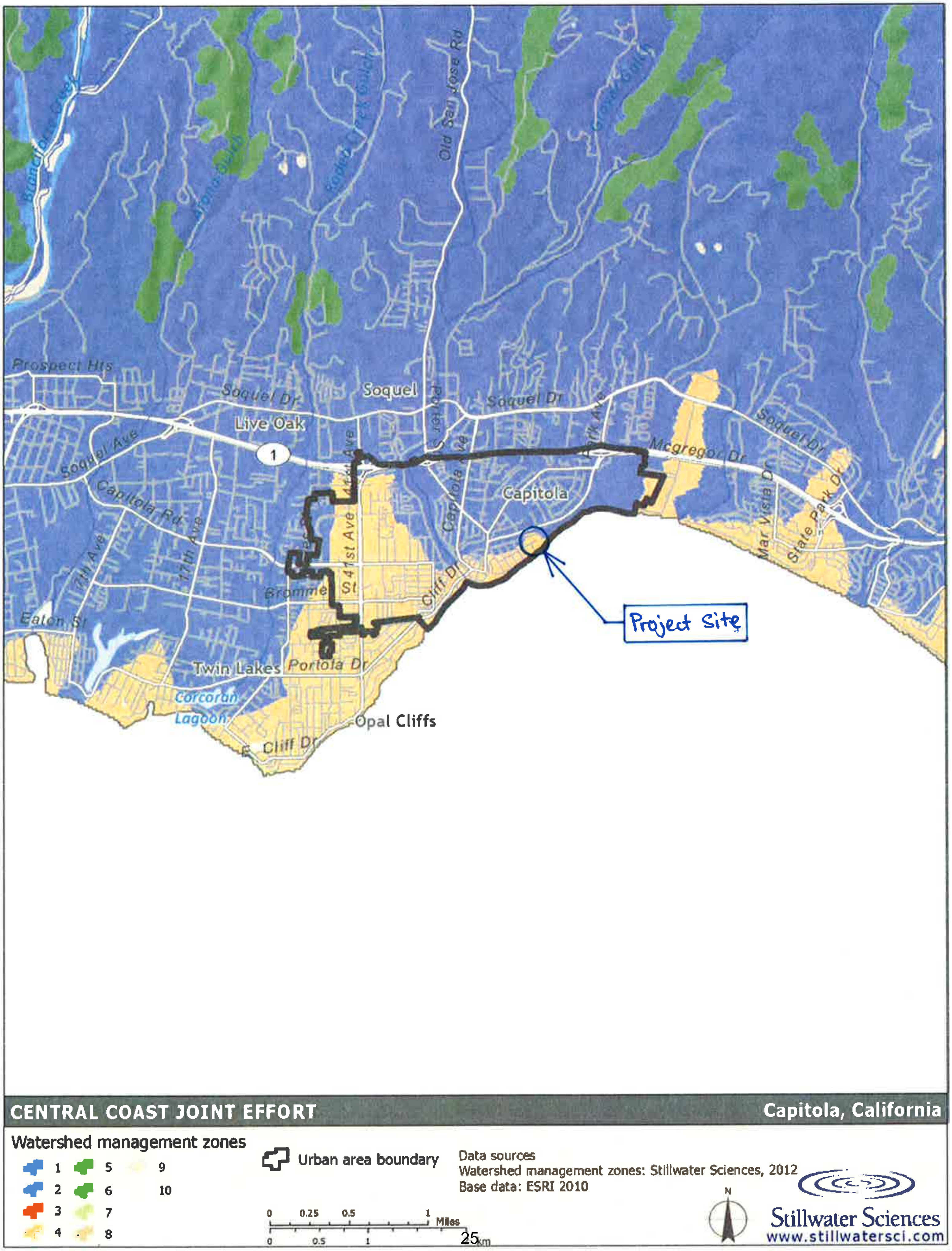
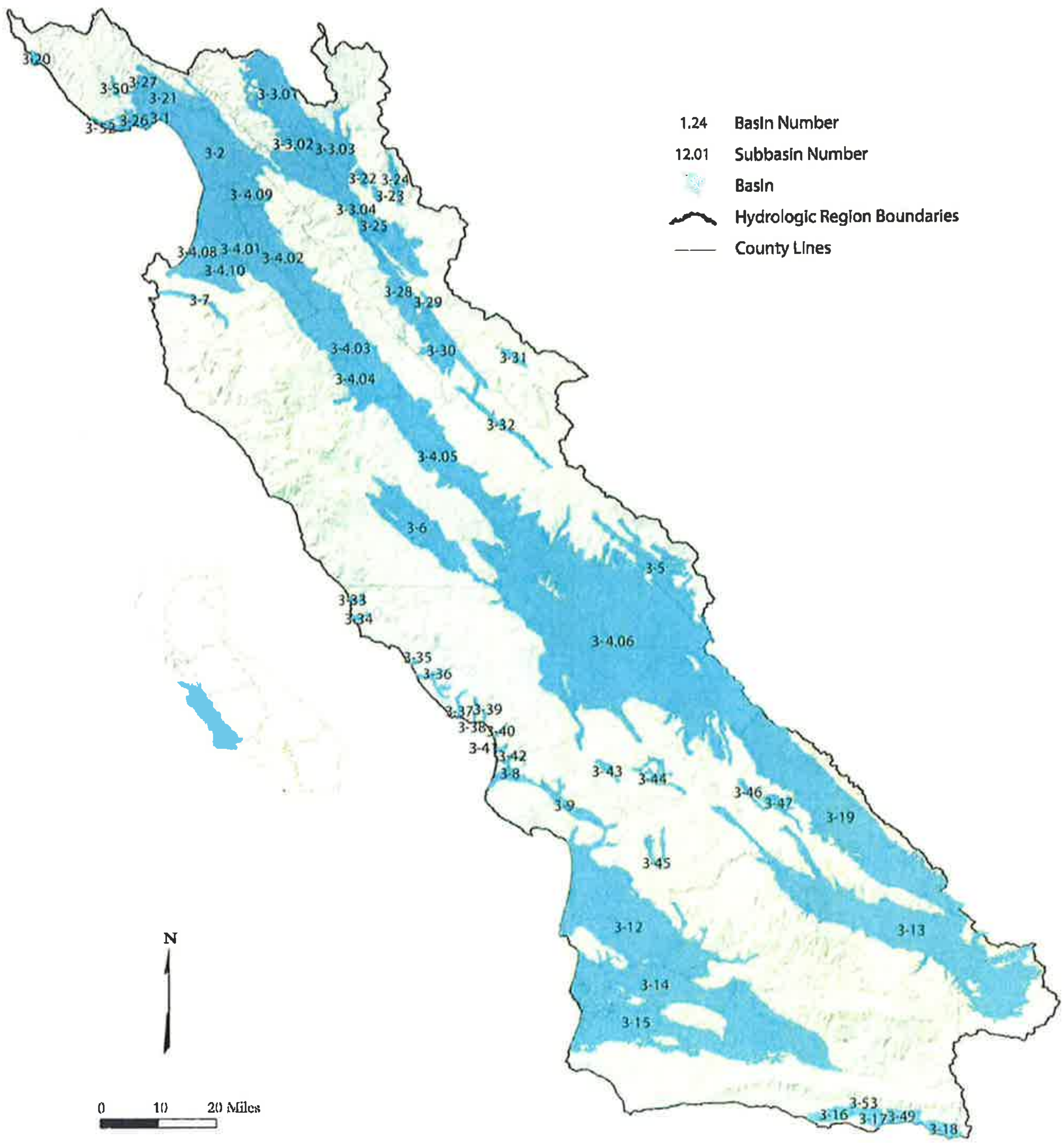


Figure 1c. Requirements for Large Development Projects


Old San Jose Rd
Prospect Hts
Soquel Dr
Soquel
Live Oak
Soquel Ave
Capitola Rd
Capitola
Mcgregor Dr
Soquel Dr
Capitola Ave
41st Ave
17th Ave
7th Ave
Cliff Dr
Eaton St
Twin Lakes
Portola Dr
Corcoran
Lagoon
Opal Cliffs
E Cliff Dr
Mar Vista Dr
State Park Dr
1
Project Site
CENTRAL COAST JOINT EFFORT
Capitola, California
Watershed management zones
1
2
3
4
5
6
7
8
9
10
Urban area boundary
Data sources
Watershed management zones: Stillwater Sciences, 2012
Base data: ESRI 2010
0 0.25 0.5 1 Miles
0 0.5 1 km
N
Stillwater Sciences
www.stillwatersci.com



Central Coast Hydrologic Region

4) Performance Requirement No. 3: Runoff Retention

a) The Permittee shall require Regulated Projects, except detached single-family homes, that create and/or replace ≥15,000 square feet of impervious surface (collectively over the entire project site), and detached single-family homes ≥ 15,000 square feet of Net Impervious Area, in WMZs 1, 2, 5, 6, 8 and 9, and those portions of WMZs 4, 7, and 10 that overlie designated Groundwater Basins (Attachment B) to meet the Runoff Retention Performance Requirements in Sections B.4.b. and B.4.c. using the LID Development Standards in Section B.4.d. for optimal management of watershed processes.

b) Adjustments to the Runoff Retention Performance Requirements for Redevelopment – Where the Regulated Project includes replaced impervious surface, the below adjustments apply. These adjustments are accounted for in the Tributary Area calculation in Attachment D.

   i) Redevelopment Projects outside an approved Urban Sustainability Area, as described in Section C.3. – The total amount of replaced impervious surface shall be multiplied by 0.5 when calculating the volume of runoff subject to Runoff Retention Performance Requirements.

   ii) Redevelopment Projects located within an approved Urban Sustainability Area (Section C.3.) – The total amount of runoff volume to be retained from replaced impervious surfaces shall be equivalent to the pre-project runoff volume retained.

c) The Permittee shall require Regulated Projects, subject to the Runoff Retention Performance Requirements, to meet the following Performance Requirements:

   i) Watershed Management Zone 1 and portions of Watershed Management Zones 4, 7 and 10 which overlie designated Groundwater Basins:

      (1) Retain 95th Percentile Rainfall Event – Prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.[2]

      (2) Compliance must be achieved via infiltration

   ii) Watershed Management Zone 2:

      (1) Retain 95th Percentile Rainfall Event – Prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.

      (2) Compliance must be achieved via storage, rainwater harvesting, infiltration, and/or evapotranspiration.

   iii) Watershed Management Zones 5 and 8:

      (1) Retain 85th Percentile Rainfall Event – Prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.

      (2) Compliance must be achieved via infiltration.

   iv) Watershed Management Zones 6 and 9:

      (1) Retain 85th Percentile Rainfall Event – Prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.

      (2) Compliance must be achieved via storage, rainwater harvesting, infiltration, and/or evapotranspiration.

d) LID Development Standards – The Permittee shall require Regulated Projects, subject to Runoff Retention Performance Requirements, to meet Runoff Retention Performance

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[2] Use either the methodology provided in Part I.D of the December 2009 Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, or, rainfall statistics provided by the Central Coast Water Board, whichever produces a more accurate value for rainfall depth.

Requirements (Sections B.4.b. and B.4.c.) using the following LID Development Standards:

i) Site Assessment Measures – Permittees shall require the applicant for each Regulated Project to identify opportunities and constraints to implement LID Stormwater Control Measures. Permittees shall require the applicant to document the following, as appropriate to the development site:
- Site topography
- Hydrologic features including contiguous natural areas, wetlands, watercourses, seeps, or springs
- Depth to seasonal high groundwater
- Locations of groundwater wells used for drinking water
- Depth to an impervious layer such as bedrock
- Presence of unique geology (e.g., karst)
- Geotechnical hazards
- Documented soil and/or groundwater contamination
- Soil types and hydrologic soil groups
- Vegetative cover/trees
- Run-on characteristics (source and estimated runoff from offsite which discharges to the project area)
- Existing drainage infrastructure for the site and nearby areas including the location of municipal storm drains
- Structures including retaining walls
- Utilities
- Easements
- Covenants
- Zoning/Land Use
- Setbacks
- Open space requirements
- Other pertinent overlay(s)

ii) Site Design Measures – Permittees shall require the applicant for each Regulated Project to optimize the use of LID site design measures, as feasible and appropriate at the project site. Regulated Projects subject to Performance Requirement No. 3 must augment design strategies required by Performance Requirement No. 1 (Section B.2.a.i-v) with the following:
- Define the development envelope and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed
- Conserve natural areas, including existing trees, other vegetation, and soils
- Limit the overall impervious footprint of the project
- Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised
- Set back development from creeks, wetlands, and riparian habitats
- Conform the site layout along natural landforms
- Avoid excessive grading and disturbance of vegetation and soils

iii) Delineation of discrete Drainage Management Areas (DMAs) – The Permittee shall require each Regulated Project to delineate DMAs to support a decentralized approach to stormwater management.

(1) The Permittee shall require the applicant for each Regulated Project to provide a map or diagram dividing the entire project site into discrete DMAs

(2) The Permittee shall require the applicant for each Regulated Project to account for the drainage from each DMA using measures identified in Sections B.4.d.iv. and B.4.d.v., below.

iv) Undisturbed and Natural Landscape Areas – Permittees shall require each Regulated Project to implement appropriate Site Design (Section B.4.d.ii.), and Runoff Reduction Measures in Performance Requirement No. 1, to reduce the amount of runoff for which retention and treatment is required. Runoff reduction measures that can be used to account for this reduction also include the below measures. The Tributary Area calculation in Attachment D accounts for these reductions.

(1) Undisturbed or areas planted with native vegetation that do not receive runoff from other areas may be considered self-treating and no additional stormwater management is required.

(2) Runoff from impervious surfaces, generated by the rainfall events identified in Section B.4.c, may be directed to undisturbed or natural landscaped areas. When the applicant can demonstrate that this runoff will be infiltrated and will not produce runoff to the storm drain system, or a surface receiving waterbody, or create nuisance ponding that may affect vegetation health or contribute to vector problems, then no additional stormwater management is required for these impervious surfaces.

v) Structural Stormwater Control Measures – Where Regulated Project Applicants have demonstrated in their Stormwater Control Plans, and the Permittee has confirmed, that further use of Site Design measures listed in Section B.4.d.ii., Runoff Reduction measures listed in Performance Requirement No.1, and undisturbed and natural landscape areas discussed in Section B.4.d.iv. is technically infeasible, Structural Stormwater Control Measures designed for water quality treatment and/or flow control shall be used to comply with Performance Requirement No. 3.

(1) The Permittee shall require the Regulated Project applicant to use structural Stormwater Control Measures that optimize retention and result in optimal protection and restoration of watershed processes, such as Structural Control Measures associated with small-scale, decentralized facilities designed to infiltrate evapotranspirate, filter, or capture and use stormwater. Where Regulated Project Applicants have demonstrated in their Stormwater Control Plans, and the Permittee has confirmed, that retention-based Stormwater Control Measures are technically infeasible, other non-retention-based Stormwater Control Measures are permissible (see Attachment D for information about using non-retention-based Stormwater Control Measures).

vi) Hydrologic Analysis and Structural Stormwater Control Measure Sizing – To determine Stormwater Control Measure sizing and design, Permittees shall require Regulated Project applicants to use the hydrologic analysis and sizing methods as outlined in Attachment D, or a locally/regionally calibrated continuous simulation model that results in equivalent optimization of on-site runoff volume retention.

e) Off-Site Mitigation – Off-site mitigation of full Retention Volume per Section B.4.d.vi. is not required where technical infeasibility as described in Section C.1.c. limits on-site compliance with the Runoff Retention Performance Requirement AND ten percent of a project's Equivalent Impervious Surface Area[3] has been dedicated to retention-based Stormwater Control Measures. The Water Quality Treatment Performance Requirement is not subject to this adjustment, i.e., mitigation to achieve full compliance with the Water Quality Treatment Performance Requirement is required on- or off-site.

i) Use the Attachment E instructions to calculate the ten percent adjustment for applying the Runoff Retention Performance Requirement.
ii) Use the Attachment F instructions to calculate the Off-Site retention requirements when a Regulated Project subject to the Runoff Retention Performance Requirement cannot allocate the full ten percent of the project site's Equivalent Impervious Surface Area to retention-based Stormwater Control Measures.

f) Reporting Requirements – For each Regulated Project subject to the Runoff Retention Performance Requirement, the Permittee shall require the Project Applicant to provide the below information in a Stormwater Control Plan. The Permittee shall not grant final project approval, until the Stormwater Control Plan for the Regulated Project sufficiently demonstrates the Regulated Project design meets the Water Quality Treatment and Runoff Retention Performance Requirements.
   i) Project Name, application number, and location including address and assessor's parcel number
   ii) Name of Applicant
   iii) Project Phase number (if project is being constructed in phases)
   iv) Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description
   v) Total project site area
   vi) Total new and/or replaced impervious surface area
   vii) Statement of Water Quality Treatment and Runoff Retention Performance Requirements that apply to the Project
   viii) Adjusted Requirements based on the local jurisdiction's approval, that the Project is allowed a Special Circumstance, Watershed or Regional Plan, or Urban Sustainability Area designation
   ix) Site assessment summary
   x) LID Measures used:
      (1) Site design measures
      (2) Runoff Reduction Measures
      (3) Post-construction structural Stormwater Control Measures
   xi) Summary of Runoff Reduction Measures and Structural Stormwater Control Measures, by Drainage Management Area, as well as for the entire site
   xii) Supporting calculations used to comply with the applicable Water Quality Treatment and Runoff Retention Performance Requirements
   xiii) Documentation demonstrating infeasibility where Site Design and Runoff Reduction measures cannot retain required runoff volume
   xiv) Documentation demonstrating infeasibility where retention-based Stormwater Control Measures cannot retain and/or treat the required runoff volume
   xv) Documentation demonstrating infeasibility where on-site compliance cannot be achieved
   xvi) Documentation demonstrating percentage of the project's Equivalent Impervious Surface Area dedicated to retention-based Stormwater Control Measures

[3] Calculate Equivalent Impervious Surface Area using guidance in Attachment E

xvii) Documentation of certification that the selection, sizing, and design of the Stormwater Control Measures meets the applicable Water Quality Treatment and Runoff Retention Performance Requirement

xviii) O&M Plan for all structural Stormwater Control Measures to ensure long-term performance

xix) Owner of facilities

xx) Statement of Compliance:

(1) Statement that the Water Quality Treatment and Runoff Retention Performance Requirements have been met on-site, or, if not achievable:

(a) Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance volume.

(b) Statement of intent to comply with Water Quality Treatment and Runoff Retention Performance Requirements through an Alternative Compliance agreement.

Calculate the Water Quality Volume, by multiplying runoff from the 85th Percentile 24-hr rainfall depth by the 48-hour drawdown regression coefficient of 1.963:

Water Quality Volume = Runoff from 85th Percentile 24-hr Rainfall Depth X 1.963

Note: For WMZs requiring retention of the 85th Percentile 24-hr rainfall depth, the Retention Volume and the Water Quality Volume are equivalent.

3) Structural Stormwater Control Measure Sizing

The Permittee shall require the Regulated Project applicant to use structural Stormwater Control Measures that optimize retention and result in optimal protection and restoration of watershed processes, such as Structural Control Measures associated with small-scale, decentralized facilities designed to infiltrate evapotranspirate, filter, or capture and use stormwater, to address the volumes calculated in 1 (above). Where the Regulated Project is within a Watershed Management Zone where infiltration is required, Permittees must use SCM designs that optimize infiltration of the entire Retention Volume to minimize the potential need for off-site mitigation. Various resources provide design guidance for fully infiltrative SCMs including:

- The Southern California LID BMP Manual
- The Contra Costa C.3 Manual
- The City of Santa Barbara LID BMP Manual
- The City of San Diego Storm Water Standards
- Central Coast LID Initiative Bioretention Design Guidance

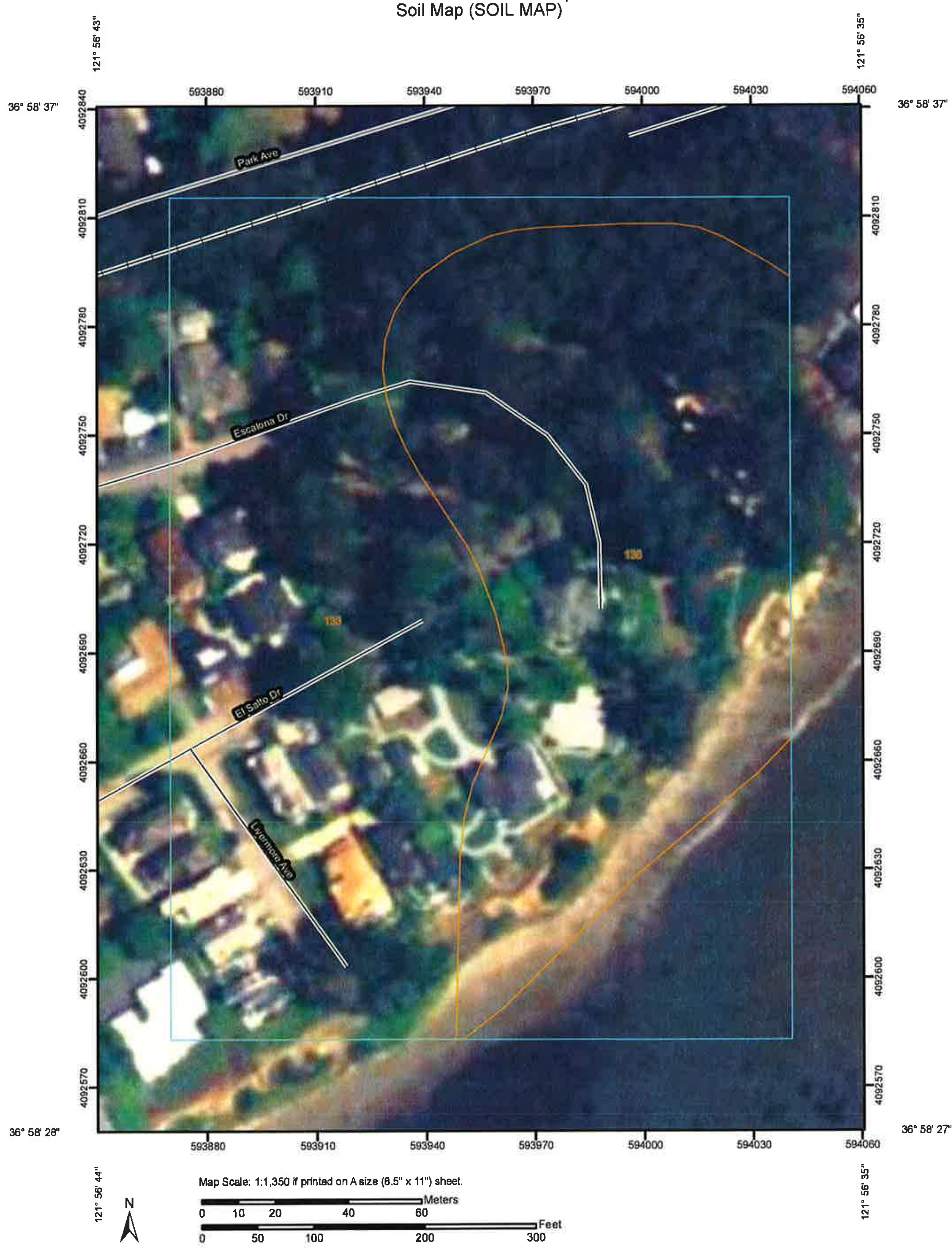
a) Where full Retention/Infiltration Cannot Be Achieved

Where constraints limit the ability to fully infiltrate the Design Volume, a SCM design that ensures treatment of the 85th percentile storm event and optimizes infiltration may be used. The SCM design shall function as a retention/detention facility and may include an underdrain with an orifice control to ensure that a minimum of 48 hours of extended detention is provided for the Water Quality Volume. Draw down calculations based on time steps and design configuration shall be used to size the orifice.

b) Where site constraints preclude all retention/infiltration of the Design Volume.

Flow-through SCM designs may be used to ensure treatment of the 85th percentile where site constraints prevent retention/infiltration of the Design Volume. Non-retention based treatment systems shall adhere to Performance Requirement No. 2.

Custom Soil Resource Report
Soil Map (SOIL MAP)



Santa Cruz County, California

133—Elkhorn sandy loam, 2 to 9 percent slopes

Map Unit Setting

Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 22 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days

Map Unit Composition

Elkhorn and similar soils: 85 percent
Minor components: 11 percent

Description of Elkhorn

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2e
Land capability (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: FINE LOAMY (R014XD034CA)

Typical profile

0 to 21 inches: Sandy loam
21 to 61 inches: Sandy clay loam, clay loam

Minor Components

Elder sandy loam

Percent of map unit: 5 percent

Baywood loamy sand

Percent of map unit: 2 percent

Pinto loam

Percent of map unit: 1 percent

Elkhorn

Percent of map unit: 1 percent

Soquel loam

Percent of map unit: 1 percent

Watsonville

Percent of map unit: 1 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread

136—Elkhorn-Pfeiffer complex, 30 to 50 percent slopes

Map Unit Setting

Elevation: 50 to 5,000 feet
Mean annual precipitation: 14 to 55 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 245 to 275 days

Map Unit Composition

Elkhorn and similar soils: 45 percent
Pfeiffer and similar soils: 25 percent
Minor components: 13 percent

Description of Elkhorn

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Marine deposits

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very high (about 15.8 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: FINE LOAMY (R014XD034CA)

Typical profile

0 to 21 inches: Sandy loam
21 to 61 inches: Sandy clay loam, clay loam

Description of Pfeiffer

Setting

Landform: Hills
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Marine deposits and/or residuum weathered from sandstone

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 66 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.0 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: COARSE LOAMY (R015XD011CA)

Typical profile

0 to 24 inches: Gravelly sandy loam
24 to 66 inches: Gravelly coarse sandy loam, gravelly sandy loam, coarse sandy loam
66 to 70 inches: Weathered bedrock

Minor Components

Baywood loamy sand

Percent of map unit: 5 percent

Tierra sandy loam

Percent of map unit: 4 percent

Pinto loam

Percent of map unit: 2 percent

Pfeiffer

Percent of map unit: 2 percent

Appendix H

Noise Data

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. El Salto Drive, east of Livermore Avenue

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	13.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	1.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	1.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 49.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. El Salto Drive, east of Livermore Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	29.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	2.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	2.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 52.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. Highway 1, between State Park Drive and Park Avenue (PM) (C+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6594.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	366.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	366.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. Highway 1, between State Park Drive and Park Avenue (PM) (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6395.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	355.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	355.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

1. Highway 1, between State Park Drive and Park Avenue (PM) (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6402.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	356.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	356.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. El Salto Drive, between Sacramento Avenue and Livermore Avenue (P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	30.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	2.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	2.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 52.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. El Salto Drive, between Sacramento Avenue and Livermore Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	49.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	3.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	3.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 54.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. Highway 1, between Park Avenue and Bay Avenue (PM) (C+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6380.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	354.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	354.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. Highway 1, between Park Avenue and Bay Avenue (PM) (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6194.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	344.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	344.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.3

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

2. Highway 1, between Park Avenue and Bay Avenue (PM) (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6194.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	344.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	344.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.3

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. El Salto Drive, between Saxon Avenue and Oakland Avenue

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 28.0
Average automobile speed (mph): 25.0
Medium truck volume (v/h): 2.0
Average medium truck speed (mph): 25.0
Heavy truck volume (v/h): 2.0
Average heavy truck speed (mph): 25.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 52.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. El Salto Drive, between Saxon Avenue and Oakland Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 49.0
Average automobile speed (mph): 25.0
Medium truck volume (v/h): 3.0
Average medium truck speed (mph): 25.0
Heavy truck volume (v/h): 3.0
Average heavy truck speed (mph): 25.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 54.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. Highway 1, between Bay Avenue and 41st Avenue (PM) (C+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6520.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	362.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	362.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.5

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. Highway 1, between Bay Avenue and 41st Avenue (PM) (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6315.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	351.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	351.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.3

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

3. Highway 1, between Bay Avenue and 41st Avenue (PM) (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	6330.0
Average automobile speed (mph):	65.0
Medium truck volume (v/h):	352.0
Average medium truck speed (mph):	65.0
Heavy truck volume (v/h):	352.0
Average heavy truck speed (mph):	55.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 75.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 80.4

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Escalona Drive, between Saxon Avenue and Oakland Avenue (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 97.0
Average automobile speed (mph): 25.0
Medium truck volume (v/h): 5.0
Average medium truck speed (mph): 25.0
Heavy truck volume (v/h): 5.0
Average heavy truck speed (mph): 25.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 56.9

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

4. Escalona Drive, between Saxon Avenue and Oakland Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 111.0
Average automobile speed (mph): 25.0
Medium truck volume (v/h): 6.0
Average medium truck speed (mph): 25.0
Heavy truck volume (v/h): 6.0
Average heavy truck speed (mph): 25.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 57.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Escalona Drive, between Central Avenue and Saxon Avenue (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	110.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	6.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	6.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 57.7

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

5. Escalona Drive, between Central Avenue and Saxon Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	127.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	7.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 58.3

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Central Avenue, between Escalona Drive and Cliff Avenue (E)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h): 102.0
Average automobile speed (mph): 25.0
Medium truck volume (v/h): 6.0
Average medium truck speed (mph): 25.0
Heavy truck volume (v/h): 6.0
Average heavy truck speed (mph): 25.0
Bus volume (v/h): 0.0
Average bus speed (mph): 0.0
Motorcycle volume (v/h): 0.0
Average Motorcycle speed (mph): 0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 57.6

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

6. Central Avenue, between Escalona Drive and Cliff Avenue (E+P)

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	120.0
Average automobile speed (mph):	25.0
Medium truck volume (v/h):	7.0
Average medium truck speed (mph):	25.0
Heavy truck volume (v/h):	7.0
Average heavy truck speed (mph):	25.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Receptor 1

Distance from center of 12-ft wide, single lane roadway (ft): 32.8
A-weighted Hourly Equivalent Sound Level without Barrier (dBA): 58.3

Appendix I

Traffic Impact Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Monarch Cove Hotel Development

Traffic Impact Analysis

Prepared for:

Rincon Consultants, Inc.

March 17, 2014

Hexagon Office: 7888 Wren Avenue, Suite B121
Gilroy, CA 95020
Hexagon Job Number: 13RD16
Phone: 408.846.7410
Client Name: Rincon Consultants, Inc.

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Executive Summary

This report presents the results of the traffic impact analysis conducted for the proposed Monarch Cove Hotel development in Capitola, California. The project site is located at 620 El Salto Drive on Depot Hill.

Project Description

The 1.4-acre site is currently occupied by the Monarch Cove Inn, which is housed in an historic Victorian structure. The existing facility includes 11 guest rooms and an outdoor event deck. The proposed project includes two new buildings: a 2-story Main building with 22 guest rooms and 2 meeting rooms and a 2-story Bayview building with 10 guest rooms. In addition, the nine rooms within the existing Victorian house on-site will be retained. In total, the proposed hotel will include 41 guest rooms (nine existing rooms and 32 new guest rooms). A two-level 56-stall below-grade parking structure would be constructed beneath the Main building, and an additional 4 surface parking spaces would be provided near the entry to that building. Access to the project site would be provided from both El Salto Drive and Escalona Drive.

In addition to normal daily hotel operations, the hotel will continue to have social events such as weddings, reunions, and family events as well as small business related gatherings/meetings. The events will continue to meet the requirements of the existing Conditional Use Permit (CUP) for the site. These conditions include, but are not limited to: limiting events to a maximum of 40 guests Monday through Thursday and 75 guests Friday through Sunday; using shuttles from an off-site parking area for larger events; limiting weddings or events to no more than one per day, two per week, and six per month; adhering to the City Municipal Code standards for noise limits and use of amplified sound; and requiring a security guard to be present on-site during all events to control traffic, parking, and guests. The on-site facilities will be designed and sized to accommodate the events as part of the normal operations, including restrooms and adequate parking for guests. The proposed project and expansion of the hotel does not propose to increase the frequency or size of events. Therefore, the existing and future event functions are considered as part of the baseline conditions for this analysis.

Scope of Study

The purpose of the study is to identify the potential traffic impacts related to the proposed project. The potential impacts related to the proposed development were evaluated following the standards and methodologies set forth by the City of Capitola and Caltrans.

The study includes an analysis of AM, PM, and Saturday peak-hour traffic conditions for four signalized intersections, six unsignalized intersections, and three freeway segments. The study intersections were evaluated using SYNCHRO software based on the operations methodology described in the *2010 Highway Capacity Manual*. The study also includes signal warrant analysis, an evaluation of site access, and an evaluation of the effects of project traffic on six surrounding neighborhood streets.

Project Trip Generation

The magnitude of traffic produced by a new development is typically estimated by applying the size of the project to the applicable trip generation rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. However, the ITE manual does not provide data that would truly represent the type of hotel as proposed. Therefore, the trip generation of the proposed project was estimated utilizing trip generation rates developed based on driveway counts completed at the existing project site in August 2013. For comparison and validation purposes, the trip generation rates surveyed at the project site also were compared with those recommended by ITE as well as rates developed based on driveway counts at other comparable hotels in the Monterey Bay area. Two hotels in the Monterey Bay area that included rooms and small banquet facilities similar in size to those of the proposed project were selected for surveys.

The comparison of trip generation estimates based on the surveyed rates with those estimated using rates recommended by ITE indicate that the rates established based on the surveys of the existing project site result in a greater number of estimated trips for the proposed project. Therefore, the project was evaluated using the rates developed from the surveys of the existing project site since they result in a more conservative analysis than the ITE rates or rates of comparable hotels. Additionally, the surveyed rates at the project site are also more reflective of the expected mode of travel of guests to the proposed hotel.

Based on the surveyed trip rates and credit for existing site uses (11 guest rooms), the proposed project was estimated to generate a net additional 240 weekday and 387 Saturday daily trips with 16 AM peak-hour trips (8 inbound and 8 outbound), 28 PM peak-hour trips (14 inbound and 14 outbound), and 33 Saturday peak-hour trips (14 inbound and 19 outbound).

Project Impacts

Intersection Level of Service Impacts

The intersection level of service is summarized in Table ES 1. The results of the intersection level of service analysis under existing plus project show that no study intersections would be impacted by the project according to applicable level of service standards.

Freeway Segment Impacts

The freeway segment level of service analysis is summarized in Table ES 2. The results of the freeway segment level of service analysis show that the project traffic would result in an impact on four of the six study segments according to the Caltrans impact criteria for freeway segments.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Cumulative Conditions Analysis

The intersection level of service under cumulative conditions is summarized in Table ES 1. The results indicate that the cumulative growth in traffic volumes will result in the degradation of levels of service at two of the study intersections from an acceptable LOS C to unacceptable LOS D during at least one of the peak hours under cumulative no project conditions.

Bay Avenue and Hill Street (Weekday PM & Saturday)
Porter Street and Highway 1 NB Ramps (Weekday AM)

The proposed project would account for more than 3% of total projected traffic volume growth at each of the intersections. Therefore, the proposed project would have a cumulative level or service impact at these locations.

Recommended Mitigation Measures under Cumulative Conditions

Described below are the possible intersection improvements that can be implemented at each of the identified impacted intersections to mitigate impacts due to cumulative growth.

(6) Bay Avenue and Hill Street

Mitigation: The necessary improvements to mitigate cumulative impacts at this intersection could consist of signalization of the intersection or reconstruction of the intersection into a traffic circle. The appropriate improvement will be determined by the City. The applicant shall be responsible for paying a fair-share of the improvement costs, to be determined by the City, or make a contribution to the City's Transportation Impact Fee Program, if adopted prior to project construction.

(8) Porter Street and Highway 1 NB Ramps

Mitigation: Improvements to the Porter Street/Bay Avenue interchange as part of the Highway 1 HOV Lane widening project have been identified and are currently being studied. The project will modify the existing interchanges at 41st Avenue and Porter Street/Bay Avenue into a single interchange to improve safety and traffic operations. Environmental evaluation of the project is underway. However, no funding has been identified for the completion of the project.

Cumulative Conditions Freeway Segment Analysis

The freeway segment analysis indicates that each of the freeway segments analyzed is currently and projected to continue to operate at an unacceptable LOS D or worse, in the peak commute direction during the AM and PM peak hours under cumulative no project conditions. The addition of cumulative trips collectively would create a significant adverse traffic impact on each of the segments identified to operate at unacceptable levels. Freeway segment analysis is summarized in Table ES 2.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Other Transportation Issues

Other issues related to transportation were evaluated to determine if any deficiencies would exist under project conditions that may not be specifically linked to environmental impact reporting. These may not be considered environmental issues, and may not be evaluated in the environmental assessment, but have been included in the traffic study to meet the requirements of the local jurisdiction. The other transportation issues considered are impacts to adjacent neighborhoods, bicycle, pedestrian, transit issues, and site access and on-site circulation issues.

Site Access

A review of the project site plan was performed to determine if adequate site access is provided and to identify any access or circulation issues that should be improved. The proposed project site will be accessed via El Salto Drive and Escalona Drive.

El Salto Drive

Vehicle access to the project site is currently provided via El Salto Drive. There are no proposed changes to the location of the existing access from El Salto Drive. El Salto Drive will provide access to the main building and reception area and upper level of the below-grade parking garage. The driveway will serve 7 inbound trips and 7 outbound trips during the AM peak hour, 11 inbound trips and 11 outbound trips during the PM peak hour, and 11 inbound trips and 16 outbound trips during the Saturday peak hour.

Escalona Drive

The Escalona Drive entrance will also will be located in its exiting location. Access to the lower level of the below-grade parking garage will be provided along Escalona Drive. The driveway will serve 4 inbound trips and 4 outbound trips during the AM peak hour, 8 inbound trips and 8 outbound trips during the PM peak hour, and 8 inbound trips and 10 outbound trips during the Saturday peak hour.

Alternative Park Avenue Access

In response to concerns of residents within the Depot Hill neighborhood regarding the increase in traffic on neighborhood streets due to the proposed project, City staff requested the evaluation of an alternative project access point directly to Park Avenue. Access to Park Avenue would require the construction of a new access road between the project site and Park Avenue. However, the feasibility of an access point to Park Avenue is uncertain and the project is not proposing nor advocating for access directly to Park Avenue. As such, plans identifying the location and alignment of the access road between the project site and Park Avenue have not been prepared. The evaluation makes no determination of the feasibility of the alignment or the crossing of the existing rail line by the access road. The evaluation also assumes that the connection to Park Avenue would be provided west of the existing Park Avenue Apartments entrance.

This evaluation of the alternative Park Avenue access point assumes that the connection to Park Avenue would be the only access point to the project site and that its exiting access point at El Salto Drive would be closed. As such, the alternative access point to Park Avenue will eliminate existing hotel traffic as well as traffic associated with the proposed project on streets within the Depot Hill neighborhood. The distribution of project traffic was revised to reflect the alternative Park Avenue access and elimination of the El Salto Drive project site access. The change in project traffic distribution results in minor changes at the following three intersections:

Monterey Avenue and Escalona Drive
Monterey Avenue and Park Avenue
Monterey Avenue and Bay Avenue

However, the alternative Park Avenue access will have no significant effect on the distribution of traffic on other roadways and the remainder of the study intersections.

Level of Service and Signal Warrant Analysis

The results indicate that the Park Avenue access point would have minimal effect on each of the intersections evaluated. The Park Avenue access point would operate at LOS C conditions during the AM and PM peak hours and LOS B during the Saturday peak hour under existing plus project and cumulative plus project conditions. Peak hour signal warrant analysis indicates that the Park Avenue access point is not projected to have traffic volumes that meet the thresholds that warrant signalization.

Site Distance

Park Avenue is a two-lane roadway with striped shoulders and a posted speed limit of 25 miles per hour (mph). A minimum of 155 feet of sight distance is required for a roadway with travel speeds of 25 mph, based on the AASHTO Guidelines. However, travel speeds along Park Avenue near the potential access point are closer to 30-35 mph, which requires a minimum sight distance of 200-250 feet. Based on field observations and the approximate location of a potential connection to Park Avenue, sight distance along Park Avenue would be no greater than 50 feet to the west (towards Washburn Avenue) and more than 300 feet to the east (towards Grove Lane). Existing trees along the south side of Park Avenue and the elevation change of Park Avenue restrict site distance to the west.

It is likely that the speeds and limited sight distance along Park Avenue will result in unsafe conditions for vehicles entering and exiting the potential Park Avenue access point. Therefore, a full access point along Park Avenue is not recommended.

It may be possible to provide limited access along Park Avenue by restricting turn movements to right-turns only in and out of the access point. The turn restrictions would reduce the amount of conflicting traffic at the intersection. However, limited access would require removal of existing trees along the south side of Park Avenue and implementation of enhanced warning signage and lighting near the access point.

Site Circulation

The onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. The proposed site layout will allow for improved circulation through the project site. An on-site roadway connection between El Salto Drive and Escalona Drive will provide for internal circulation within the project site itself. Corner radii and street widths within the site appear to be sufficient to allow for the circulation of large design vehicles such as garbage trucks and fire trucks. With the proposed internal roadway layout and adhering to City design standards and guidelines, emergency vehicle access and circulation within the project site should be adequate.

Transit, Pedestrian and Bicycle Analysis

Bicycle and Pedestrian Circulation

The volume of bicycle trips generated by the project would not exceed the bicycle-carrying capacity of streets surrounding the site, and the increase in bicycle trips would not require new off-site bicycle facilities. However, the project is proposing to provide 27 bicycle parking spaces on-site and a separated bicycle entrance into the below-grade parking area.

The volume of pedestrian trips generated by the project would not necessitate improvements to pedestrian facilities. However, the project is proposing on-site improvements to facilitate better public/neighborhood access to the project site and enhance pedestrian circulation within the project site with the addition of new pathways that will provide access to the back of the project site and scenic views.

It should be noted that streets within the surrounding Depot Hill Neighborhood do not have sidewalks and the streets are narrow. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Transit Service

The estimated new transit riders generated by the proposed project could be accommodated by the available capacity of the two local bus routes, which have stops located within a one-half-mile walking distance of the site. Thus, no improvements to the existing transit facilities would be needed in conjunction with the proposed project.

Parking

Based on the City of Capitola's parking code requirements for hotels (Municipal Code 17.51.130) the development should provide one space per guest room. The project proposes to provide 60 parking spaces on site (56 parking spaces within a two-level below-grade parking area and an additional 4 surface spaces). Therefore, the proposed parking will exceed the City of Capitola parking requirements. In addition, the project also is proposing to provide 27 on-site bicycle parking facilities.

In addition, parking on site will be managed by the hotel with the use of self-parking and valet-parking. During high demand periods, when the hotel is at full occupancy and/or during events, valet-parking will be used to implement tandem parking on-site. During periods when events are held, it is estimated that between 18 to 24 spaces will be available for event guests. Hotel staff will monitor parking demand to ensure that all parking occurs on-site and remind hotel guests that parking is not allowed within the surrounding neighborhood. Neighborhood parking prohibitions currently are managed and enforced by hotel personnel by a) notification and instructions for event participants; b) monitoring of arrivals and intervention if any guests start to park in the neighborhood; and 3) responding to any complaints/concerns regarding parking. If additional capacity were needed, shuttle services would be provided for off-site remote parking.

Neighborhood Traffic Issues

With the project site located within a residential neighborhood (Depot Hill), residents have expressed concern that the additional traffic generated by the project may significantly increase traffic volumes on streets within the neighborhood that provide access to the project site and worsen perceived existing traffic issues within the neighborhood including speeding along Escalona Drive and Central Avenue and unsafe pedestrian/bicycle travel throughout the neighborhood. Therefore, an evaluation of indirect traffic related impacts to residential streets within the Depot Hill neighborhood was completed.

Existing Neighborhood Roadway Characteristics

Ingress and egress from the Depot Hill neighborhood is provided exclusively via the Escalona Drive intersection with Monterey Avenue. The roadways within the neighborhood only serve the residents and existing hotel use and provide no secondary outlet to the surrounding roadway system. Therefore, there is no cut-through or commercial traffic present within the neighborhood.

The roadway system in Depot Hill consists of relatively long and narrow streets built in a grid system with housing on both sides. Streets within the Depot Hill neighborhood are narrow and do not have sidewalks. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. There are no posted speed limits on the streets within the neighborhood. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Estimated Project Traffic

Escalona Drive and El Salto Drive serve as the primary east/west roadways through the Depot Hill neighborhood and provide direct access to the project site. Access to the project site is currently provided only via El Salto Drive. The proposed project will maintain the existing access from El Salto Drive along with a new access point from Escalona Drive. As such, it can be expected that both Escalona Drive and El Salto Drive will see an increase in traffic due to the project.

The effects of project traffic on the streets was evaluated based on field observations, the collection of traffic volume data collected in August and September 2013, and projections of the additional project generated traffic.

General guidelines regarding threshold volumes pertaining to residential streets have been recommended within several studies and reference material including the Highway Capacity Manual (HCM). There is variation in these accepted threshold volumes, but in general, it is recommended that residential streets carry no more than 2,000 to 4,000 ADT (Average Daily Traffic). The HCM recommended maximum ADT range for level of service C on local streets is 1,500-1,600 vehicles. The addition of the estimated daily trips from the proposed project would result in daily volumes along streets within the Depot Hill neighborhood that will be well below the accepted LOS C volume range. The greatest amount of project traffic will be added to El Salto Drive (a net additional 144 weekday and 232 Saturday daily trips). If all the project traffic were to occur during a 12-hour period (6:00 am – 6:00 pm) rather than a 24-hour period, the daily project trips would equate to a maximum of one project trip every five minutes on weekdays. Similarly, on Saturdays, the daily project trips would equate to one project trip every three minutes.

Based on the characteristics of the streets, the traffic count data and the estimated project traffic, the following conclusions can be drawn:

- Traffic volumes on all three streets are fairly low; well below 1,500 vehicles per day on most segments. Traffic volumes under 1,500 vehicles per day are considered acceptable for neighborhood streets.
- The streets are narrow (~ 35 feet wide) with parking on both sides, which discourages speeding.
- The average observed traffic speeds are well below the speed limit of 25 mph at most locations.

Possible Traffic Calming Measures

Though the evaluation of the effects of project traffic on residential streets identified no direct impacts, it is evident that the existing conditions along streets within the neighborhood are of concern to residents. In order to improve the traffic situation within the Depot Hill neighborhood, several measures as described below can be considered for implementation. However, the measures are not necessary to mitigate the effects of project traffic on the streets. The measures should be evaluated as part of a traffic calming study for the neighborhood. The primary differences between a typical traffic engineering study and a traffic calming study is that a traffic calming study generally includes (1) more neighborhood involvement and (2) considers "quality of life" issues in addition to traffic capacity and safety issues. Generally, traffic calming is considered in a residential neighborhood when (1) the volume of traffic on a neighborhood street is incompatible with the surrounding land uses and/or roadway design or (2) the speed of traffic on a neighborhood street is excessive or unsafe. The traffic calming study would need to include the evaluation of all streets within the neighborhood to ensure that the implementation of traffic calming measures do not result in adverse effects on other street locations within the neighborhood. There are no established procedures for the application of traffic calming devices and criteria for device installation vary widely by jurisdiction.

- **Reduce Landscaping Conflicts.** Landscaping obscures existing signage at intersections at a number of locations in the neighborhood. This reduces the time that drivers unfamiliar to the area have to perceive and react to the signage and other vehicles. Where possible, the landscaping should be trimmed back around intersections to improve driver sight distance between (1) vehicles and signage, and (2) vehicles and other vehicles/bikes/pedestrians. Where landscaping cannot be removed to improve the visibility of stop signs, “Stop Ahead” warning signs should be considered.

- **Monterey Avenue and Escalona Drive Capital Improvement Project**. The City could consider long-term improvements to the intersection of Monterey Avenue/Escalona Drive as a possible Capital Improvement Project (CIP). Improvements could include, but not limited to, removing the islands at the intersection along Escalona Drive or installation of a traffic circle to improve ingress and egress from the neighborhood as well as improve pedestrian and bicycle flow through the intersection. Improving the intersection would require a design study that considers removal of landscaping, medians, lane narrowing, additional right of way, or any combination of these.

- **Street Narrowing.** This is typically considered to reduce vehicle speeds. However, all streets except Escalona Drive are already very narrow and speeds are generally much lower than those found on typical residential streets. Further narrowing at intersections would preclude truck access. Curb extensions are hit by vehicles regularly, which creates noise and damages vehicles. Street narrowing measures may be applicable along Escalona Drive and Central Avenue since they are wider than other streets in the neighborhood.

- **Traffic Circles.** Traffic circles force vehicles to slow down in advance of intersections. Installation of traffic circles have the potential to reduce the number of collisions and would maintain low travel speeds through the intersections. However, most of the intersections within the neighborhood are too small to accommodate traffic circles and speed is generally not a problem in the intersection. In addition, traffic circles would cause a loss of parking spaces, are very expensive (ranging from approximately $25,000 to $45,000 each), and limit the access for large vehicles, including fire trucks. The Fire Department would need review and approve the installation of traffic circles at the intersections within the neighborhood because these measures could result in an increase in emergency response times.

- **Bulb-Outs.** An alternative measure would be to narrow the roadways at the intersections by extending the curb radius into the street. Curb extensions are commonly referred to as bulb-outs. However, given that, the streets within the neighborhood do not have sidewalks or curbing, the implementation of bulb-outs will require the installation of new curbing, striping or extension of landscape extensions. Bulb-outs typically shorten the pedestrian crossing lengths, keep the vehicle speeds low and allow better pedestrian visibility around parked cars. However, bulb-outs are expensive (about $20,000 per intersection and require maintenance), result in a loss of on-street parking, and also impede emergency response vehicles and other trucks.

- **Stop-Signs.** All intersections, with the exception of El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue, within the neighborhood have stop-controlled approaches. When warranted, intersections can be controlled by stop signs. These regulatory signs assign the right-of-way at intersections and require motorists to stop and check traffic before crossing. Although the installation of stop signs at the El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue intersections would not be warranted based on the traffic volumes or accident history, we are of the opinion that installing (two-way) stop signs should be considered because of the inadequate sight distances. Visibility at the intersection corners is very limited, especially when there are cars parked near street corners.

  Typically, the stop signs would be placed on the minor (lower volume) street, which would be Hollister and Livermore Avenues. The stop signs would require the traffic on Hollister and Livermore Avenues to slow down and come to a complete stop. The travel speeds on El Salto Drive are likely to increase because it will have the right-of-way and does not have to slow down as much compared to the current situation. In addition, residents should be aware that (a) drivers may not come to a complete stop, or stop at all, at low volume intersections such as these, (b) vehicle acceleration and deceleration near stop signs will increase noise levels, and (c) placing stop signs at intersections could cause an increase in travel speeds. Studies have shown that motorists tend to accelerate to higher speeds to make up for the time lost at stop sign. Other studies have found that vehicle speeds will decrease within 200 feet of a stop-controlled intersection, but speeds will remain unchanged or increase between intersections.

Collision History

The collision history at the Monterey Avenue and Escalona Drive intersection also was investigated. The City of Capitola Police Department indicated that there were no reported accidents at the Monterey Avenue and Escalona Drive intersection over the past three-years. Therefore, based on the lack of reported collisions there is no issue with accidents at the Monterey Avenue and Escalona Drive intersection. As stated in the previous section, there are potential geometric improvements that can be implemented at the intersection to improve sight distance, lane alignment, and pedestrian/bicycle travel through the intersection.

Construction Traffic

Construction would primarily be accomplished using diesel-powered heavy equipment. A variety of project construction activities would include clearing, excavation, and grading operations, import/export of fill material, and construction vehicle travel

As such, traffic from these various activities would be ongoing throughout the demolition, building, and rehabilitation processes for the project site. Therefore, there is potential for temporary traffic-related impacts to occur from construction activities at the site. To reduce the impacts due to construction traffic, the project contractor should prepare a Construction Management Plan, which will include, but not be limited to; a traffic construction management plan with the following conditions and shall be subject to review and approval by City staff. In order to minimize impacts from construction-related traffic, the project contractor shall ensure that heavy vehicle traffic from the project site only occur between the hours of 8:00 AM and 5:00 PM.

- The project contractor shall implement truck haul routes for construction trucks deemed acceptable by the City.
- Additionally, signs shall be posted along roads identifying construction traffic access or flow limitations due to single lane conditions during periods of truck traffic.

Construction equipment shall be stored on the project site and construction vehicles shall not be allowed to park in front of residential homes within the residential neighborhood during the construction phase of the project.

The proposed project will not result in changes to the current normal daily deliveries to the project site via large trucks nor to the normal scheduled garbage pick-up.

Table ES 1
Intersection Level of Service Summary

					Existing			Existing Plus Project				Cumulative No Project				Cumulative with Project				
Study Number	Intersection	LOS Standard	Existing Control	Peak Hour	Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Change in Delay	Warrant Met?	Delay	LOS	Change in Delay	Warrant Met?	Delay	LOS	Change in Delay	% Vol. Incr. Due to Project
1	Monterey Avenue and Capitola Avenue	D	AWSC	AM	No	14.2	B	No	14.2	B	0.0	No	14.9	B	0.7	No	14.9	B	0.7	
				PM	No	25.7	D	No	25.9	D	0.2	No	29.1	D	3.4	No	29.3	D	3.6	
				SAT	No	12.0	B	No	12.0	B	0.0	No	12.4	B	0.4	No	12.5	B	0.5	
2	Monterey Avenue and Escalona Drive	D	TWSC	AM	No	14.2	B	No	14.4	B	0.2	No	14.6	B	0.4	No	14.8	B	0.6	
				PM	No	28.2	D	No	30.5	D	2.3	No	30.0	D	1.8	No	32.4	D	4.2	
				SAT	No	21.2	C	No	22.8	C	1.6	No	22.2	C	1.0	No	23.8	C	2.6	
3	Monterey Avenue and Park Avenue	C	AWSC	AM	**Yes**	20.9	C	**Yes**	21.4	C	0.5	**Yes**	22.9	C	2.0	**Yes**	23.5	C	2.6	
				PM	**Yes**	19.9	C	**Yes**	20.6	C	0.7	**Yes**	21.9	C	2.0	**Yes**	22.7	C	2.8	
				SAT	No	12.2	B	No	12.6	B	0.4	No	12.6	B	0.4	No	13.0	B	0.8	
4	Monterey Avenue and Bay Avenue	C	AWSC	AM	No	12.0	B	No	12.2	B	0.2	No	12.4	B	0.4	No	12.6	B	0.6	
				PM	No	11.4	B	No	11.7	B	0.3	No	11.7	B	0.3	No	12.0	B	0.6	
				SAT	No	10.6	B	No	10.9	B	0.3	No	10.9	B	0.3	No	11.1	B	0.5	
5	Capitola Avenue and Bay Avenue	C	AWSC	AM	No	20.0	C	No	20.5	C	0.5	No	21.8	C	1.8	No	22.4	C	2.4	
				PM	No	20.0	C	No	20.9	C	0.9	No	21.6	C	1.6	No	22.7	C	2.7	
				SAT	No	21.6	C	No	22.8	C	1.2	**Yes**	23.5	C	1.9	**Yes**	25.0	C	3.4	
6	Bay Avenue and Hill Street	C	AWSC	AM	No	18.4	C	No	18.8	C	0.4	No	19.6	C	1.2	No	20.1	C	1.7	
				PM	**Yes**	24.1	C	**Yes**	24.9	C	0.8	**Yes**	**26.5**	**D**	**2.4**	**Yes**	**27.6**	**D**	**3.5**	**25%**
				SAT	No	**26.0**	**D**	No	**27.3**	**D**	**1.3**	**Yes**	**29.0**	**D**	**3.0**	**Yes**	**30.6**	**D**	**4.6**	**29%**
7	Bay Avenue and Highway 1 SB Ramps	C	Signal	AM	--	20.8	C	--	20.9	C	0.1	--	21.3	C	0.5	--	21.4	C	0.6	
				PM	--	21.5	C	--	21.9	C	0.4	--	22.1	C	0.6	--	22.5	C	1.0	
				SAT	--	21.5	C	--	21.8	C	0.3	--	22.0	C	0.5	--	22.3	C	0.8	
8	Porter Street and Highway 1 NB Ramps	C	Signal	AM	--	34.8	C	--	34.9	C	0.1	--	**36.3**	**D**	**1.5**	--	**36.4**	**D**	**1.6**	**6%**
				PM	--	30.8	C	--	31.0	C	0.2	--	32.6	C	1.8	--	32.9	C	2.1	
				SAT	--	23.6	C	--	23.9	C	0.3	--	24.6	C	1.0	--	24.9	C	1.3	
9	Park Avenue and Highway 1 NB Ramps	C	Signal	AM	--	13.8	B	--	13.8	B	0.0	--	14.1	B	0.3	--	14.2	B	0.4	
				PM	--	14.9	B	--	14.9	B	0.0	--	15.3	B	0.4	--	15.4	B	0.5	
				SAT	--	13.3	B	--	13.3	B	0.0	--	13.6	B	0.3	--	13.6	B	0.3	
10	Park Avenue and Highway 1 SB Ramps	C	Signal	AM	--	15.4	B	--	15.4	B	0.0	--	15.7	B	0.3	--	15.7	B	0.3	
				PM	--	15.6	B	--	15.6	B	0.0	--	15.8	B	0.2	--	15.8	B	0.2	
				SAT	--	12.8	B	--	12.8	B	0.0	--	12.9	B	0.1	--	12.9	B	0.1	

Intersection control based on existing conditions.
- Signal = signalized Intersection
- AWSC = all-way stopped controlled intersection
- TWSC = two-way stopped controlled intersection

Bold indicates unacceptable LOS or signal warrant met.
Bold and boxed indicates cumulative impact.

Table ES 2
Freeway Segment Level of Service Summary

				Existing Conditions						Project Trips		Existing Plus Project Conditions							
				AM Peak-Hour			PM Peak-Hour			AM	PM	AM Peak-Hour				PM Peak-Hour			
Segment	LOS Standard	Direction	# Of Lanes	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Volume	Volume	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density
SR 1 between	C	WB	2	**3,589**	**31.2**	**D**	**3,317**	**27.8**	**D**	2	4	**3,591**	**31.2**	**D**	**0.0**	**3,321**	**27.8**	**D**	**0.0**
State Park Drive and Park Avenue	C	EB	2	2,108	16.5	B	**3,788**	**34.1**	**D**	2	4	2,110	16.5	B	**0.0**	**3,792**	**34.1**	**D**	**0.0**
SR 1 between	C	WB	2	**3,733**	**33.2**	**D**	**3,318**	**27.8**	**D**	0	0	**3,733**	**33.2**	**D**	**0.0**	**3,318**	**27.8**	**D**	**0.0**
Park Avenue and Bay Avenue	C	EB	2	2,565	20.3	C	**3,564**	**30.9**	**D**	0	0	2,565	20.3	C	**0.0**	**3,564**	**30.9**	**D**	**0.0**
SR 1 between	C	WB	2	**4,348**	**44.5**	**E**	**3,452**	**29.4**	**D**	4	8	**4,352**	**44.6**	**E**	**0.1**	**3,460**	**29.5**	**D**	**0.1**
Bay Avenue and 41st Avenue	C	EB	2	2,784	22.2	C	**3,565**	**30.9**	**D**	4	8	2,788	22.3	C	**0.1**	**3,573**	**31.0**	**D**	**0.1**

Notes:
Methodology based on Highway Capacity Manual, 2010.
Existing peak-hour volume data obtained from Caltrans Traffic Volumes (2012).
Bold indicates unacceptable LOS.
Bold and boxed indicates significant project impact.

		Cumulative No Project								Project Trips		Cumulative with Project Conditions							
		AM Peak-Hour				PM Peak-Hour				AM	PM	AM Peak-Hour				PM Peak-Hour			
Segment	Direction	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Volume	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density
SR 1 between	WB	**3,697**	**32.7**	**D**	**1.5**	**3,417**	**29.0**	**D**	**1.2**	2	4	**3,699**	**32.7**	**D**	**1.5**	**3,421**	**29.0**	**D**	**1.2**
State Park Drive and Park Avenue	EB	2,171	17.0	B	0.5	**3,902**	**35.9**	**E**	**1.8**	2	4	2,173	17.0	B	0.5	**3,906**	**35.9**	**E**	**1.8**
SR 1 between	WB	**3,845**	**35.0**	**D**	**1.8**	**3,418**	**29.0**	**D**	**1.2**	0	0	**3,845**	**35.0**	**D**	**1.8**	**3,418**	**29.0**	**D**	**1.2**
Park Avenue and Bay Avenue	EB	2,642	20.9	C	0.6	**3,671**	**32.3**	**D**	**1.4**	0	0	2,642	20.9	C	0.6	**3,671**	**32.3**	**D**	**1.4**
SR 1 between	WB	**4,478**	**47.6**	**F**	**3.1**	**3,556**	**30.8**	**D**	**1.4**	4	8	**4,482**	**47.7**	**F**	**3.2**	**3,564**	**30.9**	**D**	**1.5**
Bay Avenue and 41st Avenue	EB	2,868	23.0	C	0.8	**3,672**	**32.4**	**D**	**1.5**	4	8	2,872	23.1	C	0.9	**3,680**	**32.5**	**D**	**1.6**

Notes:
Methodology based on Highway Capacity Manual, 2010.
Existing peak-hour volume data obtained from Caltrans Traffic Volumes (2012).
Bold indicates unacceptable LOS.
Bold and boxed indicates significant cumulative impact.

1. Introduction

This report presents the results of the traffic impact analysis conducted for the proposed Monarch Cove Hotel development in Capitola, California. The project site is located at 620 El Salto Drive on Depot Hill. The project site location and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

Project Description

The 1.4-acre site is currently occupied by the Monarch Cove Inn, which is housed in an historic Victorian structure. The existing facility includes 11 guest rooms and an outdoor event deck. The proposed project includes two new buildings: a 2-story Main building with 22 guest rooms and 2 meeting rooms and a 2-story Bayview building with 10 guest rooms. In addition, the nine rooms within the existing Victorian house on-site will be retained. In total, the proposed hotel will include 41 guest rooms (9 existing rooms and 32 new guest rooms). A two-level 56-stall below-grade parking structure would be constructed beneath the Main building, and additional 4 surface parking spaces would be provided near the entry to that building. Access to the project site would be provided from both El Salto Drive and Escalona Drive.

In addition to normal daily hotel operations, the hotel will continue to have social events such as weddings, reunions, and family events as well as small business related gatherings/meetings. The events will continue to meet the requirements of the existing Conditional Use Permit (CUP) for the site. These conditions include, but are not limited to: limiting events to a maximum of 40 guests Monday through Thursday and 75 guests Friday through Sunday; using shuttles from an off-site parking area for larger events; limiting weddings or events to no more than one per day, two per week, and six per month; adhering to the City Municipal Code standards for noise limits and use of amplified sound; and requiring a security guard to be present on-site during all events to control traffic, parking, and guests. The on-site facilities will be designed and sized to accommodate the events as part of the normal operations, including restrooms and adequate parking for guests. The proposed project and expansion of the hotel does not propose to increase the frequency or size of events. Therefore, the existing and future event functions are considered as part of the baseline conditions for this analysis.

Scope of Study

The purpose of the study is to identify the potential traffic impacts related to the proposed project. The potential impacts related to the proposed development were evaluated following the standards and methodologies set forth by the City of Capitola, Caltrans, and the California Environmental Quality Act (CEQA).

The study included an analysis of AM, PM, and Saturday peak-hour traffic conditions for key intersections and freeway segments in the vicinity of the project site: four signalized intersections, six unsignalized intersections, and three freeway segments. The study also includes signal warrant analysis at each of the unsignalized study intersections, an evaluation of site access, and an evaluation of the effects of project traffic on six surrounding neighborhood streets. The study intersections and freeway segments are identified below.

Figure 1
Site Location and Study Intersections

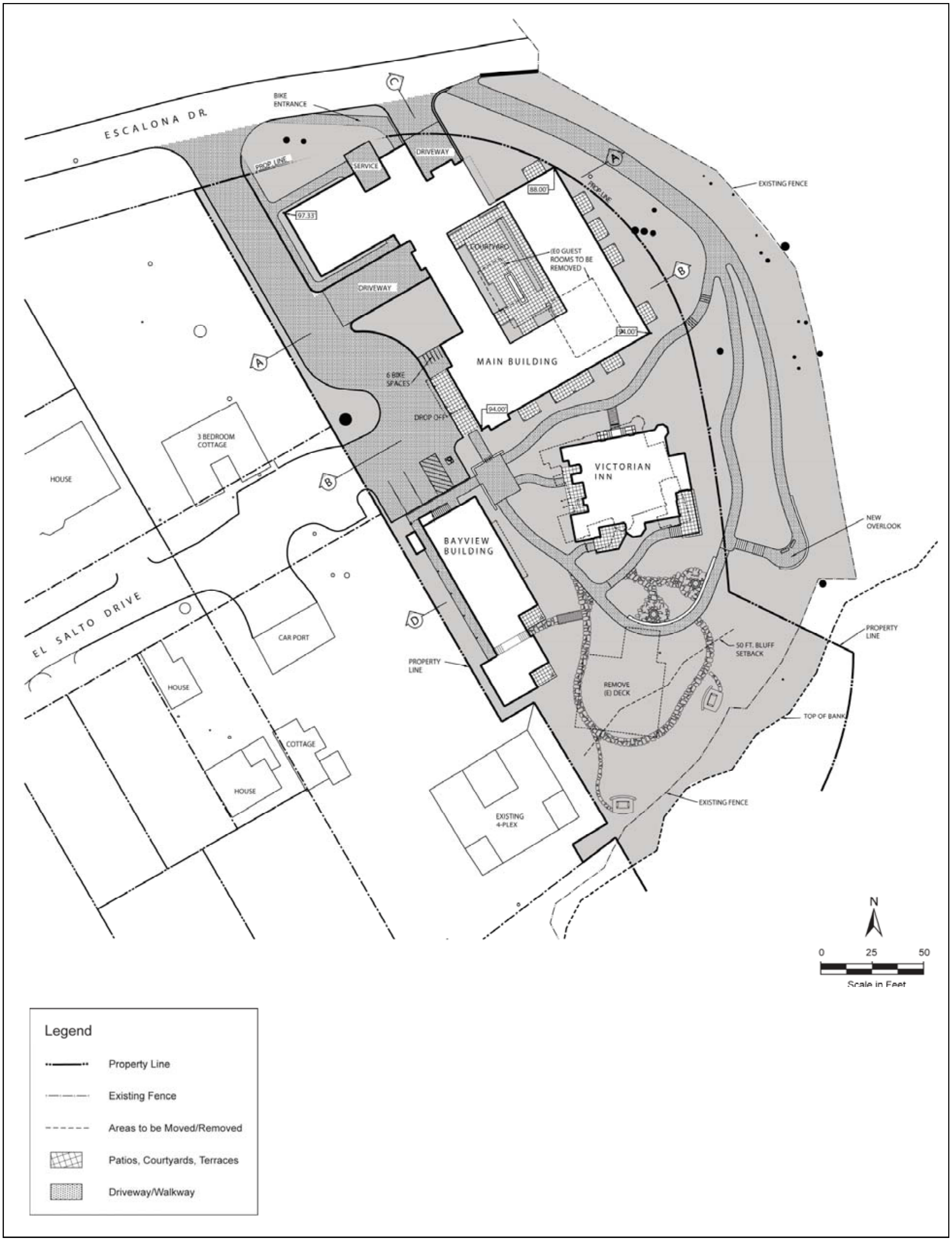

Figure 2
Site Plan

Study Intersections

1. Monterey Avenue and Capitola Avenue (unsignalized)
2. Monterey Avenue and Escalona Drive (unsignalized)
3. Monterey Avenue and Park Avenue (unsignalized)
4. Monterey Avenue and Bay Avenue (unsignalized)
5. Capitola Avenue and Bay Avenue (unsignalized)
6. Bay Avenue and Hill Street (unsignalized)
7. Bay Avenue and Highway 1 (signalized)
8. Porter Street and Highway 1 (signalized)
9. Park Avenue and Highway 1 (North) (signalized)
10. Park Avenue and Highway 1 (South) (signalized)

Freeway Segments

1. Highway 1, between State Park Drive and Park Avenue
2. Highway 1, between Park Avenue and Bay Avenue
3. Highway 1, between Bay Avenue and 41st Avenue

Roadway Segments

1. El Salto Drive, east of Livermore Avenue
2. El Salto Drive, between Sacramento Avenue and Livermore Avenue
3. El Salto Drive, between Saxon Avenue and Oakland Avenue
4. Escalona Drive, between Saxon Avenue and Oakland Avenue
5. Escalona Drive, between Central Avenue and Saxon Avenue
6. Central Avenue, between Escalona Drive and Cliff Avenue

Traffic conditions at all of the study intersections were analyzed for the weekday AM, PM, and Saturday peak hours. The weekday AM peak hour of traffic is generally between 7:00 and 9:00 AM, the weekday PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday. The Saturday peak hour between 12:00 and 2:00 PM was analyzed since it is generally the day and the time period when retail at Capitola Village and the beach related traffic are greatest. Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing conditions were represented by existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent (May, August, and September 2013) traffic counts. For the purpose of this study, traffic counts collected in August (when Junior Guards was in session and while schools *were not* in session) were compared with traffic counts collected in May and September (while schools *were* in session). The comparison indicated that traffic volumes were generally greater while schools were in session. Therefore, the counts collected while schools were in session were used for the reporting of existing conditions levels of service.

Scenario 2: *Existing Plus Project Conditions*. Project-generated traffic volumes were added to existing traffic volumes to estimate existing plus project conditions. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Scenario 3: *Cumulative Conditions.* Cumulative conditions were represented by future traffic volumes, at the date of project occupancy, on the roadway network. Traffic volumes under cumulative conditions were estimated by applying an annual growth factor of 1.0 percent over 3 years to existing traffic volumes and adding project trips. This scenario was evaluated in order to fulfill California Environmental Quality Act (CEQA) requirements.

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from previous traffic studies, new counts, the City of Capitola, and field observations. The following data were collected from these sources:

- existing traffic volumes
- intersection control and lane configurations
- signal timing and phasing

Analysis Methodologies and Level of Service Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The analysis methods are described below.

The level of service standard for intersections under the jurisdictions of the City of Capitola and Caltrans is LOS C with the exception of those intersections located within the Village Area, which include the Monterey Avenue/Capitola Avenue and Monterey Avenue and Escalona Drive study intersections. The City of Capitola level of service standard for intersections within the Village Area is LOS D.

Signalized Intersections

The analysis of signalized study intersections is based on the *2010 Highway Capacity Manual* (HCM) methodology. The evaluation of signalized intersections was completed using SYNCHRO software, which employs the 2010 HCM methodology. SYNCHRO evaluates signalized intersection operations based on average control delay time for all vehicles at the intersection. *Control delay* is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The correlation between average delay and level of service for signalized intersections is shown in Table 1.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is also SYNCHRO and the *2010 Highway Capacity Manual* methodology. This method is applicable for both two-way and all-way stop-controlled intersections. For the analysis of stop-controlled intersections, the *2010 HCM* methodology evaluates intersection operations on the basis of average control delay time for all vehicles on the stop-controlled approaches. For the purpose of reporting level of service for one- and two-way stop-controlled intersections, the delay and corresponding level of service for the stop-controlled minor street approach with the highest delay is reported. For all-way stop-controlled intersections, the reported average delay and corresponding level of service is the average for all approaches at the intersection. The correlation between average delay and level of service for unsignalized intersections is shown in Table 2.

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersection. The need for signalization of unsignalized intersections is assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the *California Manual on Uniform Traffic Control Devices for Streets and Highways (CA MUTCD)*, Part 4, Highway Traffic Signals, 2012. This method makes no evaluation of intersection level of service, but simply provides an indication whether vehicular peak hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal.

Table 1
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (Sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Source: Transportation Research Board, *Highway Capacity Manual 2010. (Washington, D.C., 2010)*

Table 2
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (Sec.)
A	Operations with very low delays occurring with favorable progression.	Up to 10.0
B	Operations with low delays occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operation with longer delays due to a combination of unfavorable progression of high V/C ratios.	25.1 to 35.0
E	Operation with high delay values indicating poor progression and high V/C ratios. This is considered to be the limited of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	Greater than 50.0

Source: Transportation Research Board, *2010 Highway Capacity Manual.* (Washington, D.C., 2010)

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

Freeway Segments

As prescribed by Caltrans technical guidelines, the level of service for freeway segments is estimated based on vehicle density. The vehicle density on a segment is correlated to level of service as shown in Table 3. The Caltrans level of service standard for freeway facilities (mainline and ramps) is stated as the transition between LOS C and D.

Table 3
Freeway Segment Level of Service Definition Based on Density

Level of Service	Description	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	0-11
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	>11-18
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	>18-26
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	>26-35
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	>35-45
F	Vehicular flow breakdowns occur. Large queues form behind breakdown points.	>45

Source: Transportation Research Board, 2010 Highway Capacity Manual. (Exihibit 11-5)

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the project impact on the transportation system and describes the recommended mitigation measures under existing plus project conditions. Chapter 4 presents traffic conditions under Cumulative conditions. Chapter 5 presents the analysis of other transportation related issues, including site access, parking, and neighborhood issues. Chapter 6 presents the conclusions of the traffic impact analysis.

2. Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project site is provided via Highway 1. This facility is described below.

Highway 1 is predominantly a north-south, four-lane highway. However, in the vicinity of the project site, Highway 1 extends in an east-west direction. Highway 1 extends north and south along the coast of the State of California. It links the City of Capitola and the Monterey Peninsula to the south and the Cities of Santa Cruz, Half Moon Bay, Pacifica, and San Francisco to the north. Access to and from the project site is provided via its interchanges at Porter Street/Bay Avenue and Park Avenue.

Local access to the site is provided by El Salto Drive, Escalona Drive, Monterey Avenue, Bay Avenue, and Park Avenue. These roadways are described below.

El Salto Drive is a two-lane east-west residential street that begins at its intersection with Central Avenue and extends eastward to the project site. El Salto Drive has permitted street parking and no sidewalks on either side of the roadway. There are no posted speed limits on El Salto Drive. El Salto Drive will provide direct access to the project site.

Escalona Drive is a two-lane east-west residential street that begins at its intersection with Monterey Avenue and extends eastward to the project site. Escalona Drive has permitted street parking and no sidewalks on either side of the roadway. There are no posted speed limits on Escalona Drive. Escalona Drive will provide direct access to the project site.

Monterey Avenue is primarily a two-lane north-south roadway located west of the project site with a 25 mph speed limit. Monterey Avenue begins in the south at its intersection with Esplanade, where northbound only travel is allowed to its intersection with Capitola Avenue in the north. Monterey Avenue continues north as a two-lane roadway to Kennedy Drive, which continues to Park Avenue. Monterey Avenue provides access to the project site via Escalona Drive.

Bay Avenue is a two to four-lane north-south roadway located northwest of the project site. Bay Avenue begins as a two-lane roadway at its intersection with Monterey Avenue and extends northward to Center Street, where it continues northward as a four-lane roadway to Highway 1 at which point it transitions to Porter Street. Bay Avenue provides access to the project site via Monterey Avenue.

Park Avenue is primarily a north-south two-lane roadway located north of the project site. Park Avenue begins at its intersection with Monterey Avenue and extends eastward and then northward to its intersection with Soquel Drive. Park Avenue provides access to the project site via Monterey Avenue.

Existing Bicycle and Pedestrian Facilities

Bicycle facilities are divided into three classes. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations.

The *City of Capitola Bicycle Transportation Plan,* from 2011, describes the existing bicycle network in the vicinity of the proposed site. Class II bike lanes are provided on Park Avenue, Bay Avenue, and along Monterey Avenue from Capitola Avenue to Washburn Avenue. In addition, Class III bike routes are provided on Monterey Avenue from Washburn Avenue north to Park Avenue and on Capitola Avenue from Beulah Drive to Highway 1. The existing bicycle facilities within the study area are shown on Figure 3.

Within the project vicinity, there are no sidewalks along El Salto Drive, Escalona Drive, and Park Avenue. However, there are sidewalks along both sides of Monterey Avenue and Bay Avenue. Crosswalks are present for crossing in all-directions at every major intersection in the vicinity of the project.

Existing Transit Service

Existing public transit service to the study area is provided by the Santa Cruz Metropolitan Transit District (SCMTD). There are a two bus stops located within a one-half-mile walking distance from the project site. The transit services are described below and shown on Figure 4.

Local Route 54 provides service between the Capitola Mall Transit Center and La Selva Beach. Route 54 operates one bus on weekdays that departs from the Capitola Transit Center at 5:35 pm. On weekends, Route 54 departs the Capitola Mall Transit Center for La Selva Beach at 8:00 am, 10:55 am, and 6:40 pm. After leaving La Selva Beach, Route 54 serves as an express bus back to Capitola Mall. In the project vicinity, Route 54 operates on Bay Avenue and Park Avenue.

Local Route 55 provides service between the Capitola Mall Transit Center and Rio Del Mar. Route 55 operates on 60-minute headways from 7:30 am to 5:30 pm on weekdays. In the project vicinity, Route 55 operates on Bay Avenue and Park Avenue.

Existing Intersection Lane Configurations

The existing lane configurations and control at the study intersections were obtained from field observations. The existing intersection lane configurations and control are shown on Figure 5.

Existing Traffic Volumes

Existing peak-hour traffic volumes were obtained from new peak-hour counts collected at each of the study intersections in August and September 2013. Traffic counts were collected in August to capture summer visitor traffic in the Village area, including when Junior Guard was in session. However, the August counts were completed while schools were on summer break. Traffic volume data were re-collected at a sampling of five intersections during the weekday peak hours and two roadway segments in September when schools were in session. The August and September weekday peak hour counts were then compared for the purpose of determining when the greatest amount of traffic volumes occurs. The comparison indicated that weekday peak hour traffic volumes while schools were back in session were greater than those collected during the summer. Therefore, the weekday peak hour counts collected while schools were in session in May (obtained from other recently completed traffic studies) and September 2013 were used for the reporting of weekday AM and PM existing conditions levels of service. The

Figure 3
Existing Bicycle Facilities

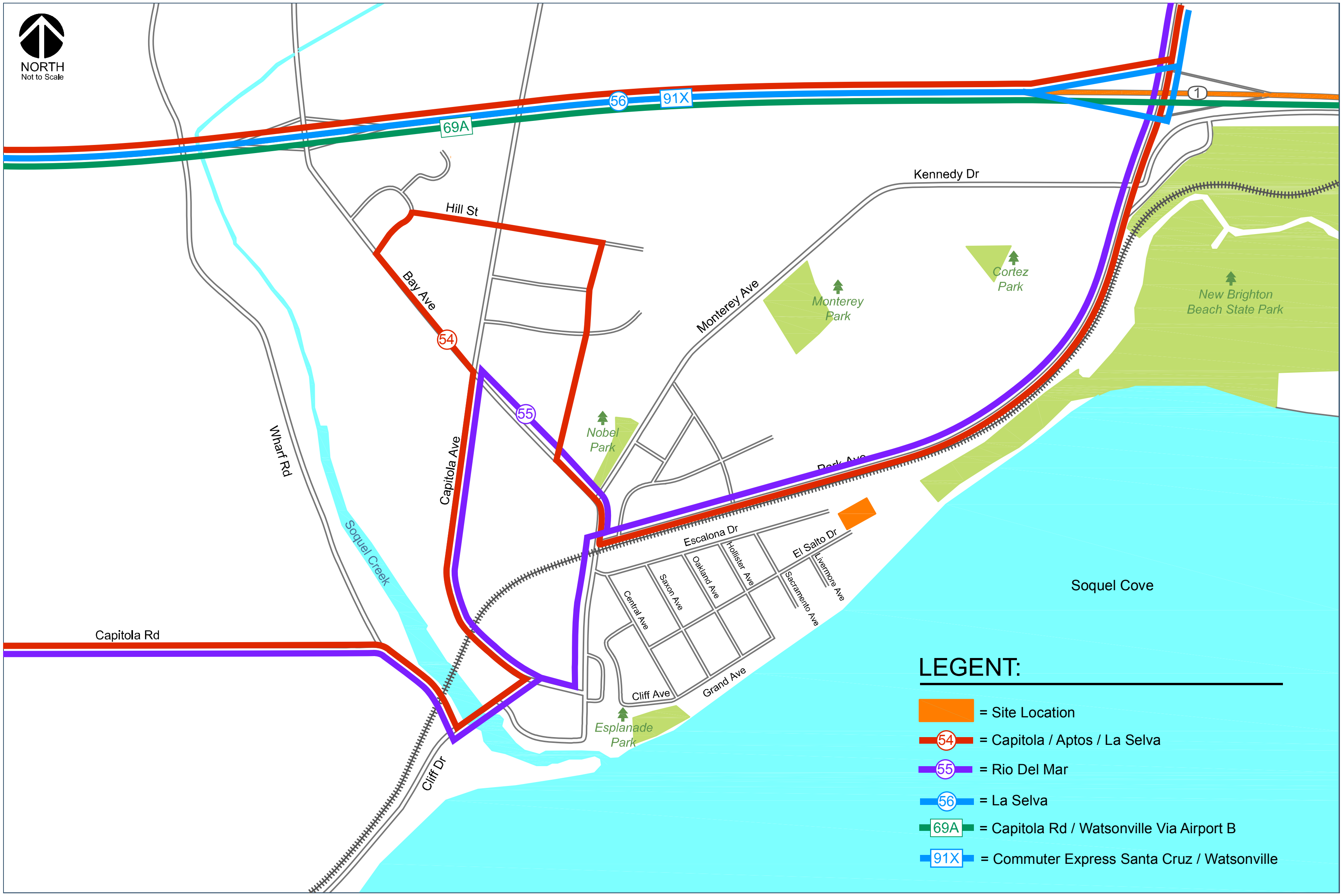

Figure 4
Existing Transit Services

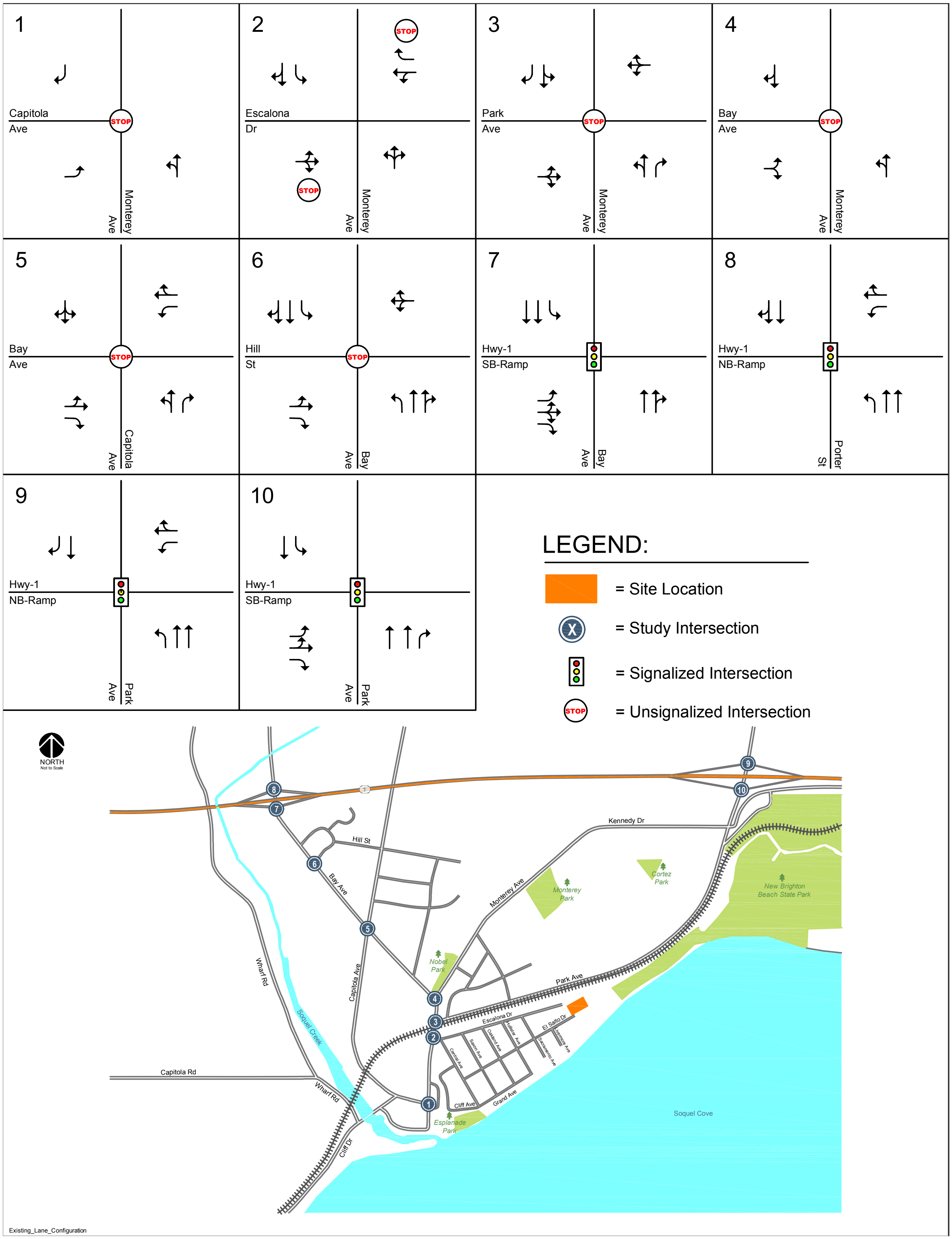

Figure 5
Existing Lane Configurations

Saturday peak hour counts collected in August were used for the analysis of Saturday peak hour analysis.

The existing peak-hour intersection volumes are shown on Figure 6. Intersection turning-movement counts conducted for this analysis are presented in Appendix A.

Existing Intersection Levels of Service

The results of the level of service and signal warrant analyses under existing conditions are summarized in Table 4. The results indicate that, measured against the City of Capitola and Caltrans level of service standards, all study intersections currently operate at acceptable levels of service during both the weekday AM and PM peak hours. The unsignalized study intersection of Bay Avenue and Hill Street currently operates at an unacceptable LOS D during the Saturday peak hour.

Traffic volumes at the following two intersections are currently sufficient during at least one peak hour to meet thresholds that warrant signalization:

Monterey Avenue and Park Avenue (Weekday AM & PM)
Bay Avenue and Hill Street (Weekday PM)

The remaining unsignalized study intersections currently have traffic conditions that fall below the thresholds that warrant signalization.

The intersection levels of service calculation sheets are included in Appendix C. The peak-hour signal warrant sheets are contained in Appendix D.

Existing Freeway Levels of Service

Traffic volumes for the studied freeway segments were obtained from 2012 data collected by the Traffic and Vehicle Data Systems Unit for Caltrans District 5. The collected data provides average annual daily and peak hour volumes along each freeway segment for both directions of travel. Peak hour splits for each segment were developed using directional peak-hour volume data collected by Caltrans. The directional peak hour volume provides a percentage of total peak hour traffic by direction. The freeway segment analysis indicates that each of the freeway segments analyzed currently operates at an unacceptable LOS D or worse, in the peak commute direction during the AM and PM peak hours. Saturday peak hour freeway segment analysis was not completed because volume data is not available for Saturday. Freeway segment analysis is presented in Table 5.

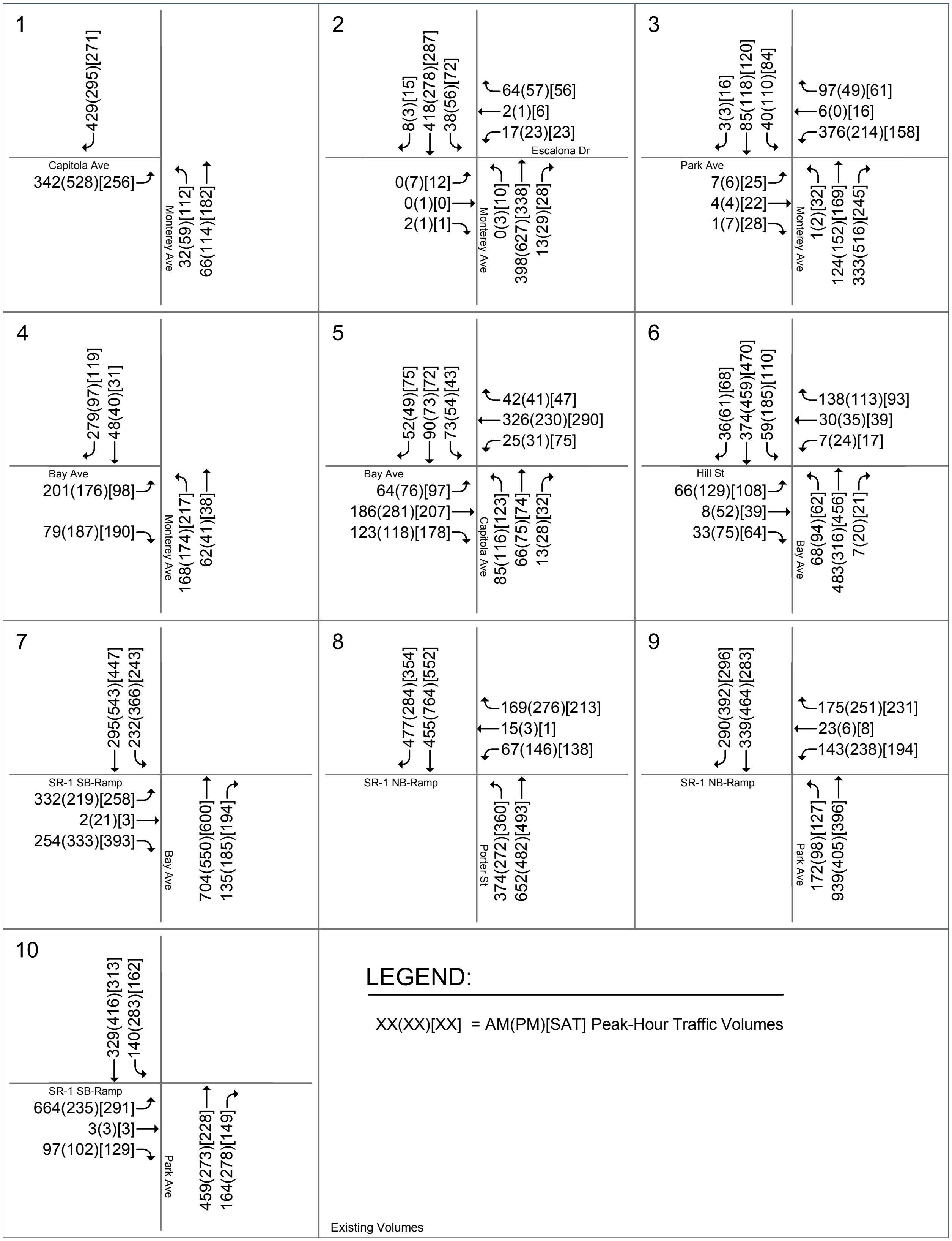

Figure 6
Existing Traffic Volumes

Table 4
Existing Intersection Levels of Service

Study Number	Intersection	LOS Standard	Existing Control	Peak Hour	Count Date	Warrant Met?	Delay	LOS
1	Monterey Avenue and Capitola Avenue	D	AWSC	AM	09/12/13	No	14.2	B
				PM	09/12/13	No	25.7	D
				SAT	08/10/13	No	12.0	B
2	Monterey Avenue and Escalona Drive	D	TWSC	AM	09/12/13	No	14.2	B
				PM	09/12/13	No	28.2	D
				SAT	08/10/13	No	21.2	C
3	Monterey Avenue and Park Avenue	C	AWSC	AM	09/12/13	**Yes**	20.9	C
				PM	09/12/13	**Yes**	19.9	C
				SAT	08/10/13	No	12.2	B
4	Monterey Avenue and Bay Avenue	C	AWSC	AM	09/12/13	No	12.0	B
				PM	08/08/13	No	11.4	B
				SAT	08/10/13	No	10.6	B
5	Capitola Avenue and Bay Avenue	C	AWSC	AM	09/12/13	No	20.0	C
				PM	09/12/13	No	20.0	C
				SAT	08/10/13	No	21.6	C
6	Bay Avenue and Hill Street	C	AWSC	AM	05/23/13	No	18.4	C
				PM	05/23/13	**Yes**	24.1	C
				SAT	08/10/13	No	**26.0**	**D**
7	Bay Avenue and Highway 1 SB Ramps	C	Signal	AM	05/23/13	--	20.8	C
				PM	05/23/13	--	21.5	C
				SAT	08/10/13	--	21.5	C
8	Porter Street and Highway 1 NB Ramps	C	Signal	AM	05/23/13	--	34.8	C
				PM	05/23/13	--	30.8	C
				SAT	08/10/13	--	23.6	C
9	Park Avenue and Highway 1 NB Ramps	C	Signal	AM	05/23/13	--	13.8	B
				PM	05/23/13	--	14.9	B
				SAT	08/10/13	--	13.3	B
10	Park Avenue and Highway 1 SB Ramps	C	Signal	AM	05/23/13	--	15.4	B
				PM	05/23/13	--	15.6	B
				SAT	08/10/13	--	12.8	B

Intersection control based on existing conditions.
- Signal = signalized Intersection
- AWSC = all-way stopped controlled intersection
- TWSC = two-way stopped controlled intersection

Bold indicates unacceptable LOS or signal warrant met.

Table 5
Existing Freeway Segment Levels of Service

Segment	LOS Standard	Direction	# Of Lanes	AM Peak-Hour Volume	AM Peak-Hour Density (pc/mi/ln)	AM Peak-Hour LOS	PM Peak-Hour Volume	PM Peak-Hour Density (pc/mi/ln)	PM Peak-Hour LOS
SR 1 between	C	WB	2	**3,589**	**31.2**	**D**	**3,317**	**27.8**	**D**
State Park Drive and Park Avenue	C	EB	2	2,108	16.5	B	**3,788**	**34.1**	**D**
SR 1 between	C	WB	2	**3,733**	**33.2**	**D**	**3,318**	**27.8**	**D**
Park Avenue and Bay Avenue	C	EB	2	2,565	20.3	C	**3,564**	**30.9**	**D**
SR 1 between	C	WB	2	**4,348**	**44.5**	**E**	**3,452**	**29.4**	**D**
Bay Avenue and 41st Avenue	C	EB	2	2,784	22.2	C	**3,565**	**30.9**	**D**

Notes:
Methodology based on Highway Capacity Manual, 2010.
Existing peak-hour volume data obtained from Caltrans Traffic Volumes (2012).
Bold indicates unacceptable LOS.

3.
Existing Plus Project Conditions

This chapter describes existing plus project traffic conditions, significant project impacts, and measures that are recommended to mitigate project impacts. Included are descriptions of the significance criteria that define an impact, estimates of project-generated traffic, identification of the impacts, and descriptions of the mitigation measures. Existing plus project conditions are represented by existing traffic conditions with the addition of traffic generated by the proposed project.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. The criteria for judging impacts on intersections are described below. Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined based on engineering judgment.

Definition of Significant Intersection Level of Service Impacts

Signalized Intersection Thresholds of Significance

Both the City of Capitola and Caltrans identify a level of service standard of LOS C for their respective facilities, with the exception of those City of Capitola intersections located within the Village Area. The City of Capitola level of service standard for intersections within the Village Area, which include the Monterey Avenue/Capitola Avenue and Monterey Avenue and Escalona Drive study intersections, is LOS D. Neither agency has specific criteria for determining project impacts. For the purpose of this traffic analysis, the project is said to create a significant adverse impact on traffic conditions at an intersection if for either peak hour:

- The level of service at the intersection degrades from an acceptable LOS C or better (LOS D or better within the Village Area) under existing conditions to an unacceptable LOS D or worse (LOS E or worse within the Village Area) under existing plus project conditions, or
- The level of service at the intersection is an unacceptable LOS D or worse (LOS E or worse within the Village Area) under existing conditions and the addition of project trips causes the average intersection delay to increase by three (3) or more seconds.

Unsignalized Intersection Thresholds of Significance

For unsignalized intersections in the City of Capitola and Caltrans, the project is said to create a significant adverse impact on traffic conditions at the intersection if for any peak hour:

- *All-way stop*: The average overall level of service at the intersection degrades from an acceptable LOS C or better (LOS D or better within the Village Area) under conditions without the project to an unacceptable LOS D or worse (LOS E or worse within the Village Area) under project conditions, or

- *All-way stop*: The average overall intersection level of service is already at an unacceptable LOS D or worse (LOS E or worse within the Village Area) without the project and the addition of project traffic causes the average overall delay to increase three (3) or more seconds, or
- *One- or two-way stop*: The delay on the worst approach at a one- or two-way stop-controlled intersection degrades from an acceptable LOS C or better (LOS D or better within the Village Area) under conditions without the project to an unacceptable LOS D or worse (LOS E or worse within the Village Area) under project conditions and the traffic volumes at the intersection under project conditions are high enough to satisfy the peak-hour volume traffic signal warrant, or
- *One- or two-way stop*: The delay on the worst approach at a one- or two-way stop-controlled intersection is already at an unacceptable LOS D or worse (LOS E or worse within the Village Area) without the project and the traffic volumes at the intersection under project conditions are high enough to satisfy the peak-hour volume traffic signal warrant, and the addition of project traffic causes the delay on the worst stop-controlled approach to increase beyond what it was without the project.

Freeway Segments Significant Intersection Impacts

The project is said to create a significant adverse impact on a freeway segment during the peak hours if:

- The addition of project traffic causes the study segment to degrade from an acceptable level of service (LOS C) under existing conditions to an unacceptable level of service (LOS D or worse) under project conditions,
- The project results in the addition of trips to a segment that is already operating at unacceptable levels.

Transportation Network under Existing Plus Project Conditions

It is assumed in this analysis that the roadway network and intersection configurations under existing plus project conditions would be the same as described under existing conditions.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the peak hours. As part of the project trip distribution step, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment step, the project trips are assigned to specific streets and intersections in the study area. These procedures are described further in the following sections.

Trip Generation

The magnitude of traffic produced by a new development is typically estimated by applying the size of the project to the applicable trip generation rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. However, the ITE manual does not provide data that would truly represent the type of hotel as proposed. Therefore, the trip generation of the proposed project was estimated utilizing trip generation rates developed based on driveway counts completed at the existing project site in August 2013. For comparison and validation purposes, the trip generation rates surveyed at the project site also were compared with those recommended by ITE as well as rates developed based on driveway counts at other comparable hotels in the Monterey Bay area. Two hotels in the Monterey Bay area that included rooms and small banquet facilities similar in size to those of the proposed project were selected for surveys. Driveway counts were completed in October 2013 at the following two locations:

Hotel Pacific
Number of guest room: 105
Banquet Room: Available
Location: 300 Pacific Street Monterey, CA 93940

Hotel Abrego
Number of guest room: 93
Banquet Room: Available
Location: 755 Abrego Street Monterey, California 93940

The comparison of trip generation estimates based on the surveyed rates with those estimated using rates recommended by ITE indicate that the rates established based on the surveys of the existing project site result in a greater number of estimated trips for the proposed project. Therefore, the project was evaluated using the rates developed from the surveys of the existing project site since they result in a more conservative analysis than the ITE rates or rates of comparable hotels. Additionally, the surveyed rates at the project site are also more reflective of the expected mode of travel of guests to the proposed hotel.

Based on the surveyed trip rates and credit for existing site uses (11 guest rooms), the proposed project was estimated to generate a net additional 240 weekday and 387 Saturday daily trips with 16 AM peak-hour trips (8 inbound and 8 outbound), 28 PM peak-hour trips (14 inbound and 14 outbound), and 33 Saturday peak-hour trips (14 inbound and 19 outbound). The project trip generation estimates with the comparison to ITE and surveyed rates are presented in Table 6.

Trip Distribution and Assignment

Peak hour project traffic was distributed to the transportation network based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The project trip distribution pattern is shown graphically on Figure 7. The peak-hour trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern discussed above. Figure 8 shows the assignment of project traffic on the local transportation network. A tabular summary of project traffic at each study intersection is contained in Appendix B.

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 9.

Existing Plus Project Intersection Analysis

The results of the intersection level of service and signal warrant analyses under existing plus project conditions are summarized in Table 7. The results indicate that, measured against the City of Capitola and Caltrans level of service standards, all study intersections are projected to operate at acceptable levels of service during both the weekday AM and PM peak hours under existing plus project conditions. The unsignalized study intersection of Bay Avenue and Hill Street currently operates and is projected to continue to operate at an unacceptable LOS D during the Saturday peak hour under existing plus project conditions. However, the results indicate that the addition of project traffic at the intersection would not increase the delay by 3 or more seconds. Therefore, the project would not cause any significant impacts under existing plus project conditions.

Traffic volumes at the following two intersections are currently and are projected to continue to be sufficient under existing plus project conditions during at least one peak hour to meet thresholds that warrant signalization:

Table 6
Project Trip Generation Estimates

			Weekday Daily		Saturday Daily		Weekday AM Peak-Hour						Weekday PM Peak-Hour						Saturday Midday Peak-Hour					
							Pk-Hr	Splits		Trips			Pk-Hr	Splits		Trips			Pk-Hr	Splits		Trips		
Land Use	Size		Rate	Trips	Rate	Trips	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Trip Generation Based on ITE Reccomended Rates[1]																								
Existing Rooms	11	rooms	8.17	90	8.19	90	0.53	59%	41%	4	2	6	0.60	51%	49%	4	3	7	0.72	56%	44%	5	3	8
Proposed Rooms	41	rooms	8.17	335	8.19	336	0.53	59%	41%	13	9	22	0.60	51%	49%	13	12	25	0.72	56%	44%	17	13	30
Net Additional				**245**		**246**				**9**	**7**	**16**				**9**	**9**	**18**				**12**	**10**	**22**
Other Compareable Hotel Trip Generation Surveys																								
Abrego Hotel[3]	93	rooms	--	--	--	--	**0.35**	45%	55%	15	18	33	**0.38**	51%	49%	18	17	35	**0.37**	59%	41%	20	14	34
Pacific Hotel[3]	105	rooms	--	--	--	--	**0.26**	59%	41%	16	11	27	**0.30**	56%	44%	18	14	32	**0.25**	58%	42%	15	11	26
Trip Generation Based on Project Site Driveway Counts[2] (Used for Analysis)																								
Existing Rooms	11	rooms	8.00	88	12.91	142	0.55	50%	50%	3	3	6	0.91	50%	50%	5	5	10	1.09	42%	58%	5	7	12
Proposed Rooms	41	rooms	8.00	328	12.91	529	0.55	50%	50%	11	11	22	0.91	50%	50%	19	19	38	1.09	42%	58%	19	26	45
Net Additional				**240**		**387**				**8**	**8**	**16**				**14**	**14**	**28**				**14**	**19**	**33**

[1]ITE Trip Generation, 9th Edition 2009 (Lane Use # 310)
[2]Based on driveway tube counts conducted in August 2013.
[3]Based on driveway counts conducted in October 2013.

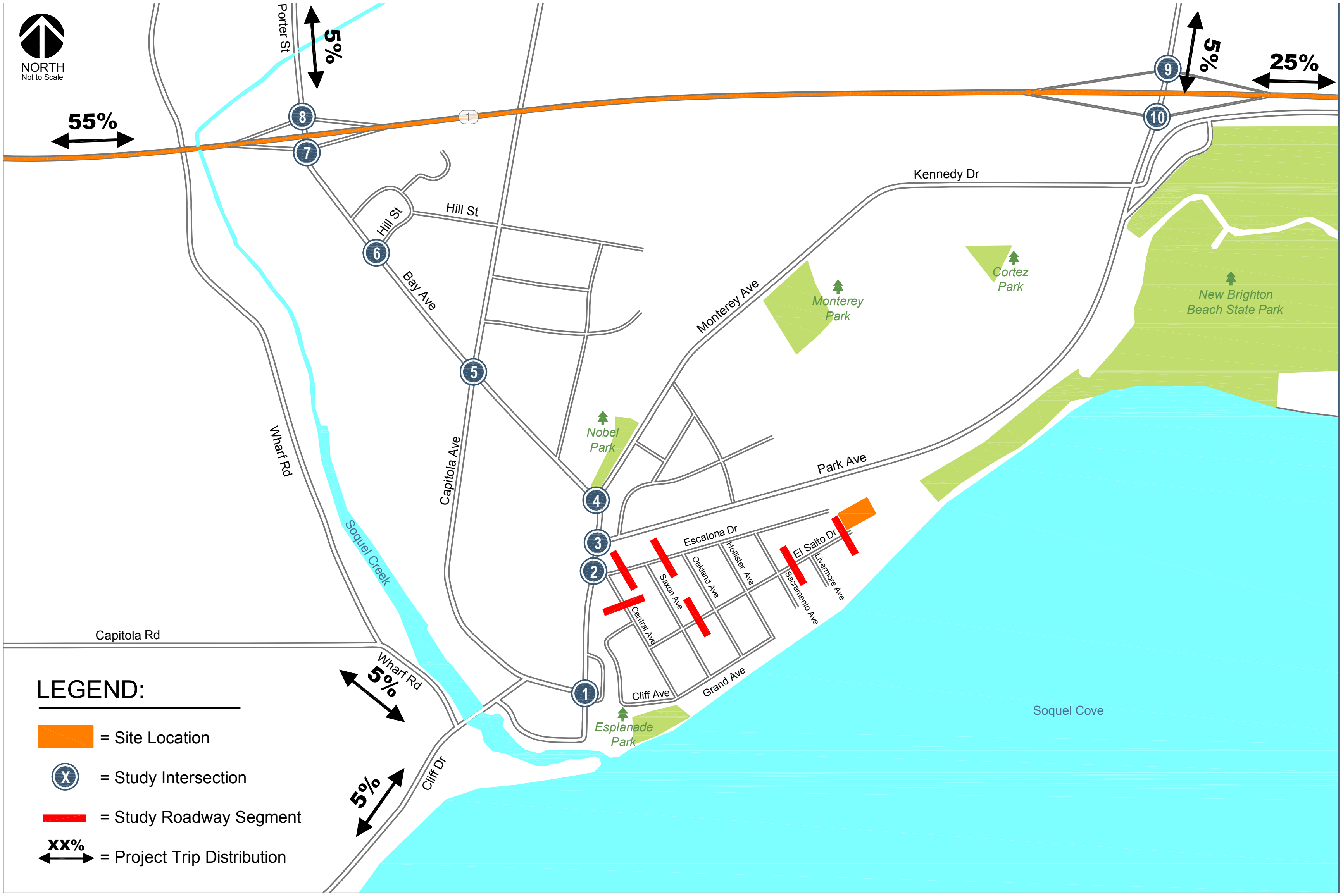

Figure 7
Project Trip Distribution

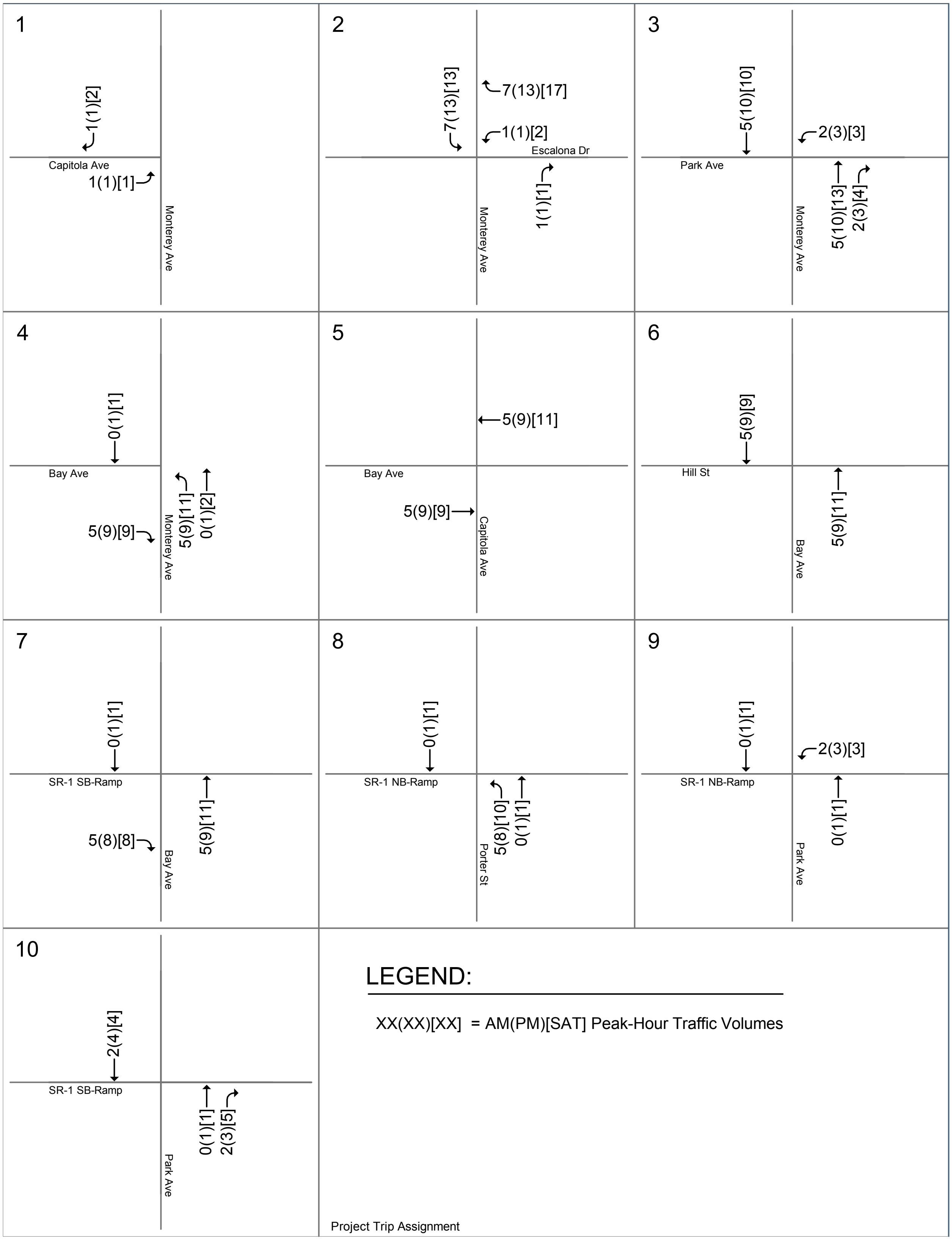

Figure 8
Project Trip Assignment

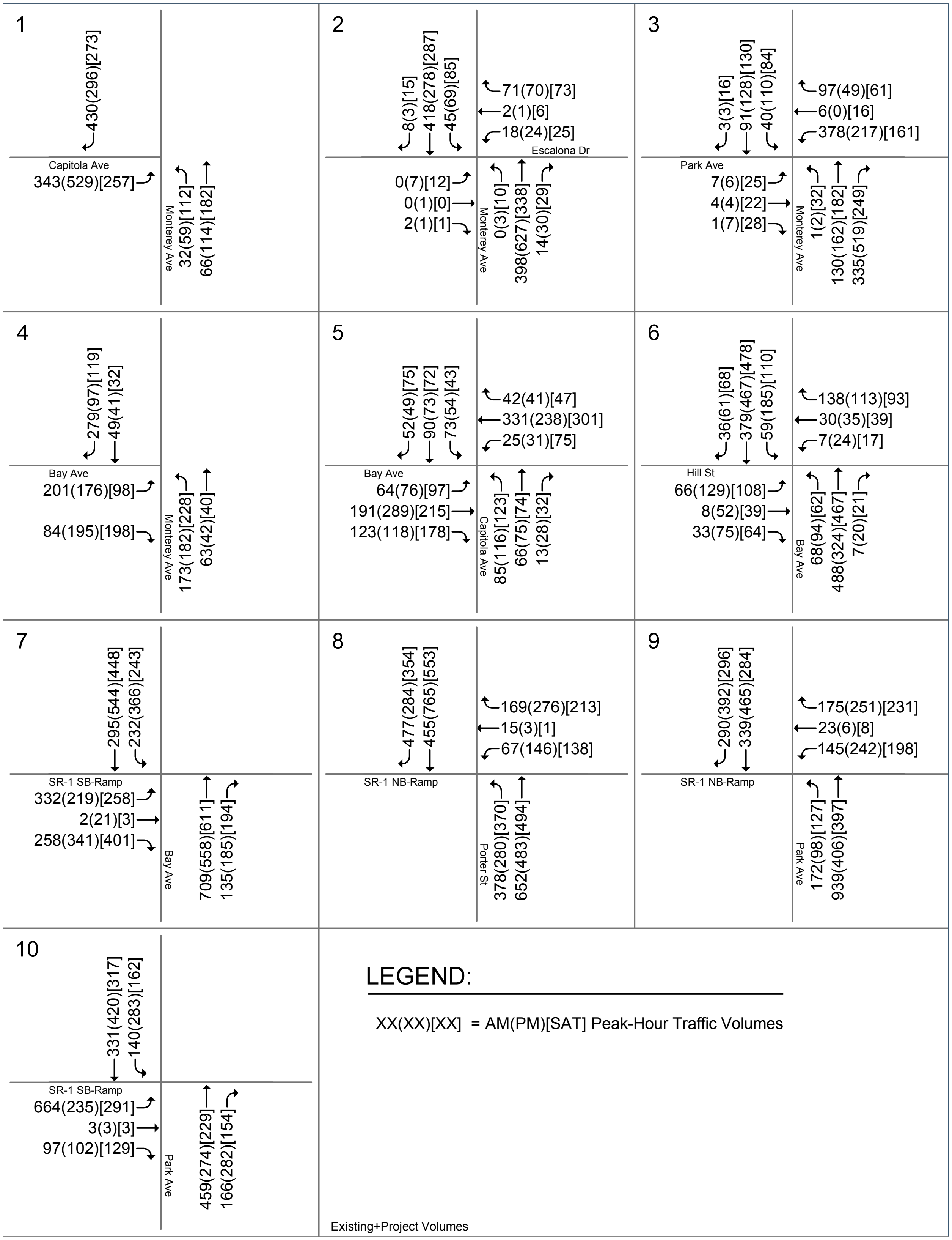

Figure 9
Existing Plus Project Traffic Volumes

Table 7
Existing Plus Project Intersection Levels of Service

Study Number	Intersection	LOS Standard	Existing Control	Peak Hour	Existing: Warrant Met?	Existing: Delay	Existing: LOS	Existing Plus Project: Warrant Met?	Existing Plus Project: Delay	Existing Plus Project: LOS	Existing Plus Project: Change in Delay
1	Monterey Avenue and Capitola Avenue	D	AWSC	AM	No	14.2	B	No	14.2	B	0.0
				PM	No	25.7	D	No	25.9	D	0.2
				SAT	No	12.0	B	No	12.0	B	0.0
2	Monterey Avenue and Escalona Drive	D	TWSC	AM	No	14.2	B	No	14.4	B	0.2
				PM	No	28.2	D	No	30.5	D	2.3
				SAT	No	21.2	C	No	22.8	C	1.6
3	Monterey Avenue and Park Avenue	C	AWSC	AM	**Yes**	20.9	C	**Yes**	21.4	C	0.5
				PM	**Yes**	19.9	C	**Yes**	20.6	C	0.7
				SAT	No	12.2	B	No	12.6	B	0.4
4	Monterey Avenue and Bay Avenue	C	AWSC	AM	No	12.0	B	No	12.2	B	0.2
				PM	No	11.4	B	No	11.7	B	0.3
				SAT	No	10.6	B	No	10.9	B	0.3
5	Capitola Avenue and Bay Avenue	C	AWSC	AM	No	20.0	C	No	20.5	C	0.5
				PM	No	20.0	C	No	20.9	C	0.9
				SAT	No	21.6	C	No	22.8	C	1.2
6	Bay Avenue and Hill Street	C	AWSC	AM	No	18.4	C	No	18.8	C	0.4
				PM	**Yes**	24.1	C	**Yes**	24.9	C	0.8
				SAT	No	**26.0**	**D**	No	**27.3**	**D**	**1.3**
7	Bay Avenue and Highway 1 SB Ramps	C	Signal	AM	--	20.8	C	--	20.9	C	0.1
				PM	--	21.5	C	--	21.9	C	0.4
				SAT	--	21.5	C	--	21.8	C	0.3
8	Porter Street and Highway 1 NB Ramps	C	Signal	AM	--	34.8	C	--	34.9	C	0.1
				PM	--	30.8	C	--	31.0	C	0.2
				SAT	--	23.6	C	--	23.9	C	0.3
9	Park Avenue and Highway 1 NB Ramps	C	Signal	AM	--	13.8	B	--	13.8	B	0.0
				PM	--	14.9	B	--	14.9	B	0.0
				SAT	--	13.3	B	--	13.3	B	0.0
10	Park Avenue and Highway 1 SB Ramps	C	Signal	AM	--	15.4	B	--	15.4	B	0.0
				PM	--	15.6	B	--	15.6	B	0.0
				SAT	--	12.8	B	--	12.8	B	0.0

Intersection control based on existing conditions.
- Signal = signalized Intersection
- AWSC = all-way stopped controlled intersection
- TWSC = two-way stopped controlled intersection

Bold indicates unacceptable LOS or signal warrant met.

Monterey Avenue and Park Avenue (Weekday AM & PM)
Bay Avenue and Hill Street (Weekday PM)

However, the results indicate that the addition of project traffic at both intersections would not significantly increase delay or cause the signal warrant to be met. Therefore, the project would not cause any significant impacts under existing plus project conditions. The remaining unsignalized study intersections currently have traffic conditions that fall below the thresholds that warrant signalization.

The intersection levels of service calculation sheets are included in Appendix C. The peak-hour signal warrant sheets are contained in Appendix D.

Existing Plus Project Freeway Segment Analysis

Traffic volumes for existing plus project conditions on each of the studied freeway segments were developed by adding to existing condition volumes the project trips. The project trips were assigned to the freeway system in the same manner as with intersections. The freeway segment analysis indicates that each of the freeway segments analyzed is projected to operate at an unacceptable LOS D or worse, in the peak commute direction during the AM and PM peak hours under existing plus project conditions. The project will result in the addition of peak hour trips to four of the six segments identified to operate at unacceptable levels. Based on Caltrans impact criteria, the addition of project traffic to the identified freeway segments would create a significant adverse traffic impact. Freeway segment analysis is presented in Table 8.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Table 8
Existing Plus Project Freeway Segment Levels of Service

				Existing Conditions						Project Trips		Existing Plus Project Conditions							
				AM Peak-Hour			PM Peak-Hour			AM	PM	AM Peak-Hour				PM Peak-Hour			
Segment	LOS Standard	Direction	# Of Lanes	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Volume	Volume	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density
SR 1 between	C	WB	2	**3,589**	**31.2**	**D**	**3,317**	**27.8**	**D**	2	4	**3,591**	**31.2**	**D**	**0.0**	**3,321**	**27.8**	**D**	**0.0**
State Park Drive and Park Avenue	C	EB	2	2,108	16.5	B	**3,788**	**34.1**	**D**	2	4	2,110	16.5	B	**0.0**	**3,792**	**34.1**	**D**	**0.0**
SR 1 between	C	WB	2	**3,733**	**33.2**	**D**	**3,318**	**27.8**	**D**	0	0	**3,733**	**33.2**	**D**	**0.0**	**3,318**	**27.8**	**D**	**0.0**
Park Avenue and Bay Avenue	C	EB	2	2,565	20.3	C	**3,564**	**30.9**	**D**	0	0	2,565	20.3	C	**0.0**	**3,564**	**30.9**	**D**	**0.0**
SR 1 between	C	WB	2	**4,348**	**44.5**	**E**	**3,452**	**29.4**	**D**	4	8	**4,352**	**44.6**	**E**	**0.1**	**3,460**	**29.5**	**D**	**0.1**
Bay Avenue and 41st Avenue	C	EB	2	2,784	22.2	C	**3,565**	**30.9**	**D**	4	8	2,788	22.3	C	**0.1**	**3,573**	**31.0**	**D**	**0.1**

Notes:
Methodology based on Highway Capacity Manual, 2010.
Existing peak-hour volume data obtained from Caltrans Traffic Volumes (2012).
Bold indicates unacceptable LOS.
Bold and boxed indicates significant project impact.

4. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. Cumulative development typically includes projects that are in the pipeline (pending projects) but are not yet approved. This traffic scenario is evaluated in order to fulfill California Environmental Quality Act (CEQA) requirements.

The roadway network under cumulative conditions was assumed to be the same as described under existing conditions. Traffic volumes under cumulative conditions were estimated by applying to the existing volumes an annual growth rate of 1.0 percent over 3 years, then adding the project trips. Growth factors are commonly used to estimate potential traffic growth resulting from future projects where there are no known pending projects (such is the case within the City of Capitola). A comparison of traffic counts collected in 2008 with those collected in 2013 indicate at most a 3% increase in traffic volumes over five years. The cumulative traffic volumes at the study intersections are shown graphically in Figure 10. The purpose of analyzing cumulative conditions is to assess the future traffic conditions that would occur at the time that the proposed development becomes occupied. For this analysis, the assumed occupancy date is 2016.

Project Contribution to Cumulative Impacts

Neither the City of Capitola nor Caltrans has specific criteria for determining the level of significance of cumulative impacts. For the purpose of this traffic analysis, the same impact criteria used to evaluate project impacts were applied to cumulative traffic conditions. The City of Capitola does not have specific criteria for determining a single project's contribution to a cumulative intersection impact. Therefore, for the purpose of this analysis a project's contribution to a cumulatively significant impact is deemed considerable if the proportion of project traffic represents 3 percent or more of the increase in total volume from existing traffic conditions to cumulative traffic conditions.

Cumulative Conditions Intersection Analysis

The results of the intersection level of service and signal warrant analyses under cumulative conditions are summarized in Table 9. The intersection levels of service calculation sheets are included in Appendix C. The peak-hour signal warrant sheets are contained in Appendix D.

The results indicate that the cumulative growth in traffic volumes will result in the degradation of levels of service at two of the study intersections from an acceptable LOS C to unacceptable LOS D during at least one of the peak hours under cumulative no project conditions.

Bay Avenue and Hill Street (Weekday PM & Saturday)
Porter Street and Highway 1 NB Ramps (Weekday AM)

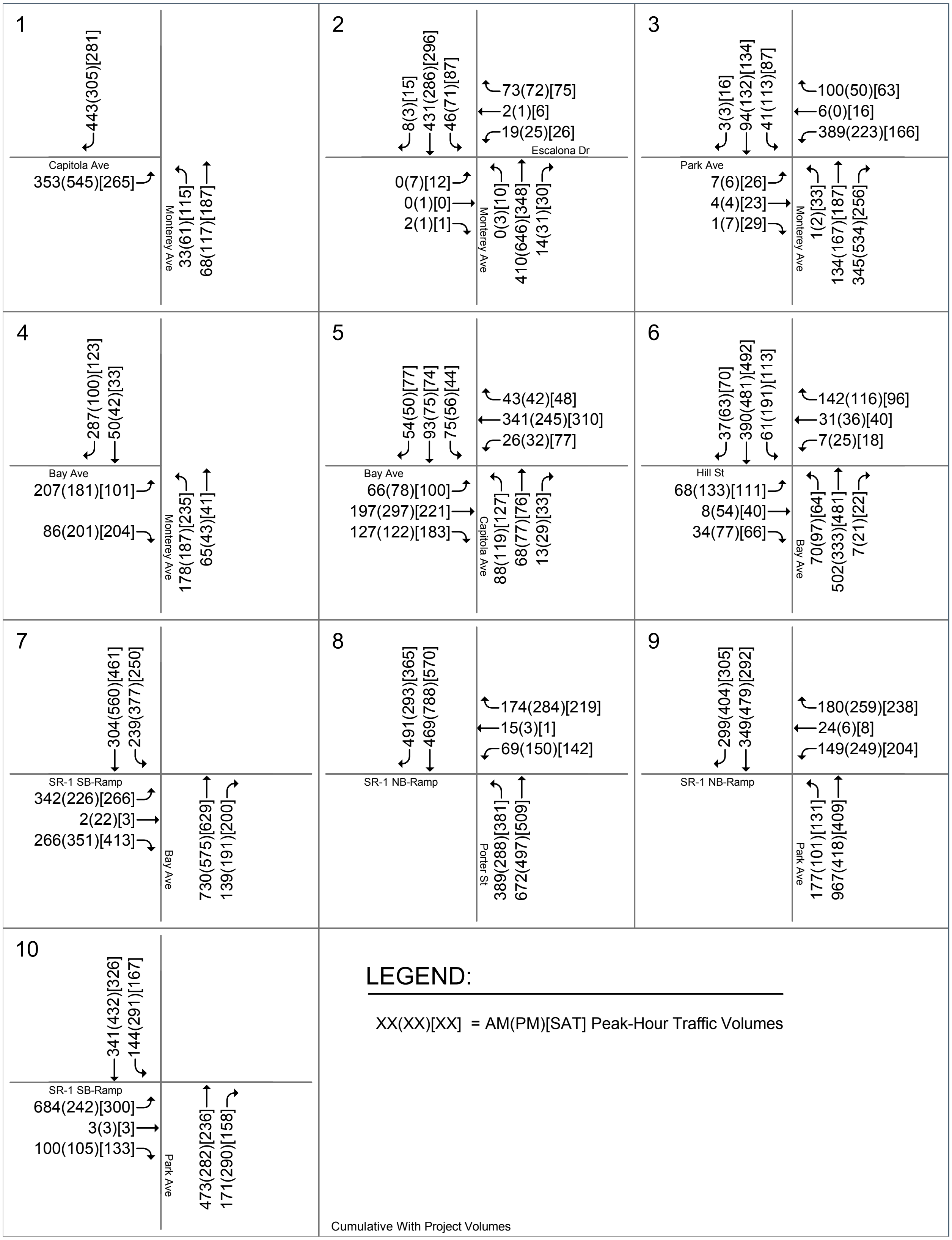

Figure 10
Cumulative Conditions Traffic Volumes

Table 9
Cumulative Conditions Intersection Levels of Service

Study Number	Intersection	LOS Standard	Existing Control	Peak Hour	Existing			Cumulative No Project				Cumulative with Project				
					Warrant Met?	Delay	LOS	Warrant Met?	Delay	LOS	Change in Delay	Warrant Met?	Delay	LOS	Change in Delay	% Vol. Incr. Due to Project
1	Monterey Avenue and Capitola Avenue	D	AWSC	AM	No	14.2	B	No	14.9	B	0.7	No	14.9	B	0.7	
				PM	No	25.7	D	No	29.1	D	3.4	No	29.3	D	3.6	
				SAT	No	12.0	B	No	12.4	B	0.4	No	12.5	B	0.5	
2	Monterey Avenue and Escalona Drive	D	TWSC	AM	No	14.2	B	No	14.6	B	0.4	No	14.8	B	0.6	
				PM	No	28.2	D	No	30.0	D	1.8	No	32.4	D	4.2	
				SAT	No	21.2	C	No	22.2	C	1.0	No	23.8	C	2.6	
3	Monterey Avenue and Park Avenue	C	AWSC	AM	**Yes**	20.9	C	**Yes**	22.9	C	2.0	**Yes**	23.5	C	2.6	
				PM	**Yes**	19.9	C	**Yes**	21.9	C	2.0	**Yes**	22.7	C	2.8	
				SAT	No	12.2	B	No	12.6	B	0.4	No	13.0	B	0.8	
4	Monterey Avenue and Bay Avenue	C	AWSC	AM	No	12.0	B	No	12.4	B	0.4	No	12.6	B	0.6	
				PM	No	11.4	B	No	11.7	B	0.3	No	12.0	B	0.6	
				SAT	No	10.6	B	No	10.9	B	0.3	No	11.1	B	0.5	
5	Capitola Avenue and Bay Avenue	C	AWSC	AM	No	20.0	C	No	21.8	C	1.8	No	22.4	C	2.4	
				PM	No	20.0	C	No	21.6	C	1.6	No	22.7	C	2.7	
				SAT	No	21.6	C	**Yes**	23.5	C	1.9	**Yes**	25.0	C	3.4	
6	Bay Avenue and Hill Street	C	AWSC	AM	No	18.4	C	No	19.6	C	1.2	No	20.1	C	1.7	
				PM	**Yes**	24.1	C	**Yes**	**26.5**	**D**	**2.4**	**Yes**	**27.6**	**D**	**3.5**	**25%**
				SAT	No	**26.0**	**D**	**Yes**	**29.0**	**D**	**3.0**	**Yes**	**30.6**	**D**	**4.6**	**29%**
7	Bay Avenue and Highway 1 SB Ramps	C	Signal	AM	--	20.8	C	--	21.3	C	0.5	--	21.4	C	0.6	
				PM	--	21.5	C	--	22.1	C	0.6	--	22.5	C	1.0	
				SAT	--	21.5	C	--	22.0	C	0.5	--	22.3	C	0.8	
8	Porter Street and Highway 1 NB Ramps	C	Signal	AM	--	34.8	C	--	**36.3**	**D**	**1.5**	--	**36.4**	**D**	**1.6**	**6%**
				PM	--	30.8	C	--	32.6	C	1.8	--	32.9	C	2.1	
				SAT	--	23.6	C	--	24.6	C	1.0	--	24.9	C	1.3	
9	Park Avenue and Highway 1 NB Ramps	C	Signal	AM	--	13.8	B	--	14.1	B	0.3	--	14.2	B	0.4	
				PM	--	14.9	B	--	15.3	B	0.4	--	15.4	B	0.5	
				SAT	--	13.3	B	--	13.6	B	0.3	--	13.6	B	0.3	
10	Park Avenue and Highway 1 SB Ramps	C	Signal	AM	--	15.4	B	--	15.7	B	0.3	--	15.7	B	0.3	
				PM	--	15.6	B	--	15.8	B	0.2	--	15.8	B	0.2	
				SAT	--	12.8	B	--	12.9	B	0.1	--	12.9	B	0.1	

Intersection control based on existing conditions.
- Signal = signalized Intersection
- AWSC = all-way stopped controlled intersection
- TWSC = two-way stopped controlled intersection

Bold indicates unacceptable LOS or signal warrant met.
Bold and boxed indicates cumulative impact.

The proposed project would account for more than 3% of total projected traffic volume growth at each of the intersections. Therefore, the proposed project would have a cumulative level or service impact at these locations.

The remaining study intersections would continue to operate at acceptable levels of service under cumulative no project and with project conditions.

Traffic volumes at the following three intersections are projected to be sufficient under cumulative no project and with project conditions during at least one peak hour to meet thresholds that warrant signalization:

Monterey Avenue and Park Avenue (Weekday AM & PM)
Capitola Avenue and Bay Avenue (Saturday)
Bay Avenue and Hill Street (Weekday PM & Saturday)

However, the Monterey Avenue and Park Avenue and Capitola Avenue and Bay Avenue intersections are projected to operate at acceptable levels of service. Therefore, the intersections would not need to be signalized under cumulative conditions. The peak-hour signal warrant would not be satisfied at any of the remaining unsignalized study intersections under cumulative conditions.

Recommended Mitigation Measures under Cumulative Conditions

Described below are the cumulatively significant intersection impacts to which the project would be a cumulatively considerable contributor and possible intersection improvements that can be implemented at each of the identified impacted intersections to mitigate impacts due to cumulative growth.

(6) Bay Avenue and Hill Street

Impact: This intersection is projected to operate at an acceptable level of service (LOS C) during the PM peak hour under existing conditions. Cumulative traffic would cause the intersection’s level of service to degrade to LOS D during the PM peak hour and the intersection would have traffic volumes that meet peak-hour signal warrants. This constitutes a significant cumulative impact to the intersection based on the established impact criteria.

Mitigation: The necessary improvements to mitigate cumulative impacts at this intersection could consist of signalization of the intersection or reconstruction of the intersection into a traffic circle. The appropriate improvement will be determined by the City. The applicant shall be responsible for paying a fair-share of the improvement costs, to be determined by the City, or make a contribution to the City’s Transportation Impact Fee Program, if adopted prior to project construction.

(8) Porter Street and Highway 1 NB Ramps

Impact: This intersection is projected to operate at an acceptable level of service (LOS C) during the AM peak hour under existing conditions. Cumulative traffic would cause the intersection’s level of service to degrade to LOS D during the AM peak hour. This constitutes a significant cumulative impact to the intersection based on the established impact criteria.

Mitigation: Improvements to the Porter Street/Bay Avenue interchange as part of the Highway 1 HOV Lane widening project have been identified and are currently being studied. The project will modify the existing interchanges at 41st Avenue and Porter Street/Bay Avenue into a single interchange to improve safety and traffic operations. Environmental evaluation of the project is underway. However, no funding has been identified for the completion of the project.

Cumulative Conditions Freeway Segment Analysis

Traffic volumes for cumulative conditions on each of the studied freeway segments were developed by adding to existing condition volumes the projected growth in volume and project trips. The project trips were assigned to the freeway system in the same manner as with intersections. The freeway segment analysis indicates that each of the freeway segments analyzed is currently and projected to continue to operate at an unacceptable LOS D or worse, in the peak commute direction during the AM and PM peak hours under cumulative no project conditions. The addition of cumulative trips collectively would create a significant adverse traffic impact on each of the segments identified to operate at unacceptable levels. Freeway segment analysis is presented in Table 10.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Table 10
Cumulative Conditions Freeway Segment Levels of Service

		Existing Conditions						Cumulative No Project								Project Trips		Cumulative with Project Conditions							
		AM Peak-Hour			PM Peak-Hour			AM Peak-Hour				PM Peak-Hour				AM	PM	AM Peak-Hour				PM Peak-Hour			
Segment	Direction	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Volume	Volume	Density (pc/mi/ln)	LOS	Change in Density	Volume	Density (pc/mi/ln)	LOS	Change in Density
SR 1 between	WB	**3,589**	**31.2**	**D**	**3,317**	**27.8**	**D**	**3,697**	**32.7**	**D**	**1.5**	**3,417**	**29.0**	**D**	**1.2**	2	4	**3,699**	**32.7**	**D**	**1.5**	**3,421**	**29.0**	**D**	**1.2**
State Park Drive and Park Avenue	EB	2,108	16.5	B	**3,788**	**34.1**	**D**	2,171	17.0	B	0.5	**3,902**	**35.9**	**E**	**1.8**	2	4	2,173	17.0	B	0.5	**3,906**	**35.9**	**E**	**1.8**
SR 1 between	WB	**3,733**	**33.2**	**D**	**3,318**	**27.8**	**D**	**3,845**	**35.0**	**D**	**1.8**	**3,418**	**29.0**	**D**	**1.2**	0	0	**3,845**	**35.0**	**D**	**1.8**	**3,418**	**29.0**	**D**	**1.2**
Park Avenue and Bay Avenue	EB	2,565	20.3	C	**3,564**	**30.9**	**D**	2,642	20.9	C	0.6	**3,671**	**32.3**	**D**	**1.4**	0	0	2,642	20.9	C	0.6	**3,671**	**32.3**	**D**	**1.4**
SR 1 between	WB	**4,348**	**44.5**	**E**	**3,452**	**29.4**	**D**	**4,478**	**47.6**	**F**	**3.1**	**3,556**	**30.8**	**D**	**1.4**	4	8	**4,482**	**47.7**	**F**	**3.2**	**3,564**	**30.9**	**D**	**1.5**
Bay Avenue and 41st Avenue	EB	2,784	22.2	C	**3,565**	**30.9**	**D**	2,868	23.0	C	0.8	**3,672**	**32.4**	**D**	**1.5**	4	8	2,872	23.1	C	0.9	**3,680**	**32.5**	**D**	**1.6**

Notes:
Methodology based on Highway Capacity Manual, 2010.
Existing peak-hour volume data obtained from Caltrans Traffic Volumes (2012).
Bold indicates unacceptable LOS.
Bold and boxed indicates significant cumulative impact.

5.
Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project site, including:

- Vehicular site access;
- Potential impacts to bike, pedestrian and transit facilities;
- Parking
- Neighborhood issues

Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Site Access

A review of the project site plan was performed to determine if adequate site access is provided and to identify any access or circulation issues that should be improved. The proposed project site will be accessed via El Salto Drive and Escalona Drive (see Figure 2).

El Salto Drive

Vehicle access to the project site is currently provided via El Salto Drive. There are no proposed changes to the location of the existing access from El Salto Drive. El Salto Drive will provide access to the main building and reception area and upper level of the below-grade parking garage. The driveway will serve 7 inbound trips and 7 outbound trips during the AM peak hour, 11 inbound trips and 11 outbound trips during the PM peak hour, and 11 inbound trips and 16 outbound trips during the Saturday peak hour.

Escalona Drive

The Escalona Drive entrance will also will be located in its exiting location. Access to the lower level of the below-grade parking garage will be provided along Escalona Drive. The driveway will serve 4 inbound trips and 4 outbound trips during the AM peak hour, 8 inbound trips and 8 outbound trips during the PM peak hour, and 8 inbound trips and 10 outbound trips during the Saturday peak hour.

Alternative Park Avenue Access

In response to concerns of residents within the Depot Hill neighborhood regarding the increase in traffic on neighborhood streets due to the proposed project, City staff requested the evaluation of an alternative project access point directly to Park Avenue. Access to Park Avenue would require the construction of a new access road between the project site and Park Avenue. However, the feasibility of an access point to Park Avenue is uncertain and the project is not proposing nor advocating for access directly to Park Avenue. As such, plans identifying the location and alignment of the access road between the project site and Park Avenue have not been prepared. The evaluation makes no determination of the feasibility of the alignment or the crossing of the existing rail line by the access road. The evaluation also assumes that the connection to Park Avenue would be provided west of the existing Park Avenue Apartments entrance.

This evaluation of the alternative Park Avenue access point assumes that the connection to Park Avenue would be the only access point to the project site and that its exiting access point at El Salto Drive would be closed. As such, the alternative access point to Park Avenue will eliminate existing hotel traffic as well as traffic associated with the proposed project on streets within the Depot Hill neighborhood. The distribution of project traffic was revised to reflect the alternative Park Avenue access and elimination of the El Salto Drive project site access. The change in project traffic distribution results in minor changes at the following three intersections:

Monterey Avenue and Escalona Drive
Monterey Avenue and Park Avenue
Monterey Avenue and Bay Avenue

However, the alternative Park Avenue access will have no significant effect on the distribution of traffic on other roadways and the remainder of the study intersections. Project trips at each of the effected intersections and Park Avenue access point are presented in Figure11. An evaluation of the potential Park Avenue access point was completed and includes an evaluation of intersection level of service, signal warrants, and sight distance at the access point. Results of the analysis are described below and summarized in Table 11.

Level of Service and Signal Warrant Analysis

The results, as shown in Table 11, indicate that the Park Avenue access point would have minimal effect on each of the intersections evaluated. The Park Avenue access point would operate at LOS C conditions during the AM and PM peak hours and LOS B during the Saturday peak hour under existing plus project and cumulative plus project conditions. Peak hour signal warrant analysis indicates that the Park Avenue access point is not projected to have traffic volumes that meet the thresholds that warrant signalization.

Site Distance

The process for determining the adequacy of available sight distance at the Park Avenue access point is as follows:

- The minimum stopping sight distance associated with the posted speed limit, using the American Association of State Highway and Transportation Officials (AASHTO) *Geometric Design of Highways and Streets*, Exhibit 3-1 is calculated
- The available sight distance for each driveway is measured out in the field
- The available sight distance is compared to the minimum stopping sight distance to determine if sufficient sight distance is available.

Park Avenue is a two-lane roadway with striped shoulders and a posted speed limit of 25 miles per hour (mph). A minimum of 155 feet of sight distance is required for a roadway with travel speeds of 25 mph, based on the AASHTO Guidelines. However, travel speeds along Park Avenue near the potential access point are closer to 30-35 mph, which requires a minimum sight distance of 200-250 feet. Based on field observations and the approximate location of a potential connection to Park Avenue, sight distance along Park Avenue would be no greater than 50 feet to the west (towards Washburn Avenue) and more than 300 feet to the east (towards Grove Lane). Existing trees along the south side of Park Avenue and the elevation change of Park Avenue restrict site distance to the west.

It is likely that the speeds and limited sight distance along Park Avenue, will result in unsafe conditions for vehicles entering and exiting the potential Park Avenue access point. Therefore, a full access point along Park Avenue is not recommended.

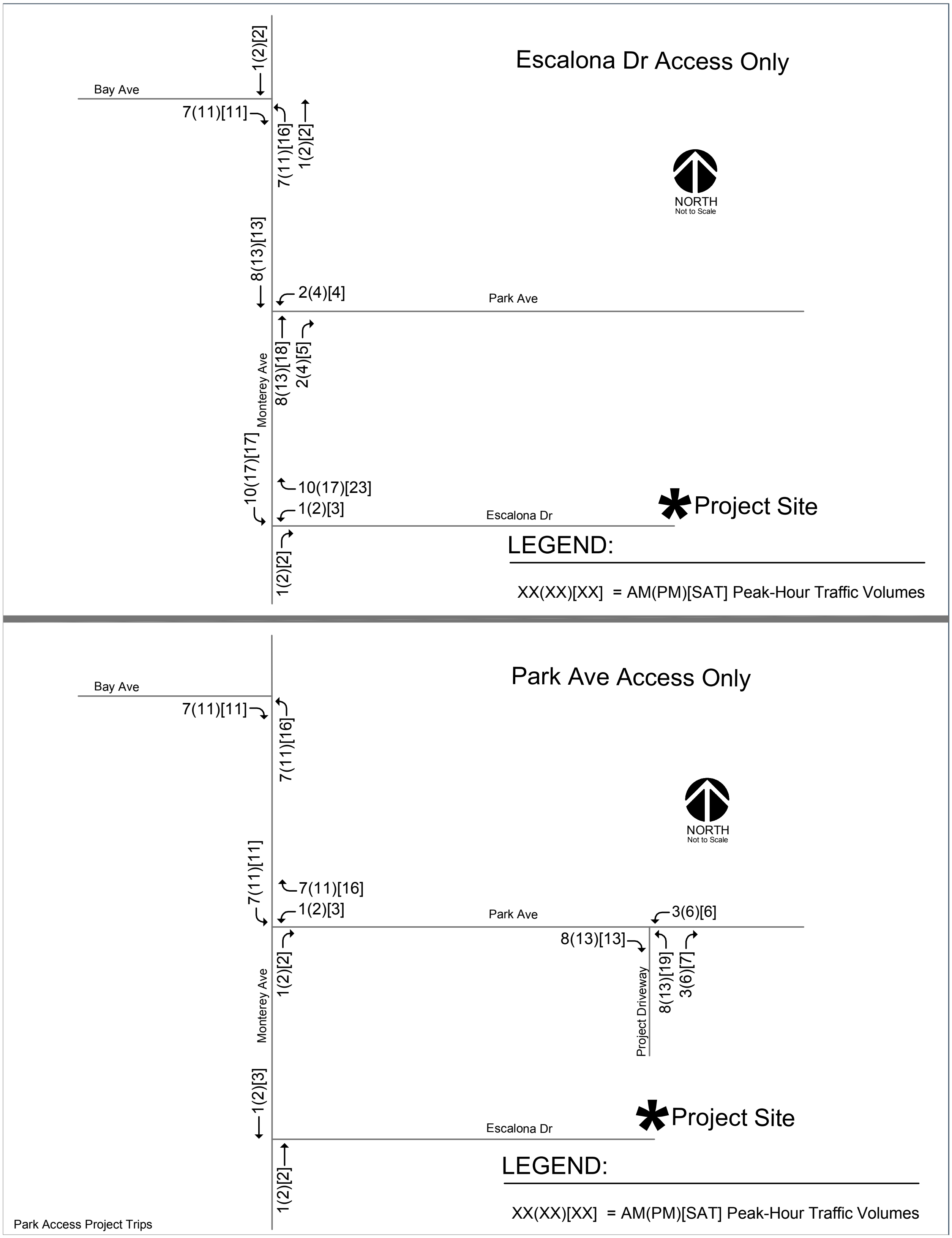

Figure 11
Alternative Park Avenue Access Traffic Volumes

Table 11
Alternative Park Avenue Access Levels of Service

Study Number	Intersection	Peak Hour	Park Ave Access Only Existing Plus Project Warrant Met?	Delay	LOS	Change in Delay	Park Ave Access Only Cumulative with Project Warrant Met?	Delay	LOS	Change in Delay
2	Monterey Avenue and Escalona Drive	AM	No	14.3	B	0.1	No	14.7	B	0.5
		PM	No	27.5	D	-0.7	No	29.1	D	0.9
		SAT	No	20.9	C	-0.3	No	21.7	C	0.5
3	Monterey Avenue and Park Avenue	AM	**Yes**	21.7	C	0.8	**Yes**	23.9	C	3.0
		PM	**Yes**	20.9	C	1.0	**Yes**	23.0	C	3.1
		SAT	No	12.6	B	0.4	No	13.0	B	0.8
4	Monterey Avenue and Bay Avenue	AM	No	12.2	B	0.2	No	12.6	B	0.6
		PM	No	11.6	B	0.2	No	12.0	B	0.6
		SAT	No	10.8	B	0.2	No	11.1	B	0.5
11	Project Driveway and Park Avenue	AM	No	15.9	C	--	No	16.3	C	--
		PM	No	17.4	C	--	No	18.0	C	--
		SAT	No	13.0	B	--	No	13.2	B	--

Intersection control based on existing conditions.
- AWSC = all-way stopped controlled intersection
- OWSC = One-way stopped controlled intersection
- TWSC = two-way stopped controlled intersection

It may be possible to provide limited access along Park Avenue by restricting turn movements to right-turns only in and out of the access point. The turn restrictions would reduce the amount of conflicting traffic at the intersection. However, limited access would require removal of existing trees along the south side of Park Avenue and implementation of enhanced warning signage and lighting near the access point.

The level of service calculations and peak-hour signal warrant sheets for each of the intersections evaluated are contained in Appendix E.

Site Circulation

The onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. The proposed site layout will allow for improved circulation through the project site. An on-site roadway connection between El Salto Drive and Escalona Drive will provide for internal circulation within the project site itself. Corner radii and street widths within the site appear to be sufficient to allow for the circulation of large design vehicles such as garbage trucks and fire trucks. With the proposed internal roadway layout and adhering to City design standards and guidelines, emergency vehicle access and circulation within the project site should be adequate.

Overall, the site plan exhibits adequate site access and on-site circulation for motor vehicles. The City ultimately will determine the adequacy of the proposed driveways and internal circulation design.

Transit, Pedestrian and Bicycle Analysis

Bicycle and Pedestrian Circulation

It is reasonable to assume that bicycle trips will comprise no more than 5 percent of the travel mode share to the site during the peak commute periods. This would equate to approximately 1 to 2 new bicycle trips during each of the peak hours. The project is located within approximately 0.5 miles of existing bike lanes that are provided along Park Avenue and Monterey Avenue/Bay Avenue. The volume of additional bicycle trips generated by the project would not exceed the bicycle-carrying capacity of streets surrounding the site, and the increase in bicycle trips would not require new off-site bicycle facilities. The project is proposing to provide 27 bicycle parking spaces on-site and a separated bicycle entrance into the below-grade parking area.

It is reasonable to assume that pedestrian trips will comprise no more than 2 percent of the travel mode share to the site during the peak commute periods. This would equate to no more than one new pedestrian trip during the peak hours. The volume of additional pedestrian trips generated by the project would not necessitate improvements to the surrounding pedestrian facilities. However, the project is proposing on-site improvements to facilitate better public/neighborhood access to the project site and enhance pedestrian circulation within the project site with the addition of new pathways that will provide access to the back of the project site and scenic views.

It should be noted that streets within the surrounding Depot Hill Neighborhood do not have sidewalks and the streets are narrow. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Transit Service

Assuming three percent transit mode share, the project would create up to one new transit rider during the peak hours. These new riders easily could be accommodated by the available capacity of the two local bus routes, which have stops located within a one-half-mile walking distance of the site. Thus, no improvements to the existing transit facilities would be needed in conjunction with the proposed project.

Parking

Based on the City of Capitola's parking code requirements for hotels (Municipal Code 17.51.130) the development should provide one space per guest room. The project would require 41 parking spaces and proposes to provide a total of 60 parking spaces on site (56 parking spaces within a two-level below-grade parking area and an additional 4 surface spaces). Therefore, the proposed parking will exceed the City of Capitola parking requirements. In addition, the project also is proposing to provide a total of 27 on-site bicycle parking facilities.

In addition, parking on site will be managed by the hotel with the use of self-parking and valet-parking. During high demand periods, when the hotel is at full occupancy and/or during events, valet-parking will be used to implement tandem parking on-site. During periods when events are held, it is estimated that between 18 to 24 spaces will be available for event guests. Hotel staff will monitor parking demand to ensure that all parking occurs on-site and remind hotel guests that parking is not allowed within the surrounding neighborhood. Neighborhood parking prohibitions currently are managed and enforced by hotel personnel by a) notification and instructions for event participants; b) monitoring of arrivals and intervention if any guests start to park in the neighborhood; and 3) responding to any complaints/concerns regarding parking. If additional capacity were needed, shuttle services would be provided for off-site remote parking.

Neighborhood Traffic Issues

With the project site located within a residential neighborhood (Depot Hill), residents have expressed concern that the additional traffic generated by the project may significantly increase traffic volumes on streets within the neighborhood that provide access to the project site and worsen perceived existing traffic issues within the neighborhood including speeding along Escalona Drive and Central Avenue and

Figure 12
Depot Hill Neighborhood and Project Site Location

unsafe pedestrian/bicycle travel throughout the neighborhood. The Depot Hill neighborhood is situated south of Park Avenue and east of Monterey Avenue within the Village area of Capitola. Figure 12 shows an aerial photograph of the Depot Hill neighborhood.

An evaluation of indirect traffic related impacts to residential streets within the Depot Hill neighborhood was completed. However, unlike the intersection level of service analysis methodology, which has established impact thresholds, the analyses contained in this section are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community. Several studies have been made regarding the indirect impacts of traffic on the residential neighborhoods. The variables affecting these impacts include traffic volumes, type, or makeup, of traffic (i.e. passenger cars, trucks, motorcycles, emergency vehicles, etc.), traffic speed, perception of through traffic as a percentage of total traffic, adequacy of street alignment (i.e., horizontal and vertical curvature), accident experience, on-street parking, residential dwelling setbacks from the street, pedestrian traffic, and street pavement conditions (which would add to traffic noise as the pavement deteriorates). Other factors that may be a contributor to neighborhood nuisance levels include socio-economic status of the neighborhood, and expectations of the residents regarding traffic volumes; however, these are beyond the purview of CEQA and are provided here for informational purposes only.

Existing Neighborhood Roadway Characteristics

Ingress and egress from the Depot Hill neighborhood is provided exclusively via the Escalona Drive intersection with Monterey Avenue. The roadways within the neighborhood only serve the residents and existing hotel use and provide no secondary outlet to the surrounding roadway system. Therefore, there is no cut-through or commercial traffic present within the neighborhood.

The roadway system in Depot Hill consists of relatively long and narrow streets built in a grid system with housing on both sides. Streets within the Depot Hill neighborhood are narrow and do not have sidewalks. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. There are no posted speed limits on the streets within the neighborhood. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Estimated Project Traffic

Escalona Drive and El Salto Drive serve as the primary east/west roadways through the Depot Hill neighborhood and provide direct access to the project site. Access to the project site is currently provided only via El Salto Drive. The proposed project will maintain the existing access from El Salto Drive along with a new access point from Escalona Drive. As such, it can be expected that both Escalona Drive and El Salto Drive will see an increase in traffic due to the project. In addition, the net additional project traffic that is projected to be added to El Salto Drive accounts for a shift in a portion of existing site traffic to Escalona Drive. Therefore, traffic conditions along three streets in the Depot Hill neighborhood were evaluated: (1) El Salto Drive, (2) Escalona Drive, (3) and Central Avenue. Central Avenue runs north-south between Escalona Drive and the cliffs. The other two streets run east-west between Central Avenue and the project site. With the exception of the hotel uses on the project site, the streets only serve residential land uses.

The effects of project traffic on the streets was evaluated based on field observations, the collection of traffic volume data collected in August and September 2013, and projections of the additional project generated traffic. Table 12 and Figures 13 through 15 present a summary of existing and projected traffic volumes along each of the studied streets within the Depot Hill neighborhood.

General guidelines regarding threshold volumes pertaining to residential streets have been recommended within several studies and reference material including the Highway Capacity Manual (HCM). There is variation in these accepted threshold volumes, but in general, it is recommended that residential streets carry no more than 2,000 to 4,000 ADT (Average Daily Traffic). The HCM recommended maximum ADT

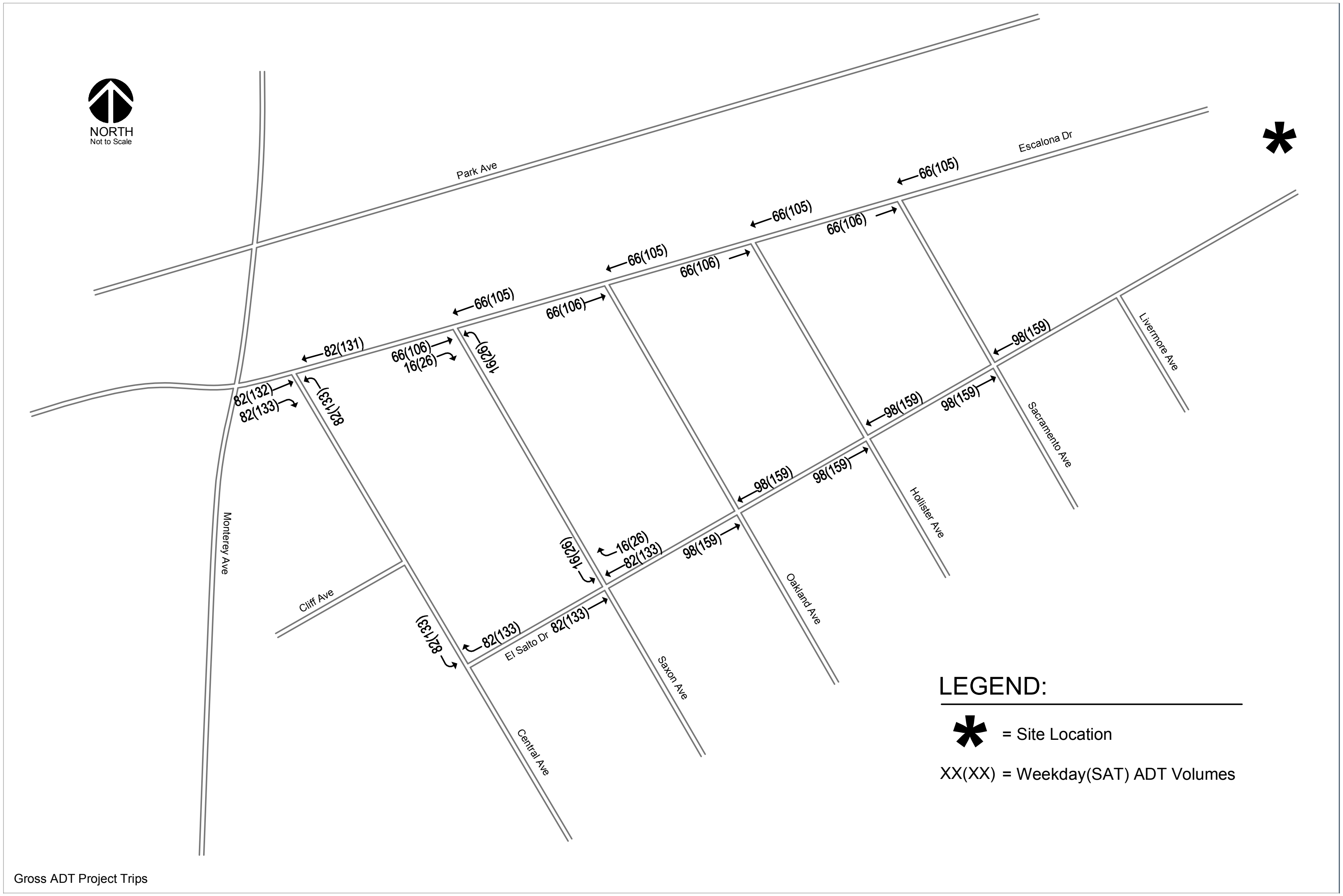

Figure 13
Gross Project Trips

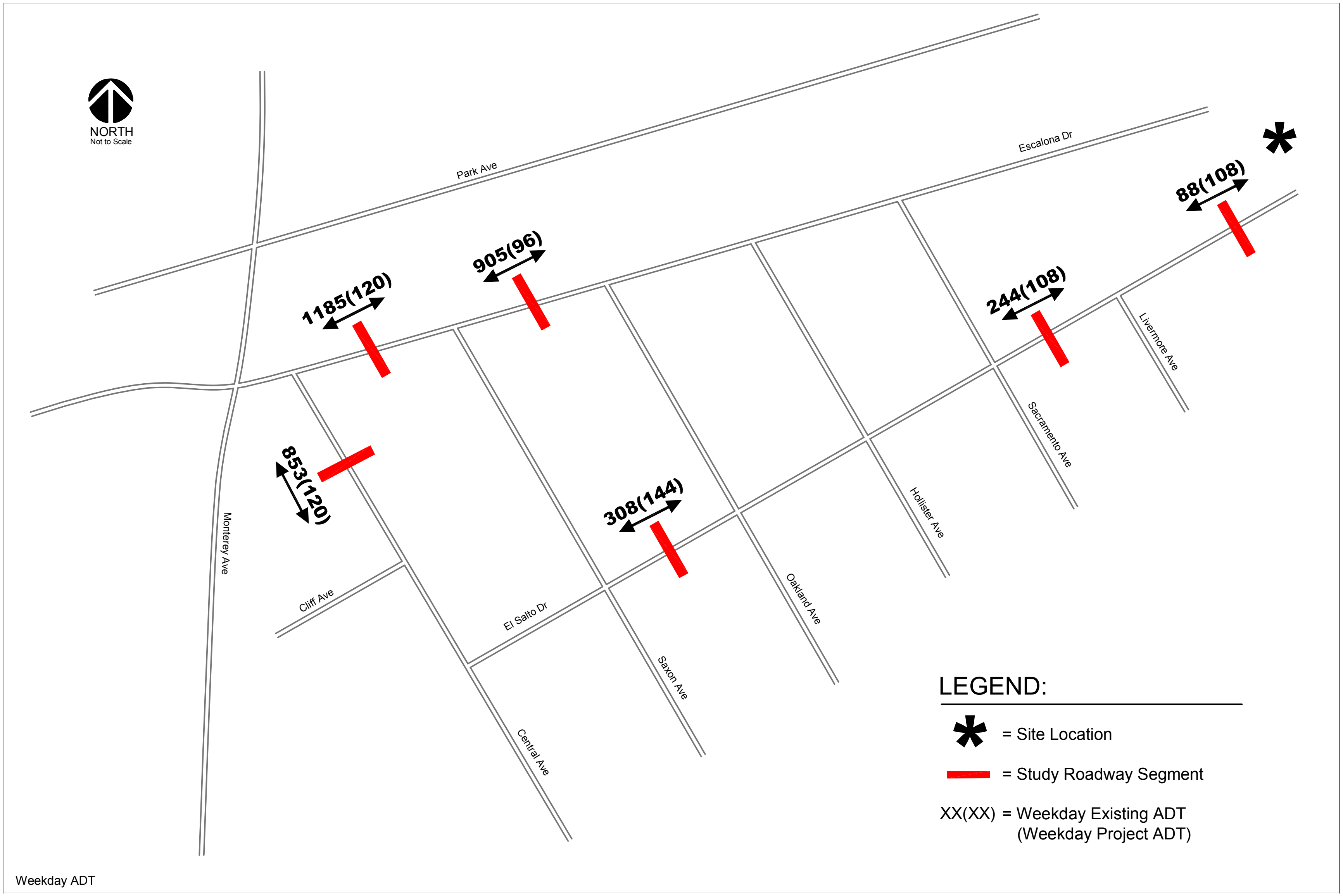

Figure 14
Weekday Daily Traffic Volumes

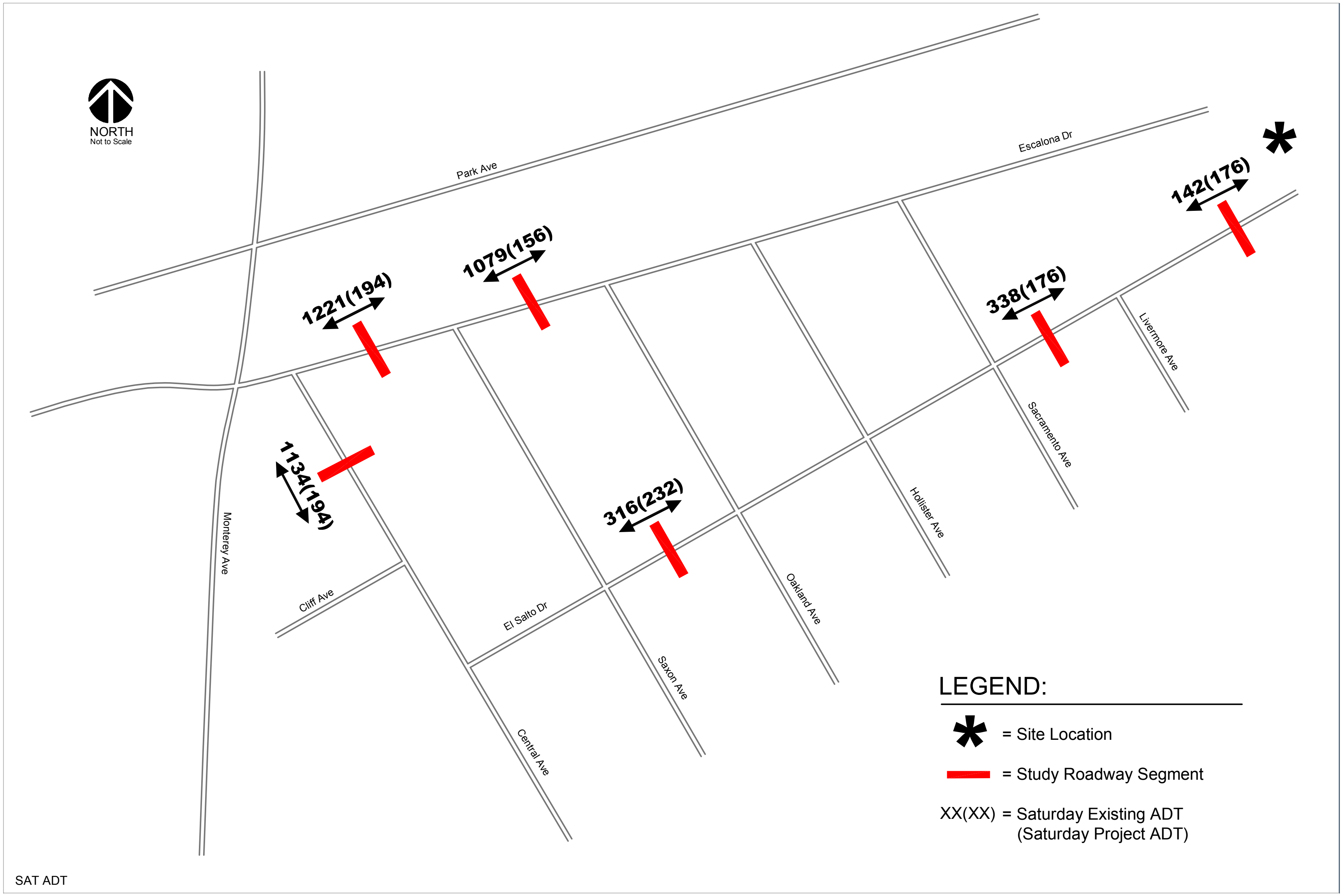

Figure 15
Saturday Daily Traffic Volumes

Table 12
Neighborhood Street Traffic Volumes

Location	Direction	Existing ADT Volumes				ADT Project Trips		Existing Plus Project ADT Volumes	
		Weekday		Saturday					
		Count Date	Volume	Count Date	Volume	Weekday	SAT	Weekday	SAT
El Salto Dr, between	EB	08/08/13	152	08/10/13	169	72	116	224	285
Saxon Ave and Oakland Ave	WB	08/08/13	156	08/10/13	147	72	116	228	263
	Total		**308**		**316**	**144**	**232**	**452**	**548**
El Salto Dr, between	EB	08/08/13	119	08/10/13	172	54	88	173	260
Sacramento Ave and Livermore Ave	WB	08/08/13	125	08/10/13	166	54	88	179	254
	Total		**244**		**338**	**108**	**176**	**352**	**514**
El Salto Dr , East of Livermore Ave	EB	08/08/13	40	08/10/13	69	54	88	94	157
	WB	08/08/13	48	08/10/13	73	54	88	102	161
	Total		**88**		**142**	**108**	**176**	**196**	**318**
Escalona Dr, between	EB	09/11/13	568	09/14/13	624	60	97	628	721
Central Ave and Saxon Ave	WB	09/11/13	617	09/14/13	597	60	97	677	694
	Total		**1185**		**1221**	**120**	**194**	**1305**	**1415**
Escalona Dr, between	EB	08/08/13	449	08/10/13	543	48	78	497	621
Saxon Ave and Oakland Ave	WB	08/08/13	456	08/10/13	536	48	78	504	614
	Total		**905**		**1079**	**96**	**156**	**1001**	**1235**
Central Ave, between	NB	08/22/13	413	09/14/13	561	60	97	473	658
Escalona Dr and Cliff Ave	SB	08/22/13	440	09/14/13	573	60	97	500	670
	Total		**853**		**1134**	**120**	**194**	**973**	**1328**

ADT = Average Daily Traffic Volumes

range for level of service C on local streets is 1,500-1,600 vehicles. The addition of the estimated daily trips from the proposed project would result in daily volumes along streets within the Depot Hill neighborhood that will be well below the accepted LOS C volume range. The greatest amount of project traffic will be added to El Salto Drive (a net additional 144 weekday and 232 Saturday daily trips). If all the project traffic were to occur during a 12-hour period (6:00 am – 6:00 pm) rather than a 24-hour period, the daily project trips would equate to a maximum of one project trip every five minutes on weekdays. Similarly, on Saturdays, the daily project trips would equate to one project trip every three minutes.

Based on the characteristics of the streets, the traffic count data and the estimated project traffic, the following conclusions can be drawn:

- Traffic volumes on all three streets are fairly low; well below 1,500 vehicles per day on most segments. Traffic volumes under 1,500 vehicles per day are considered acceptable for neighborhood streets.
- The streets are narrow (~ 35 feet wide) with parking on both sides, which discourages speeding.
- The average observed traffic speeds are well below the speed limit of 25 mph at most locations.

Possible Traffic Calming Measures

Though the evaluation of the effects of project traffic on residential streets identified no direct impacts, it is evident that the existing conditions along streets within the neighborhood are of concern to residents. In order to improve the traffic situation within the Depot Hill neighborhood, several measures as described below can be considered for implementation. However, the measures are not necessary to mitigate the effects of project traffic on the streets. The measures should be evaluated as part of a traffic calming study for the neighborhood. The primary differences between a typical traffic engineering study and a traffic calming study is that a traffic calming study generally includes (1) more neighborhood involvement and (2) considers "quality of life" issues in addition to traffic capacity and safety issues. Generally, traffic calming is considered in a residential neighborhood when (1) the volume of traffic on a neighborhood street is incompatible with the surrounding land uses and/or roadway design or (2) the speed of traffic on a neighborhood street is excessive or unsafe. The traffic calming study would need to include the evaluation of all streets within the neighborhood to ensure that the implementation of traffic calming measures do not result in adverse effects on other street locations within the neighborhood. There are no established procedures for the application of traffic calming devices and criteria for device installation vary widely by jurisdiction.

- **Reduce Landscaping Conflicts.** Landscaping obscures existing signage at intersections at a number of locations in the neighborhood. This reduces the time that drivers unfamiliar to the area have to perceive and react to the signage and other vehicles. Where possible, the landscaping should be trimmed back around intersections to improve driver sight distance between (1) vehicles and signage, and (2) vehicles and other vehicles/bikes/pedestrians. Where landscaping cannot be removed to improve the visibility of stop signs, "Stop Ahead" warning signs should be considered.

- **Monterey Avenue and Escalona Drive Capital Improvement Project**. The City could consider long-term improvements to the intersection of Monterey Avenue/Escalona Drive as a possible Capital Improvement Project (CIP). Improvements could include, but not limited to, removing the islands at the intersection along Escalona Drive or installation of a traffic circle to improve ingress and egress from the neighborhood as well as improve pedestrian and bicycle flow through the intersection. Improving the intersection would require a design study that considers removal of landscaping, medians, lane narrowing, additional right of way, or any combination of these.

- **Street Narrowing.** This is typically considered to reduce vehicle speeds. However, all streets except Escalona Drive are already very narrow and speeds are generally much lower than those found on typical residential streets. Further narrowing at intersections would preclude truck access. Curb extensions get hit by vehicles regularly, which creates noise and damages vehicles. Street narrowing measures may be applicable along Escalona Drive and Central Avenue since they are wider than other streets in the neighborhood.

- **Traffic Circles.** Traffic circles force vehicles to slow down in advance of intersections. Installation of traffic circles have the potential to reduce the number of collisions and would maintain low travel speeds through the intersections. However, most of the intersections within the neighborhood are too small to accommodate traffic circles and speed is generally not a problem in the intersection. In addition, traffic circles would cause a loss of parking spaces, are very expensive (ranging from approximately $25,000 to $45,000 each), and limit the access for large vehicles, including fire trucks. The Fire Department, would need review and approve the installation of traffic circles at the intersections within the neighborhood because these measures could result in an increase in emergency response times.

- **Bulb-Outs.** An alternative measure would be to narrow the roadways at the intersections by extending the curb radius into the street. Curb extensions are commonly referred to as bulb-outs. However, given that, the streets within the neighborhood do not have sidewalks or curbing, the implementation of bulb-outs will require the installation of new curbing, striping or extension of landscape extensions. Bulb-outs typically shorten the pedestrian crossing lengths, keep the vehicle speeds low and allow better pedestrian visibility around parked cars. However, bulb-outs are expensive (about $20,000 per intersection and require maintenance), result in a loss of on-street parking, and also impede emergency response vehicles and other trucks.

- **Stop-Signs.** All intersections, with the exception of El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue, within the neighborhood have stop-controlled approaches. When warranted, intersections can be controlled by stop signs. These regulatory signs assign the right-of-way at intersections and require motorists to stop and check traffic before crossing. Although the installation of stop signs at the El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue intersections would not be warranted based on the traffic volumes or accident history, we are of the opinion that installing (two-way) stop signs should be considered because of the inadequate sight distances. Visibility at the intersection corners is very limited, especially when there are cars parked near street corners.

  Typically, the stop signs would be placed on the minor (lower volume) street, which would be Hollister and Livermore Avenues. The stop signs would require the traffic on Hollister and Livermore Avenues to slow down and come to a complete stop. The travel speeds on El Salto Drive are likely to increase because it will have the right-of-way and does not have to slow down as much compared to the current situation. In addition, residents should be aware that (a) drivers may not come to a complete stop, or stop at all, at low volume intersections such as these, (b) vehicle acceleration and deceleration near stop signs will increase noise levels, and (c) placing stop signs at intersections could cause an increase in travel speeds. Studies have shown that motorists tend to accelerate to higher speeds to make up for the time lost at stop sign. Other studies have found that vehicle speeds will decrease within 200 feet of a stop-controlled intersection, but speeds will remain unchanged or increase between intersections.

Collision History

The collision history at the Monterey Avenue and Escalona Drive intersection also was investigated. The City of Capitola Police Department indicated that there were no reported accidents at the Monterey Avenue and Escalona Drive intersection over the past three-years. Therefore, based on the lack of reported collisions there is no issue with accidents at the Monterey Avenue and Escalona Drive intersection. As stated in the previous section, there are potential geometric improvements that can be implemented at the intersection to improve sight distance, lane alignment, and pedestrian/bicycle travel through the intersection.

Construction Traffic

Construction would primarily be accomplished using diesel-powered heavy equipment. A variety of project construction activities would include clearing, excavation, and grading operations, import/export of fill material, and construction vehicle travel

As such, traffic from these various activities would be ongoing throughout the demolition, building, and rehabilitation processes for the project site. Therefore, there is potential for temporary traffic-related impacts to occur from construction activities at the site. To reduce the impacts due to construction traffic, the project contractor should prepare a Construction Management Plan, which will include, but not be limited to, a traffic construction management plan with the following conditions and shall be subject to review and approval by City staff. In order to minimize impacts from construction-related traffic, the project contractor shall ensure that heavy vehicle traffic from the project site only occur between the hours of 8:00 AM and 5:00 PM.

- The project contractor shall implement truck haul routes for construction trucks deemed acceptable by the City.
- Additionally, signs shall be posted along roads identifying construction traffic access or flow limitations due to single lane conditions during periods of truck traffic.
- Construction equipment shall be stored on the project site and construction vehicles shall not be allowed to park in front of residential homes within the residential neighborhood during the construction phase of the project.

The proposed project will not result in changes to the current normal daily deliveries to the project site via large trucks nor to the normal scheduled garbage pick-up.

6. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Capitola and Caltrans. Project impacts on other transportation facilities, such as pedestrian facilities, bicycle facilities and transit, were determined on the basis of engineering judgment.

Project Impacts

Intersection Level of Service Impacts

The results of the intersection level of service analysis under existing plus project show that no study intersections would be impacted by the project according to applicable level of service standards.

Freeway Segment Impacts

The freeway segment level of service analysis is summarized in Table ES 2. The results of the freeway segment level of service analysis show that the project traffic would result in an impact on four of the six study segments according to the Caltrans impact criteria for freeway segments.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Cumulative Conditions Analysis

The intersection levels of service under cumulative conditions are summarized in Table ES 1. The results indicate that the cumulative growth in traffic volumes will result in the degradation of levels of service at two of the study intersections from an acceptable LOS C to unacceptable LOS D during at least one of the peak hours under cumulative no project conditions.

Bay Avenue and Hill Street (Weekday PM & Saturday)
Porter Street and Highway 1 NB Ramps (Weekday AM)

The proposed project would account for more than 3% of total projected traffic volume growth at each of the intersections. Therefore, the proposed project would have a cumulative level or service impact at these locations.

Recommended Mitigation Measures under Cumulative Conditions

Described below are the possible intersection improvements that can be implemented at each of the identified impacted intersections to mitigate impacts due to cumulative growth.

(6) Bay Avenue and Hill Street

Mitigation: The necessary improvements to mitigate cumulative impacts at this intersection could consist of signalization of the intersection or reconstruction of the intersection into a traffic circle. The appropriate improvement will be determined by the City. The applicant shall be responsible for paying a fair-share of the improvement costs, to be determined by the City, or make a contribution to the City's Transportation Impact Fee Program, if adopted prior to project construction.

(8) Porter Street and Highway 1 NB Ramps

Mitigation: Improvements to the Porter Street/Bay Avenue interchange as part of the Highway 1 HOV Lane widening project have been identified and are currently being studied. The project will modify the existing interchanges at 41st Avenue and Porter Street/Bay Avenue into a single interchange to improve safety and traffic operations. Environmental evaluation of the project is underway. However, no funding has been identified for the completion of the project.

Cumulative Conditions Freeway Segment Analysis

The freeway segment analysis indicates that each of the freeway segments analyzed is currently and projected to continue to operate at an unacceptable LOS D or worse, in the peak commute direction during the AM and PM peak hours under cumulative no project conditions. The addition of cumulative trips collectively would create a significant adverse traffic impact on each of the segments identified to operate at unacceptable levels. Freeway segment analysis is summarized in Table ES 2.

Caltrans has identified improvements to Highway 1 via the Highway 1 High Occupancy Vehicle (HOV) lane widening project, including the studied freeway segments. However, since it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in acquisition and cost of right-of-way, and no comprehensive project to add the HOV lanes has been developed by Caltrans for individual projects to contribute to, the significant impacts on the directional freeway segments identified above must be considered significant and unavoidable.

Other Transportation Issues

Other issues related to transportation were evaluated to determine if any deficiencies would exist under project conditions that may not be specifically linked to environmental impact reporting. These may not be considered environmental issues, and may not be evaluated in the environmental assessment, but have been included in the traffic study to meet the requirements of the local jurisdiction. The other transportation issues considered are impacts to adjacent neighborhoods, bicycle, pedestrian, transit issues, and site access and on-site circulation issues.

Site Access

A review of the project site plan was performed to determine if adequate site access is provided and to identify any access or circulation issues that should be improved. The proposed project site will be accessed via El Salto Drive and Escalona Drive.

El Salto Drive

Vehicle access to the project site is currently provided via El Salto Drive. There are no proposed changes to the location of the existing access from El Salto Drive. El Salto Drive will provide access to the main building and reception area and upper level of the below-grade parking garage.

Escalona Drive

The Escalona Drive entrance will also will be located in its exiting location. Access to the lower level of the below-grade parking garage will be provided along Escalona Drive.

Alternative Park Avenue Access

In response to concerns of residents within the Depot Hill neighborhood regarding the increase in traffic on neighborhood streets due to the proposed project, City staff requested the evaluation of an alternative project access point directly to Park Avenue. Access to Park Avenue would require the construction of a new access road between the project site and Park Avenue. However, the feasibility of an access point to Park Avenue is uncertain and the project is not proposing nor advocating for access directly to Park Avenue. As such, plans identifying the location and alignment of the access road between the project site and Park Avenue have not been prepared. The evaluation makes no determination of the feasibility of the alignment or the crossing of the existing rail line by the access road. The evaluation also assumes that the connection to Park Avenue would be provided west of the existing Park Avenue Apartments entrance.

It is likely that the speeds and limited sight distance along Park Avenue, will result in unsafe conditions for vehicles entering and exiting the potential Park Avenue access point. Therefore, a full access point along Park Avenue is not recommended.

It may be possible to provide limited access along Park Avenue by restricting turn movements to right-turns only in and out of the access point. The turn restrictions would reduce the amount of conflicting traffic at the intersection. However, limited access would require removal of existing trees along the south side of Park Avenue and implementation of enhanced warning signage and lighting near the access point.

Site Circulation

The onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. The proposed site layout will allow for improved circulation through the project site. An on-site roadway connection between El Salto Drive and Escalona Drive will provide for internal circulation within the project site itself. Corner radii and street widths within the site appear to be sufficient to allow for the circulation of large design vehicles such as garbage trucks and fire trucks. With the proposed internal roadway layout and adhering to City design standards and guidelines, emergency vehicle access and circulation within the project site should be adequate.

Transit, Pedestrian and Bicycle Analysis

Bicycle and Pedestrian Circulation

The volume of bicycle trips generated by the project would not exceed the bicycle-carrying capacity of streets surrounding the site, and the increase in bicycle trips would not require new off-site bicycle facilities. However, the project is proposing to provide 27 bicycle parking spaces on-site and a separated bicycle entrance into the below-grade parking area.

The volume of pedestrian trips generated by the project would not necessitate improvements to pedestrian facilities. However, the project is proposing on-site improvements to facilitate better public/neighborhood access to the project site and enhance pedestrian circulation within the project site with the addition of new pathways that will provide access to the back of the project site and scenic views.

It should be noted that streets within the surrounding Depot Hill Neighborhood do not have sidewalks and the streets are narrow. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Transit Service

The estimated new transit riders generated by the proposed project could be accommodated by the available capacity of the two local bus routes, which have stops located within a one-half-mile walking distance of the site. Thus, no improvements to the existing transit facilities would be needed in conjunction with the proposed project.

Parking

Based on the City of Capitola's parking code requirements for hotels (Municipal Code 17.51.130) the development should provide one space per guest room. The project proposes to provide 60 parking spaces on site (56 parking spaces within a two-level below-grade parking area and an additional 4 surface spaces). Therefore, the proposed parking will exceed the City of Capitola parking requirements. In addition, the project also is proposing to provide 27 on-site bicycle parking facilities.

In addition, parking on site will be managed by the hotel with the use of self-parking and valet-parking. During high demand periods, when the hotel is at full occupancy and/or during events, valet-parking will be used to implement tandem parking on-site. During periods when events are held, it is estimated that between 18 to 24 spaces will be available for event guests. Hotel staff will monitor parking demand to ensure that all parking occurs on-site and remind hotel guests that parking is not allowed within the surrounding neighborhood. Neighborhood parking prohibitions currently are managed and enforced by hotel personnel by a) notification and instructions for event participants; b) monitoring of arrivals and intervention if any guests start to park in the neighborhood; and 3) responding to any complaints/concerns regarding parking. If additional capacity were needed, shuttle services would be provided for off-site remote parking.

Neighborhood Traffic Issues

With the project site located within a residential neighborhood (Depot Hill), residents have expressed concern that the additional traffic generated by the project may significantly increase traffic volumes on streets within the neighborhood that provide access to the project site and worsen perceived existing traffic issues within the neighborhood including speeding along Escalona Drive and Central Avenue and unsafe pedestrian/bicycle travel throughout the neighborhood. Therefore, an evaluation of indirect traffic related impacts to residential streets within the Depot Hill neighborhood was completed.

Existing Neighborhood Roadway Characteristics

Ingress and egress from the Depot Hill neighborhood is provided exclusively via the Escalona Drive intersection with Monterey Avenue. The roadways within the neighborhood only serve the residents and existing hotel use and provide no secondary outlet to the surrounding roadway system. Therefore, there is no cut-through or commercial traffic present within the neighborhood.

The roadway system in Depot Hill consists of relatively long and narrow streets built in a grid system with housing on both sides. Streets within the Depot Hill neighborhood are narrow and do not have sidewalks. El Salto Drive, Escalona Drive, and Central Avenue within the neighborhood are less than 35 feet wide with other minor streets as narrow as 25 feet wide. There are no posted speed limits on the streets within the neighborhood. Parking is currently permitted on both sides of most streets where physically possible, thus providing travel ways of only 10 to 20 feet. The narrow travel ways do not meet typical street standards for two-way travel. As such, pedestrian and bicycle travel along the streets is inhibited due to the narrow street widths and lack of sidewalks along the streets.

Estimated Project Traffic

Escalona Drive and El Salto Drive serve as the primary east/west roadways through the Depot Hill neighborhood and provide direct access to the project site. Access to the project site is currently provided only via El Salto Drive. The proposed project will maintain the existing access from El Salto Drive along with a new access point from Escalona Drive. As such, it can be expected that both Escalona Drive and El Salto Drive will see an increase in traffic due to the project.

The effects of project traffic on the streets was evaluated based on field observations, the collection of traffic volume data collected in August and September 2013, and projections of the additional project generated traffic.

General guidelines regarding threshold volumes pertaining to residential streets have been recommended within several studies and reference material including the Highway Capacity Manual (HCM). There is variation in these accepted threshold volumes, but in general, it is recommended that residential streets carry no more than 2,000 to 4,000 ADT (Average Daily Traffic). The HCM recommended maximum ADT range for level of service C on local streets is 1,500-1,600 vehicles. The addition of the estimated daily trips from the proposed project would result in daily volumes along streets within the Depot Hill neighborhood that will be well below the accepted LOS C volume range. The greatest amount of project traffic will be added to El Salto Drive (a net additional 144 weekday and 232 Saturday daily trips). If all the project traffic were to occur during a 12-hour period (6:00 am – 6:00 pm) rather than a 24-hour period, the daily project trips would equate to a maximum of one project trip every five minutes on weekdays. Similarly, on Saturdays, the daily project trips would equate to one project trip every three minutes.

Based on the characteristics of the streets, the traffic count data and the estimated project traffic, the following conclusions can be drawn:

- Traffic volumes on all three streets are fairly low; well below 1,500 vehicles per day on most segments. Traffic volumes under 1,500 vehicles per day are considered acceptable for neighborhood streets.
- The streets are narrow (~ 35 feet wide) with parking on both sides, which discourages speeding.
- The average observed traffic speeds are well below the speed limit of 25 mph at most locations.

Possible Traffic Calming Measures

Though the evaluation of the effects of project traffic on residential streets identified no direct impacts, it is evident that the existing conditions along streets within the neighborhood are of concern to residents. In order to improve the traffic situation within the Depot Hill neighborhood, several measures as described below can be considered for implementation. However, the measures are not necessary to mitigate the effects of project traffic on the streets. The measures should be evaluated as part of a traffic calming study for the neighborhood. The primary differences between a typical traffic engineering study and a traffic calming study is that a traffic calming study generally includes (1) more neighborhood involvement and (2) considers "quality of life" issues in addition to traffic capacity and safety issues. Generally, traffic calming is considered in a residential neighborhood when (1) the volume of traffic on a neighborhood street is incompatible with the surrounding land uses and/or roadway design or (2) the speed of traffic on a neighborhood street is excessive or unsafe. The traffic calming study would need to include the evaluation of all streets within the neighborhood to ensure that the implementation of traffic calming measures do not result in adverse effects on other street locations within the neighborhood. There are no established procedures for the application of traffic calming devices and criteria for device installation vary widely by jurisdiction.

- **Reduce Landscaping Conflicts.** Landscaping obscures existing signage at intersections at a number of locations in the neighborhood. This reduces the time that drivers unfamiliar to the area have to perceive and react to the signage and other vehicles. Where possible, the landscaping should be trimmed back around intersections to improve driver sight distance between (1) vehicles and signage, and (2) vehicles and other vehicles/bikes/pedestrians. Where landscaping cannot be removed to improve the visibility of stop signs, “Stop Ahead” warning signs should be considered.

- **Monterey Avenue and Escalona Drive Capital Improvement Project**. The City could consider long-term improvements to the intersection of Monterey Avenue/Escalona Drive as a possible Capital Improvement Project (CIP). Improvements could include, but not limited to, removing the islands at the intersection along Escalona Drive or installation of a traffic circle to improve ingress and egress from the neighborhood as well as improve pedestrian and bicycle flow through the intersection. Improving the intersection would require a design study that considers removal of landscaping, medians, lane narrowing, additional right of way, or any combination of these.

- **Street Narrowing.** This is typically considered to reduce vehicle speeds. However, all streets except Escalona Drive are already very narrow and speeds are generally much lower than those found on typical residential streets. Further narrowing at intersections would preclude truck access. Curb extensions get hit by vehicles regularly, which creates noise and damages vehicles. Street narrowing measures may be applicable along Escalona Drive and Central Avenue since they are wider than other streets in the neighborhood.

- **Traffic Circles.** Traffic circles force vehicles to slow down in advance of intersections. Installation of traffic circles have the potential to reduce the number of collisions and would maintain low travel speeds through the intersections. However, most of the intersections within the neighborhood are too small to accommodate traffic circles and speed is generally not a problem in the intersection. In addition, traffic circles would cause a loss of parking spaces, are very expensive (ranging from approximately $25,000 to $45,000 each), and limit the access for large vehicles, including fire trucks. The Fire Department, would need review and approve the installation of traffic circles at the intersections within the neighborhood because these measures could result in an increase in emergency response times.

- **Bulb-Outs.** An alternative measure would be to narrow the roadways at the intersections by extending the curb radius into the street. Curb extensions are commonly referred to as bulb-outs. However, given that, the streets within the neighborhood do not have sidewalks or curbing, the implementation of bulb-outs will require the installation of new curbing, striping or extension of landscape extensions. Bulb-outs typically shorten the pedestrian crossing lengths, keep the vehicle speeds low and allow better pedestrian visibility around parked cars. However, bulb-outs are expensive (about $20,000 per intersection and require maintenance), result in a loss of on-street parking, and also impede emergency response vehicles and other trucks.

- **Stop-Signs.** All intersections, with the exception of El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue, within the neighborhood have stop-controlled approaches. When warranted, intersections can be controlled by stop signs. These regulatory signs assign the right-of-way at intersections and require motorists to stop and check traffic before crossing. Although the installation of stop signs at the El Salto Drive/Hollister Avenue and El Salto Drive/Livermore Avenue intersections would not be warranted based on the traffic volumes or accident history, we are of the opinion that installing (two-way) stop signs should be considered because of the inadequate sight distances. Visibility at the intersection corners is very limited, especially when there are cars parked near street corners.

  Typically, the stop signs would be placed on the minor (lower volume) street, which would be Hollister and Livermore Avenues. The stop signs would require the traffic on Hollister and Livermore Avenues to slow down and come to a complete stop. The travel speeds on El Salto Drive are likely to increase because it will have the right-of-way and does not have to slow down as much compared to the current situation. In addition, residents should be aware that (a) drivers may not come to a complete stop, or stop at all, at low volume intersections such as these, (b) vehicle acceleration and deceleration near stop signs will increase noise levels, and (c) placing stop signs at intersections could cause an increase in travel speeds. Studies have shown that motorists tend to accelerate to higher speeds to make up for the time lost at stop sign. Other studies have found that vehicle speeds will decrease within 200 feet of a stop-controlled intersection, but speeds will remain unchanged or increase between intersections.

Collision History

The collision history at the Monterey Avenue and Escalona Drive intersection also was investigated. The City of Capitola Police Department indicated that there were no reported accidents at the Monterey Avenue and Escalona Drive intersection over the past three-years. Therefore, based on the lack of reported collisions there is no issue with accidents at the Monterey Avenue and Escalona Drive intersection. As stated in the previous section, there are potential geometric improvements that can be implemented at the intersection to improve sight distance, lane alignment, and pedestrian/bicycle travel through the intersection.

Construction Traffic

Construction would primarily be accomplished using diesel-powered heavy equipment. A variety of project construction activities would include clearing, excavation, and grading operations, import/export of fill material, and construction vehicle travel

As such, traffic from these various activities would be ongoing throughout the demolition, building, and rehabilitation processes for the project site. Therefore, there is potential for temporary traffic-related impacts to occur from construction activities at the site. To reduce the impacts due to construction traffic, the project contractor should prepare a Construction Management Plan, which will include, but not be limited to, a traffic construction management plan with the following conditions and shall be subject to review and approval by City staff. In order to minimize impacts from construction-related traffic, the project contractor shall ensure that heavy vehicle traffic from the project site only occur between the hours of 8:00 AM and 5:00 PM.

- The project contractor shall implement truck haul routes for construction trucks deemed acceptable by the City.
- Additionally, signs shall be posted along roads identifying construction traffic access or flow limitations due to single lane conditions during periods of truck traffic.

Construction equipment shall be stored on the project site and construction vehicles shall not be allowed to park in front of residential homes within the residential neighborhood during the construction phase of the project.

The proposed project will not result in changes to the current normal daily deliveries to the project site via large trucks nor to the normal scheduled garbage pick-up.

Monarch Cove Hotel Development

Technical Appendices

October 23, 2013

Appendix A

Traffic Counts

Traffic Data Service

Campbell, CA
(408) 377-2988
tdsbay@cs.com

File Name : 1AM FINAL
Site Code : 00000001
Start Date : 9/12/2013
Page No : 1

Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					CAPITOLA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	27	0	0	1	28	0	0	0	0	0	0	6	3	2	11	0	0	22	1	23	62
07:15 AM	48	0	0	0	48	0	0	0	0	0	0	8	8	0	16	0	0	41	0	41	105
07:30 AM	73	0	0	0	73	0	0	0	0	0	0	25	7	3	35	0	0	112	3	115	223
07:45 AM	143	0	0	1	144	0	0	0	0	0	0	20	10	0	30	0	0	106	1	107	281
Total	291	0	0	2	293	0	0	0	0	0	0	59	28	5	92	0	0	281	5	286	671
08:00 AM	120	0	0	0	120	0	0	0	0	0	0	19	9	3	31	0	0	63	1	64	215
08:15 AM	93	0	0	0	93	0	0	0	0	0	0	2	6	1	9	0	0	61	3	64	166
08:30 AM	109	0	0	1	110	0	0	0	0	0	0	9	11	0	20	0	0	49	0	49	179
08:45 AM	114	0	0	1	115	0	0	0	0	0	0	16	13	2	31	0	0	54	2	56	202
Total	436	0	0	2	438	0	0	0	0	0	0	46	39	6	91	0	0	227	6	233	762
Grand Total	727	0	0	4	731	0	0	0	0	0	0	105	67	11	183	0	0	508	11	519	1433
Apprch %	99.5	0	0	0.5		0	0	0	0		0	57.4	36.6	6		0	0	97.9	2.1		
Total %	50.7	0	0	0.3	51	0	0	0	0	0	0	7.3	4.7	0.8	12.8	0	0	35.5	0.8	36.2	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				CAPITOLA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	73	0	0	73	0	0	0	0	0	**25**	7	**32**	0	0	**112**	**112**	217
07:45 AM	**143**	0	0	**143**	0	0	0	0	0	20	**10**	30	0	0	106	106	**279**
08:00 AM	120	0	0	120	0	0	0	0	0	19	9	28	0	0	63	63	211
08:15 AM	93	0	0	93	0	0	0	0	0	2	6	8	0	0	61	61	162
Total Volume	429	0	0	429	0	0	0	0	0	66	32	98	0	0	342	342	869
% App. Total	100	0	0		0	0	0		0	67.3	32.7		0	0	100		
PHF	.750	.000	.000	.750	.000	.000	.000	.000	.000	.660	.800	.766	.000	.000	.763	.763	.779

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File Name : 1AM FINAL
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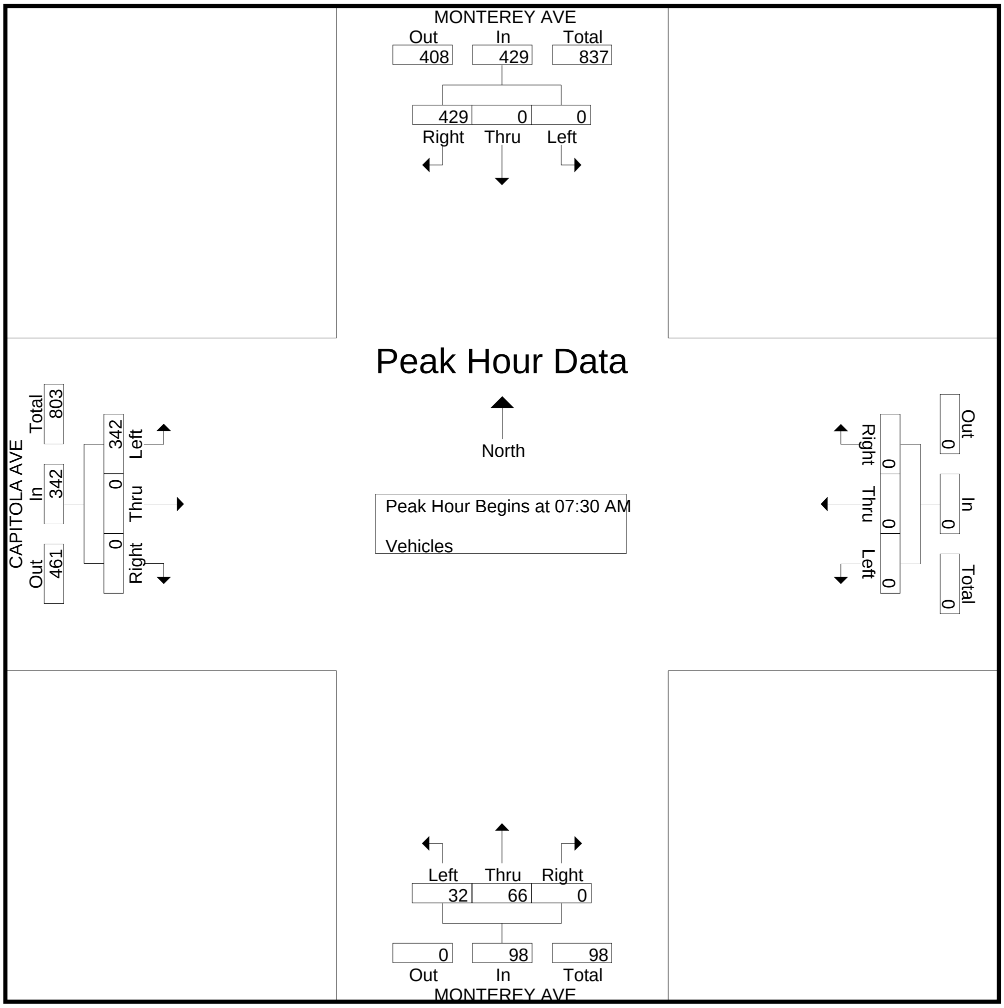

Traffic Data Service

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File Name : 1PM FINAL
Site Code : 00000001
Start Date : 9/12/2013
Page No : 1

Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					CAPITOLA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	61	0	0	15	76	0	0	0	0	0	0	26	13	16	55	0	0	118	13	131	262
04:15 PM	64	0	0	6	70	0	0	0	0	0	0	22	11	18	51	0	0	128	19	147	268
04:30 PM	65	0	0	5	70	0	1	0	0	1	0	23	12	6	41	0	0	126	17	143	255
04:45 PM	66	0	0	2	68	0	2	1	0	3	0	31	9	5	45	0	0	116	9	125	241
Total	256	0	0	28	284	0	3	1	0	4	0	102	45	45	192	0	0	488	58	546	1026
05:00 PM	73	0	0	9	82	0	0	0	0	0	0	30	15	10	55	0	0	131	8	139	276
05:15 PM	72	0	0	7	79	0	2	0	0	2	0	23	12	2	37	0	0	133	10	143	261
05:30 PM	87	0	0	7	94	0	1	0	0	1	0	36	14	5	55	0	0	132	12	144	294
05:45 PM	63	0	0	4	67	0	2	0	0	2	0	25	13	10	48	0	0	132	8	140	257
Total	295	0	0	27	322	0	5	0	0	5	0	114	54	27	195	0	0	528	38	566	1088
Grand Total	551	0	0	55	606	0	8	1	0	9	0	216	99	72	387	0	0	1016	96	1112	2114
Apprch %	90.9	0	0	9.1		0	88.9	11.1	0		0	55.8	25.6	18.6		0	0	91.4	8.6		
Total %	26.1	0	0	2.6	28.7	0	0.4	0	0	0.4	0	10.2	4.7	3.4	18.3	0	0	48.1	4.5	52.6	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				CAPITOLA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	73	0	0	73	0	0	0	0	0	30	**15**	45	0	0	131	131	249
05:15 PM	72	0	0	72	0	**2**	0	**2**	0	23	12	35	0	0	**133**	**133**	242
05:30 PM	**87**	0	0	**87**	0	1	0	1	0	**36**	14	**50**	0	0	132	132	**270**
05:45 PM	63	0	0	63	0	2	0	2	0	25	13	38	0	0	132	132	235
Total Volume	295	0	0	295	0	5	0	5	0	114	54	168	0	0	528	528	996
% App. Total	100	0	0		0	100	0		0	67.9	32.1		0	0	100		
PHF	.848	.000	.000	.848	.000	.625	.000	.625	.000	.792	.900	.840	.000	.000	.992	.992	.922

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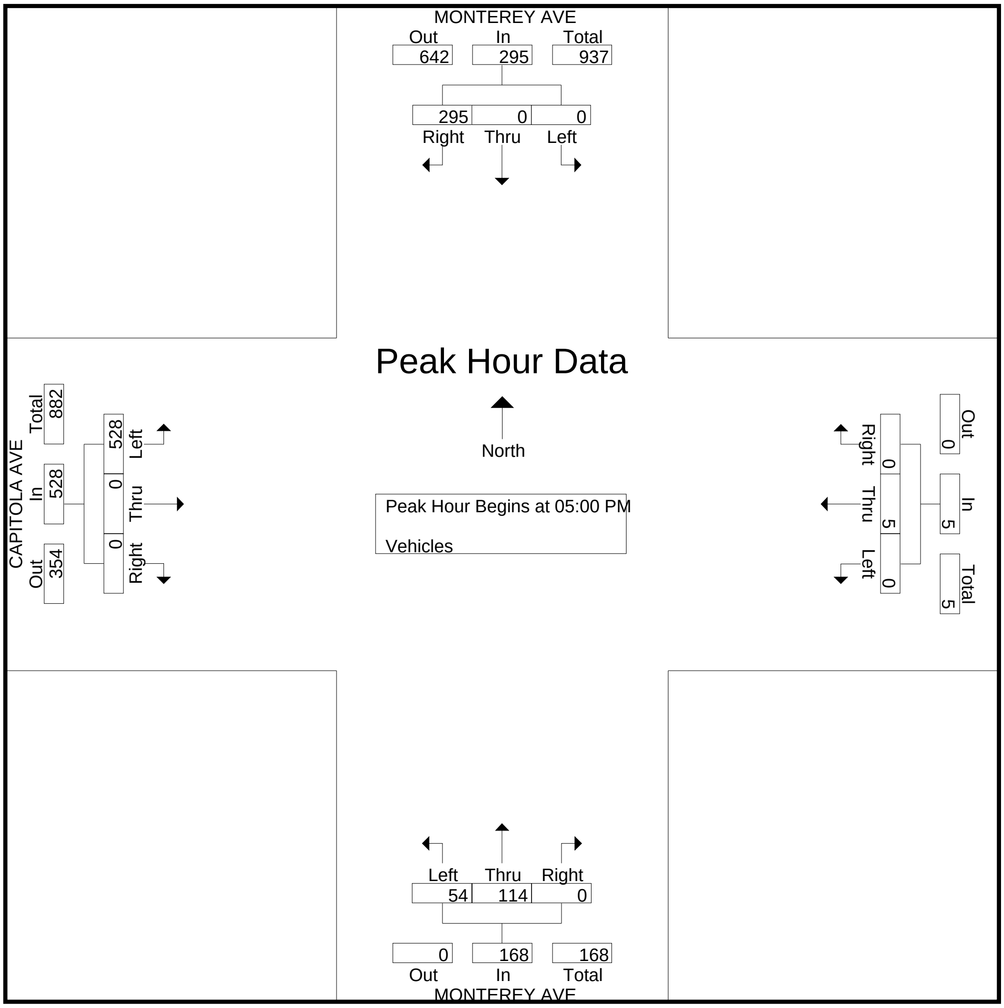
File Name : 1PM FINAL
Site Code : 00000001
Start Date : 9/12/2013
Page No : 2



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File Name : 1MID FINAL
Site Code : 00000001
Start Date : 8/10/2013
Page No : 1

Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					CAPITOLA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	78	0	0	17	95	0	0	0	0	0	0	45	26	23	94	0	0	52	61	113	302
12:15 PM	66	0	0	16	82	0	0	0	0	0	0	40	31	45	116	0	0	58	64	122	320
12:30 PM	67	0	0	22	89	0	0	0	0	0	0	39	27	35	101	0	0	60	71	131	321
12:45 PM	60	0	0	20	80	0	0	0	0	0	0	31	29	52	112	0	0	59	61	120	312
Total	271	0	0	75	346	0	0	0	0	0	0	155	113	155	423	0	0	229	257	486	1255
01:00 PM	77	0	0	29	106	0	0	0	0	0	0	43	25	43	111	0	0	71	58	129	346
01:15 PM	68	0	0	19	87	0	0	0	0	0	0	46	29	32	107	0	0	54	55	109	303
01:30 PM	67	0	0	43	110	0	0	0	0	0	0	52	24	54	130	0	0	67	56	123	363
01:45 PM	59	0	0	43	102	0	0	0	0	0	0	41	34	55	130	0	0	64	65	129	361
Total	271	0	0	134	405	0	0	0	0	0	0	182	112	184	478	0	0	256	234	490	1373
Grand Total	542	0	0	209	751	0	0	0	0	0	0	337	225	339	901	0	0	485	491	976	2628
Apprch %	72.2	0	0	27.8		0	0	0	0		0	37.4	25	37.6		0	0	49.7	50.3		
Total %	20.6	0	0	8	28.6	0	0	0	0	0	0	12.8	8.6	12.9	34.3	0	0	18.5	18.7	37.1	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				CAPITOLA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	**77**	0	0	**77**	0	0	0	0	0	43	25	68	0	0	**71**	**71**	**216**
01:15 PM	68	0	0	68	0	0	0	0	0	46	29	75	0	0	54	54	197
01:30 PM	67	0	0	67	0	0	0	0	0	**52**	24	**76**	0	0	67	67	210
01:45 PM	59	0	0	59	0	0	0	0	0	41	**34**	75	0	0	64	64	198
Total Volume	271	0	0	271	0	0	0	0	0	182	112	294	0	0	256	256	821
% App. Total	100	0	0		0	0	0		0	61.9	38.1		0	0	100		
PHF	.880	.000	.000	.880	.000	.000	.000	.000	.000	.875	.824	.967	.000	.000	.901	.901	.950

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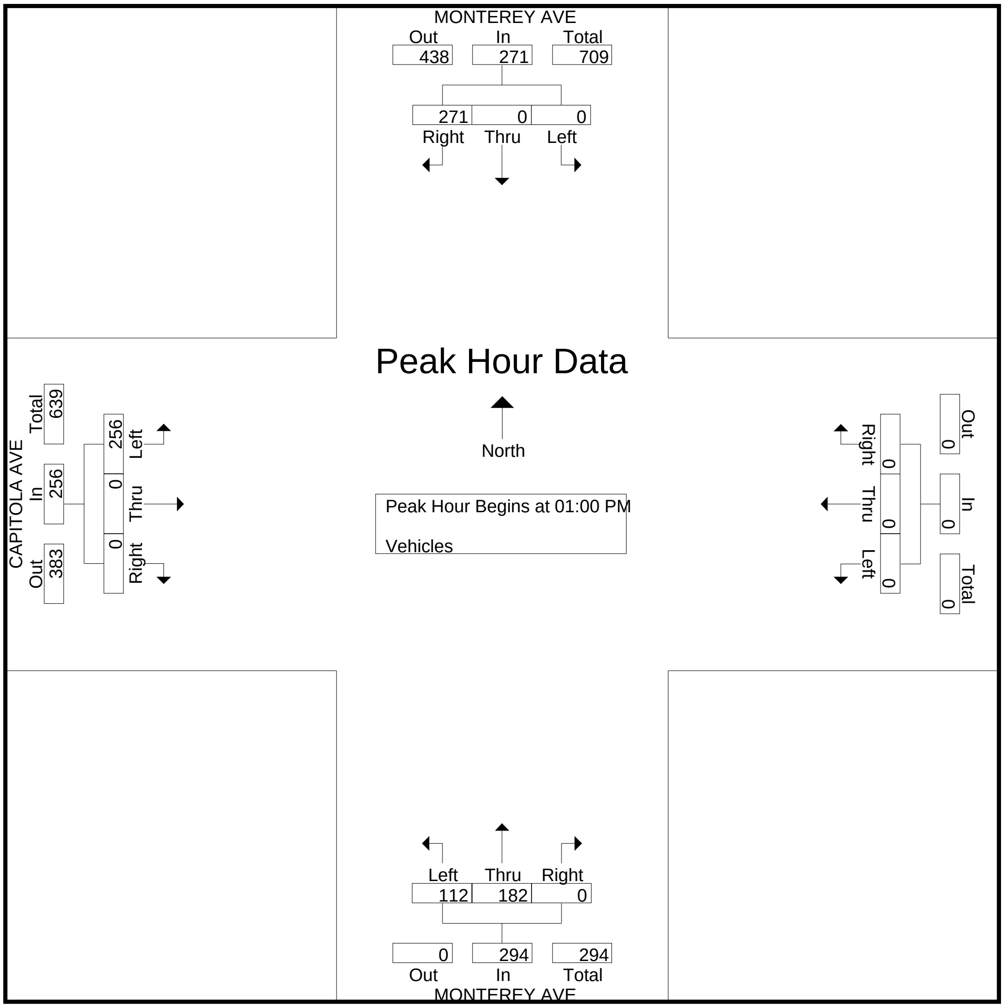

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File Name : 2AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					ESCALONA DR Westbound					MONTEREY AVE Northbound					FANMAR WAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	27	1	0	28	9	0	1	2	12	1	29	0	0	30	0	1	0	3	4	74
07:15 AM	1	44	4	0	49	15	0	6	1	22	2	46	0	0	48	0	0	0	0	0	119
07:30 AM	1	73	3	0	77	17	0	1	2	20	5	130	0	1	136	0	0	0	7	7	240
07:45 AM	1	140	10	0	151	16	0	8	0	24	3	128	0	0	131	2	0	0	1	3	309
Total	3	284	18	0	305	57	0	16	5	78	11	333	0	1	345	2	1	0	11	14	742
08:00 AM	3	114	13	0	130	18	2	5	0	25	2	76	0	0	78	0	0	0	1	1	234
08:15 AM	3	91	12	0	106	13	0	3	0	16	3	64	0	0	67	0	0	0	4	4	193
08:30 AM	2	113	7	0	122	15	0	4	0	19	4	51	0	0	55	0	0	0	0	0	196
08:45 AM	2	107	7	0	116	13	0	6	0	19	4	65	1	0	70	0	0	0	1	1	206
Total	10	425	39	0	474	59	2	18	0	79	13	256	1	0	270	0	0	0	6	6	829
Grand Total	13	709	57	0	779	116	2	34	5	157	24	589	1	1	615	2	1	0	17	20	1571
Apprch %	1.7	91	7.3	0		73.9	1.3	21.7	3.2		3.9	95.8	0.2	0.2		10	5	0	85		
Total %	0.8	45.1	3.6	0	49.6	7.4	0.1	2.2	0.3	10	1.5	37.5	0.1	0.1	39.1	0.1	0.1	0	1.1	1.3	

	MONTEREY AVE Southbound				ESCALONA DR Westbound				MONTEREY AVE Northbound				FANMAR WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	73	3	77	17	0	1	18	**5**	**130**	0	**135**	0	0	0	0	230
07:45 AM	1	**140**	10	**151**	16	0	**8**	24	3	128	0	131	**2**	0	0	**2**	**308**
08:00 AM	**3**	114	**13**	130	**18**	**2**	5	**25**	2	76	0	78	0	0	0	0	233
08:15 AM	3	91	12	106	13	0	3	16	3	64	0	67	0	0	0	0	189
Total Volume	8	418	38	464	64	2	17	83	13	398	0	411	2	0	0	2	960
% App. Total	1.7	90.1	8.2		77.1	2.4	20.5		3.2	96.8	0		100	0	0		
PHF	.667	.746	.731	.768	.889	.250	.531	.830	.650	.765	.000	.761	.250	.000	.000	.250	.779

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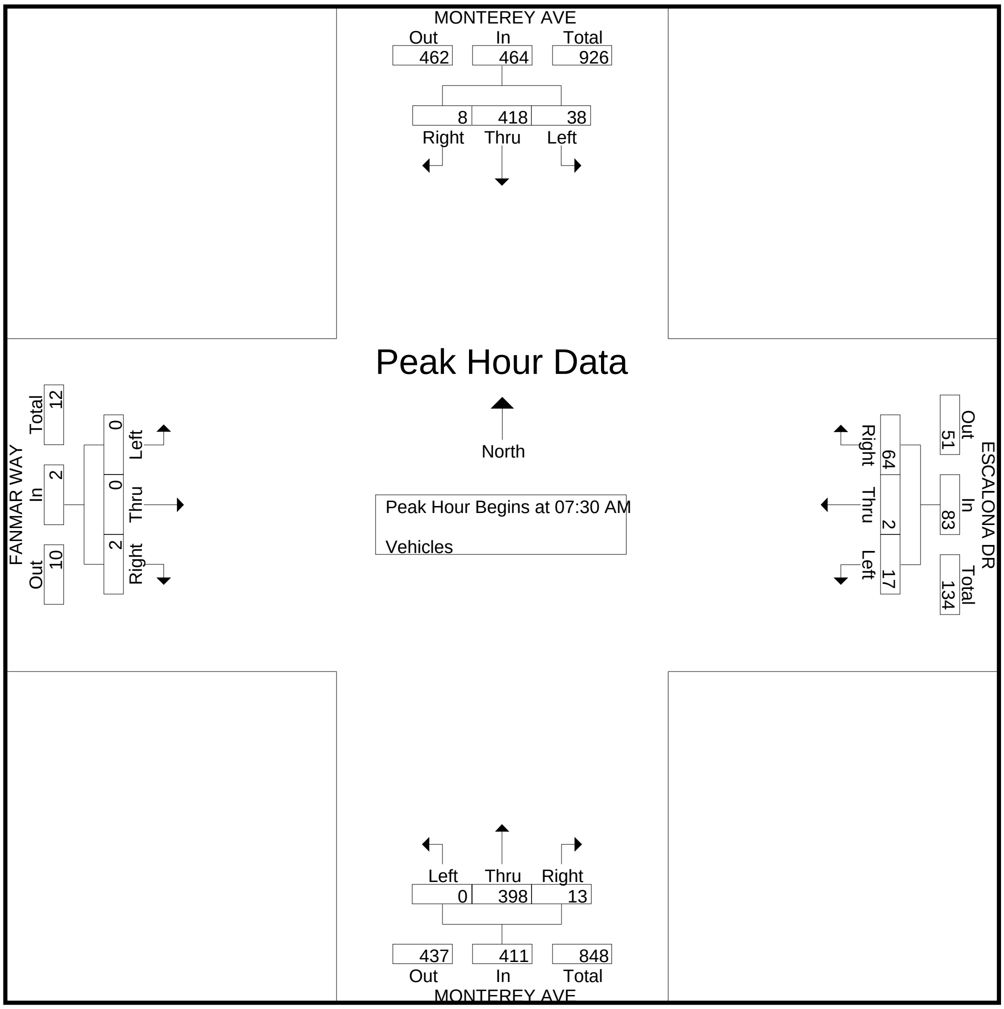

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Groups Printed- Vehicles

	MONTEREY AVE Southbound					ESCALONA DR Westbound					MONTEREY AVE Northbound					FANMAR WAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	66	14	0	81	15	0	3	6	24	2	144	1	1	148	0	0	3	8	11	264
04:15 PM	1	63	14	0	78	17	0	3	0	20	13	142	0	1	156	0	1	0	6	7	261
04:30 PM	2	66	11	0	79	17	0	4	1	22	7	147	0	0	154	0	0	2	3	5	260
04:45 PM	1	63	15	0	79	10	0	6	1	17	12	136	0	0	148	0	0	1	6	7	251
Total	5	258	54	0	317	59	0	16	8	83	34	569	1	2	606	0	1	6	23	30	1036
05:00 PM	0	70	9	0	79	17	0	7	2	26	6	161	1	0	168	0	0	1	7	8	281
05:15 PM	0	70	17	4	91	13	0	2	6	21	5	153	0	0	158	0	0	1	5	6	276
05:30 PM	3	80	14	0	97	11	0	7	4	22	8	157	1	0	166	1	1	1	11	14	299
05:45 PM	0	58	16	0	74	16	1	7	1	25	10	156	1	0	167	0	0	4	4	8	274
Total	3	278	56	4	341	57	1	23	13	94	29	627	3	0	659	1	1	7	27	36	1130
Grand Total	8	536	110	4	658	116	1	39	21	177	63	1196	4	2	1265	1	2	13	50	66	2166
Apprch %	1.2	81.5	16.7	0.6		65.5	0.6	22	11.9		5	94.5	0.3	0.2		1.5	3	19.7	75.8		
Total %	0.4	24.7	5.1	0.2	30.4	5.4	0	1.8	1	8.2	2.9	55.2	0.2	0.1	58.4	0	0.1	0.6	2.3	3	

	MONTEREY AVE Southbound				ESCALONA DR Westbound				MONTEREY AVE Northbound				FANMAR WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	70	9	79	**17**	0	**7**	**24**	6	**161**	**1**	**168**	0	0	1	1	272
05:15 PM	0	70	**17**	87	13	0	2	15	5	153	0	158	0	0	1	1	261
05:30 PM	**3**	**80**	14	**97**	11	0	7	18	8	157	1	166	**1**	**1**	1	3	**284**
05:45 PM	0	58	16	74	16	**1**	7	24	**10**	156	1	167	0	0	**4**	**4**	269
Total Volume	3	278	56	337	57	1	23	81	29	627	3	659	1	1	7	9	1086
% App. Total	0.9	82.5	16.6		70.4	1.2	28.4		4.4	95.1	0.5		11.1	11.1	77.8		
PHF	.250	.869	.824	.869	.838	.250	.821	.844	.725	.974	.750	.981	.250	.250	.438	.563	.956

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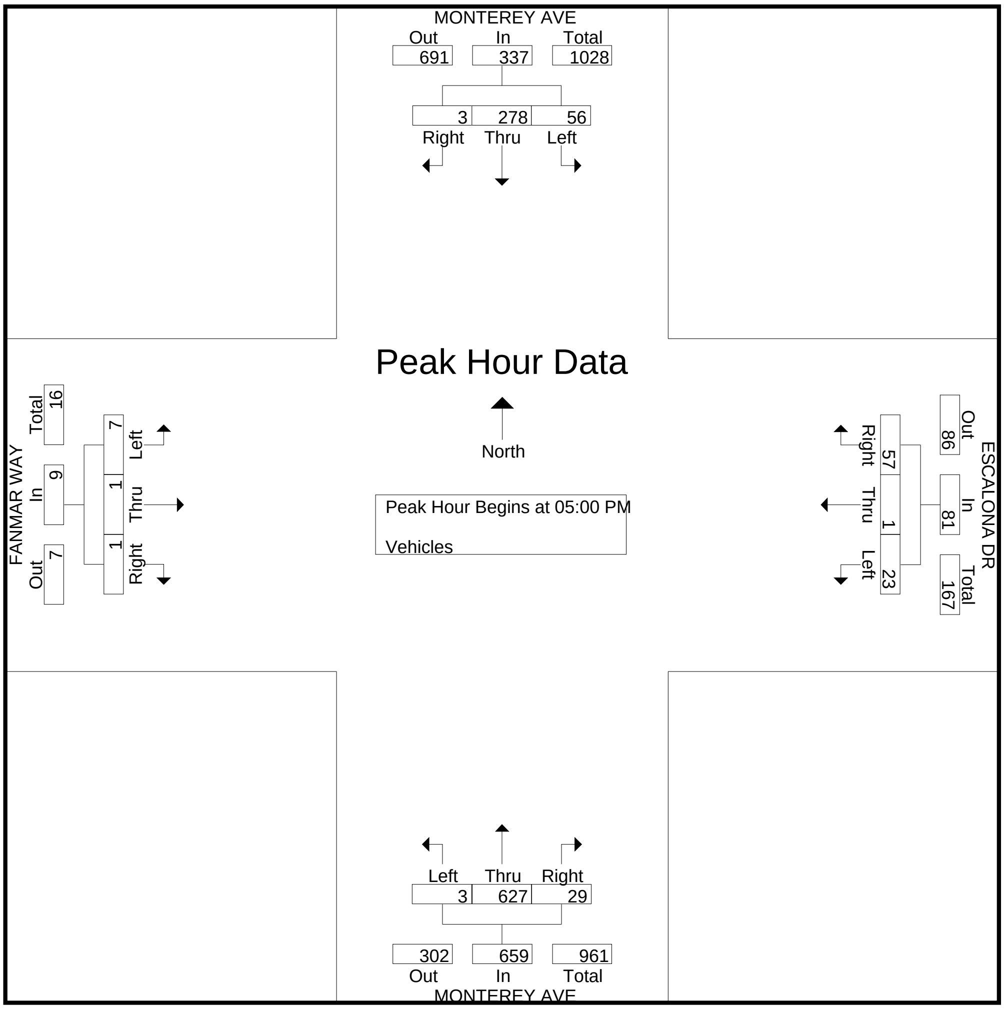

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Groups Printed- Vehicles

	MONTEREY AVE Southbound					ESCALONA DR Westbound					MONTEREY AVE Northbound					FANMAR WY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	3	74	17	0	94	0	0	0	10	10	12	80	2	4	98	0	0	2	38	40	242
12:15 PM	4	71	21	0	96	12	2	8	5	27	8	85	6	3	102	0	0	4	25	29	254
12:30 PM	2	82	18	0	102	13	1	4	2	20	7	84	1	1	93	0	0	1	15	16	231
12:45 PM	7	67	19	2	95	19	1	7	9	36	4	75	3	3	85	1	0	3	14	18	234
Total	16	294	75	2	387	44	4	19	26	93	31	324	12	11	378	1	0	10	92	103	961
01:00 PM	2	67	14	0	83	12	2	4	5	23	9	94	0	1	104	0	0	4	19	23	233
01:15 PM	2	63	14	0	79	20	0	6	15	41	4	89	4	5	102	0	1	1	33	35	257
01:30 PM	1	60	11	0	72	9	1	7	7	24	8	101	4	11	124	0	1	0	30	31	251
01:45 PM	2	52	15	0	69	21	0	8	5	34	7	86	3	2	98	1	0	1	23	25	226
Total	7	242	54	0	303	62	3	25	32	122	28	370	11	19	428	1	2	6	105	114	967
Grand Total	23	536	129	2	690	106	7	44	58	215	59	694	23	30	806	2	2	16	197	217	1928
Apprch %	3.3	77.7	18.7	0.3		49.3	3.3	20.5	27		7.3	86.1	2.9	3.7		0.9	0.9	7.4	90.8		
Total %	1.2	27.8	6.7	0.1	35.8	5.5	0.4	2.3	3	11.2	3.1	36	1.2	1.6	41.8	0.1	0.1	0.8	10.2	11.3	

	MONTEREY AVE Southbound				ESCALONA DR Westbound				MONTEREY AVE Northbound				FANMAR WY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15 PM																	
12:15 PM	4	71	**21**	96	12	**2**	**8**	22	8	85	**6**	99	0	0	**4**	**4**	**221**
12:30 PM	2	**82**	18	**102**	13	1	4	18	7	84	1	92	0	0	1	1	213
12:45 PM	**7**	67	19	93	**19**	1	7	**27**	4	75	3	82	**1**	0	3	4	206
01:00 PM	2	67	14	83	12	2	4	18	**9**	**94**	0	**103**	0	0	4	4	208
Total Volume	15	287	72	374	56	6	23	85	28	338	10	376	1	0	12	13	848
% App. Total	4	76.7	19.3		65.9	7.1	27.1		7.4	89.9	2.7		7.7	0	92.3		
PHF	.536	.875	.857	.917	.737	.750	.719	.787	.778	.899	.417	.913	.250	.000	.750	.813	.959

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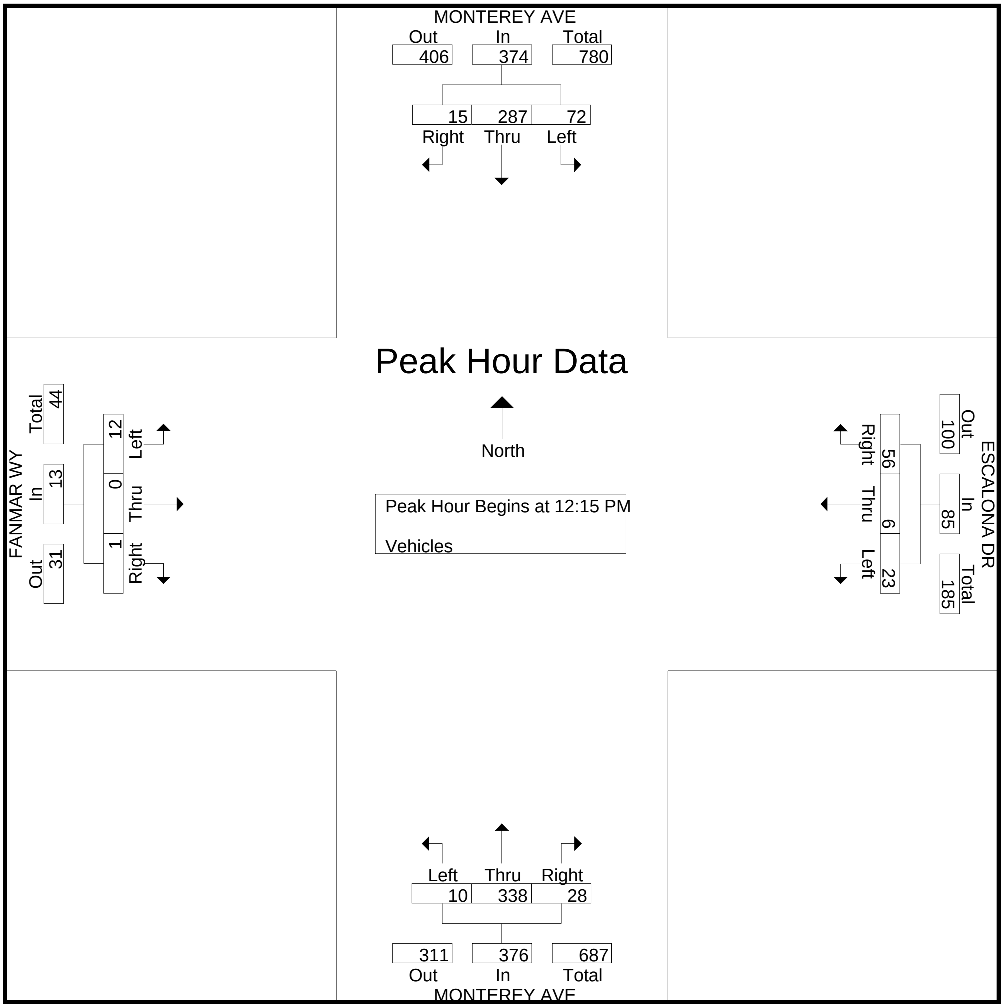

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File Name : 3AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					PARK AVE Westbound					MONTEREY AVE Northbound					PARK AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	8	1	0	9	10	1	22	1	34	22	15	0	0	37	0	0	1	3	4	84
07:15 AM	0	14	5	1	20	13	0	36	1	50	31	27	0	1	59	0	0	0	2	2	131
07:30 AM	0	18	12	3	33	15	1	58	11	85	110	35	0	2	147	0	1	2	9	12	277
07:45 AM	0	24	14	1	39	45	0	127	3	175	101	43	0	0	144	0	3	2	5	10	368
Total	0	64	32	5	101	83	2	243	16	344	264	120	0	3	387	0	4	5	19	28	860
08:00 AM	0	23	5	0	28	19	0	107	2	128	61	29	1	0	91	1	0	1	2	4	251
08:15 AM	3	20	9	1	33	18	5	84	1	108	61	17	0	0	78	0	0	2	2	4	223
08:30 AM	0	20	8	0	28	14	1	104	1	120	49	18	0	2	69	2	0	0	2	4	221
08:45 AM	0	23	10	1	34	19	0	94	2	115	53	22	1	2	78	0	0	0	3	3	230
Total	3	86	32	2	123	70	6	389	6	471	224	86	2	4	316	3	0	3	9	15	925
Grand Total	3	150	64	7	224	153	8	632	22	815	488	206	2	7	703	3	4	8	28	43	1785
Apprch %	1.3	67	28.6	3.1		18.8	1	77.5	2.7		69.4	29.3	0.3	1		7	9.3	18.6	65.1		
Total %	0.2	8.4	3.6	0.4	12.5	8.6	0.4	35.4	1.2	45.7	27.3	11.5	0.1	0.4	39.4	0.2	0.2	0.4	1.6	2.4	

	MONTEREY AVE Southbound				PARK AVE Westbound				MONTEREY AVE Northbound				PARK AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	18	12	30	15	1	58	74	**110**	35	0	**145**	0	1	**2**	3	252
07:45 AM	0	**24**	**14**	**38**	**45**	0	**127**	**172**	101	**43**	0	144	0	**3**	2	**5**	**359**
08:00 AM	0	23	5	28	19	0	107	126	61	29	**1**	91	**1**	0	1	2	247
08:15 AM	**3**	20	9	32	18	**5**	84	107	61	17	0	78	0	0	2	2	219
Total Volume	3	85	40	128	97	6	376	479	333	124	1	458	1	4	7	12	1077
% App. Total	2.3	66.4	31.2		20.3	1.3	78.5		72.7	27.1	0.2		8.3	33.3	58.3		
PHF	.250	.885	.714	.842	.539	.300	.740	.696	.757	.721	.250	.790	.250	.333	.875	.600	.750

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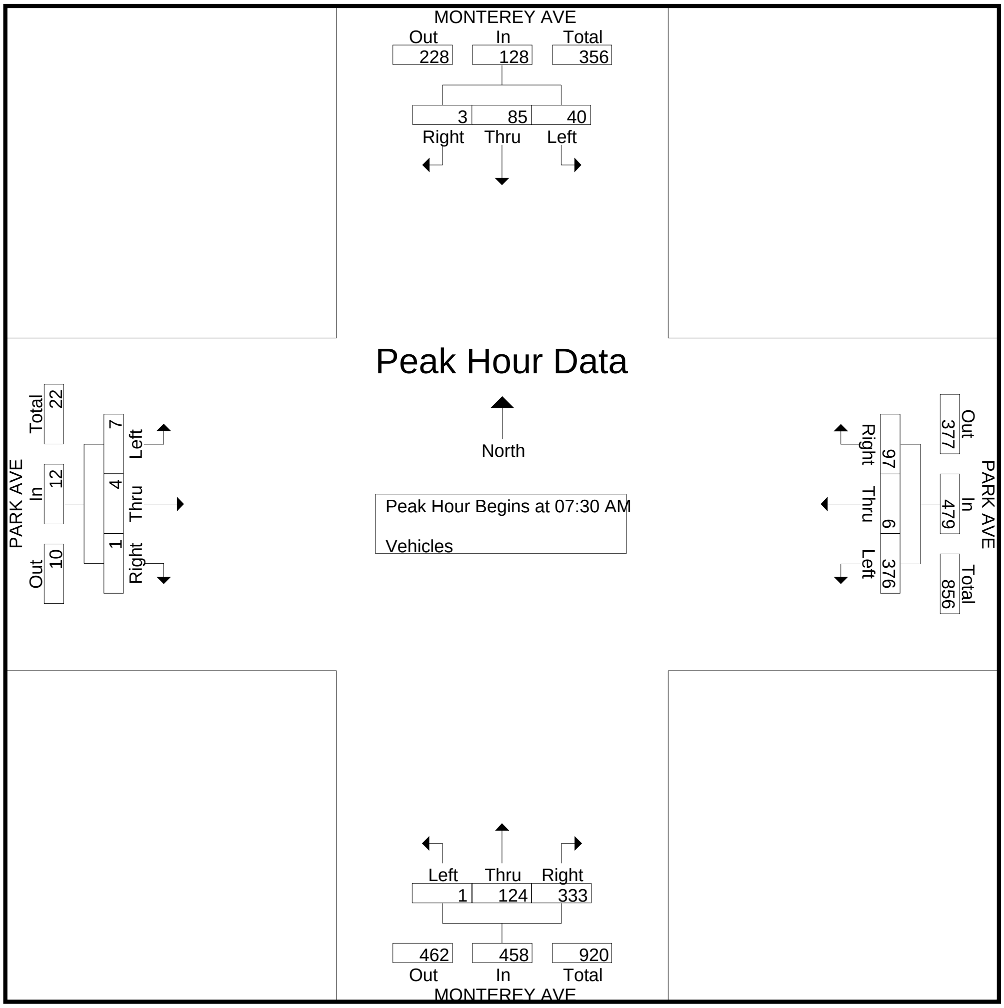

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Groups Printed- Vehicles

	MONTEREY AVE Southbound					PARK AVE Westbound					MONTEREY AVE Northbound					PARK AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	22	17	0	39	4	0	59	3	66	123	31	0	1	155	1	3	0	8	12	272
04:15 PM	0	21	25	3	49	7	0	51	1	59	131	32	0	1	164	3	0	2	7	12	284
04:30 PM	1	24	19	0	44	8	0	57	1	66	125	43	0	0	168	2	1	1	2	6	284
04:45 PM	0	18	29	0	47	7	2	58	0	67	114	23	1	0	138	1	1	0	7	9	261
Total	1	85	90	3	179	26	2	225	5	258	493	129	1	2	625	7	5	3	24	39	1101
05:00 PM	1	24	25	2	52	12	0	56	1	69	123	45	0	1	169	3	2	2	4	11	301
05:15 PM	0	30	22	0	52	19	0	52	11	82	129	38	0	1	168	2	2	4	1	9	311
05:30 PM	0	34	30	2	66	11	0	61	3	75	136	26	2	0	164	2	0	0	6	8	313
05:45 PM	2	30	33	2	67	7	0	45	7	59	128	43	0	2	173	0	0	0	4	4	303
Total	3	118	110	6	237	49	0	214	22	285	516	152	2	4	674	7	4	6	15	32	1228
Grand Total	4	203	200	9	416	75	2	439	27	543	1009	281	3	6	1299	14	9	9	39	71	2329
Apprch %	1	48.8	48.1	2.2		13.8	0.4	80.8	5		77.7	21.6	0.2	0.5		19.7	12.7	12.7	54.9		
Total %	0.2	8.7	8.6	0.4	17.9	3.2	0.1	18.8	1.2	23.3	43.3	12.1	0.1	0.3	55.8	0.6	0.4	0.4	1.7	3	

	MONTEREY AVE Southbound				PARK AVE Westbound				MONTEREY AVE Northbound				PARK AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	24	25	50	12	0	56	68	123	**45**	0	168	**3**	**2**	2	7	293
05:15 PM	0	30	22	52	**19**	0	52	71	129	38	0	167	2	2	**4**	**8**	298
05:30 PM	0	**34**	30	64	11	0	**61**	**72**	**136**	26	**2**	164	2	0	0	2	**302**
05:45 PM	**2**	30	**33**	**65**	7	0	45	52	128	43	0	**171**	0	0	0	0	288
Total Volume	3	118	110	231	49	0	214	263	516	152	2	670	7	4	6	17	1181
% App. Total	1.3	51.1	47.6		18.6	0	81.4		77	22.7	0.3		41.2	23.5	35.3		
PHF	.375	.868	.833	.888	.645	.000	.877	.913	.949	.844	.250	.980	.583	.500	.375	.531	.978

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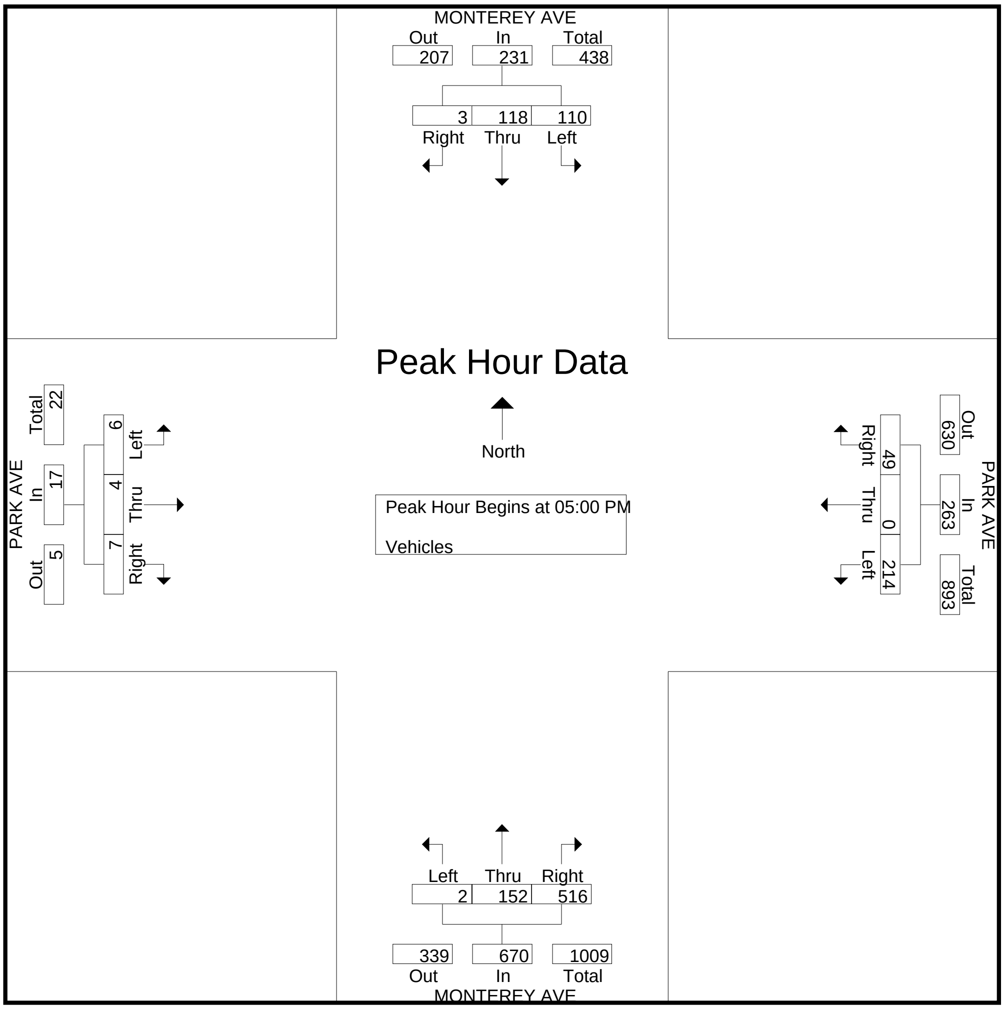

Traffic Data Service

Campbell, CA
(408) 377-2988
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File Name : 3MID FINAL
Site Code : 00000003
Start Date : 8/10/2013
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					PARK AVE Westbound					MONTEREY AVE Northbound					PARK AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	2	36	11	0	49	13	6	55	4	78	49	28	19	0	96	4	0	1	10	15	238
12:15 PM	4	39	14	0	57	14	5	57	0	76	59	32	8	2	101	1	2	2	5	10	244
12:30 PM	4	43	10	0	57	11	2	54	1	68	52	39	12	3	106	6	0	4	2	12	243
12:45 PM	4	32	14	2	52	11	4	58	13	86	50	40	2	3	95	4	0	5	6	15	248
Total	14	150	49	2	215	49	17	224	18	308	210	139	41	8	398	15	2	12	23	52	973
01:00 PM	5	39	14	3	61	16	3	43	5	67	67	46	5	0	118	5	1	3	9	18	264
01:15 PM	4	28	23	1	56	9	8	43	12	72	50	47	5	2	104	8	8	11	15	42	274
01:30 PM	4	28	24	2	58	20	1	38	2	61	72	40	11	0	123	3	6	6	14	29	271
01:45 PM	3	25	23	3	54	16	4	34	13	67	56	36	11	7	110	12	7	5	14	38	269
Total	16	120	84	9	229	61	16	158	32	267	245	169	32	9	455	28	22	25	52	127	1078
Grand Total	30	270	133	11	444	110	33	382	50	575	455	308	73	17	853	43	24	37	75	179	2051
Apprch %	6.8	60.8	30	2.5		19.1	5.7	66.4	8.7		53.3	36.1	8.6	2		24	13.4	20.7	41.9		
Total %	1.5	13.2	6.5	0.5	21.6	5.4	1.6	18.6	2.4	28	22.2	15	3.6	0.8	41.6	2.1	1.2	1.8	3.7	8.7	

	MONTEREY AVE Southbound				PARK AVE Westbound				MONTEREY AVE Northbound				PARK AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	**5**	**39**	14	**58**	16	3	**43**	**62**	67	46	5	118	5	1	3	9	247
01:15 PM	4	28	23	55	9	**8**	43	60	50	**47**	5	102	8	**8**	**11**	**27**	244
01:30 PM	4	28	**24**	56	**20**	1	38	59	**72**	40	**11**	**123**	3	6	6	15	**253**
01:45 PM	3	25	23	51	16	4	34	54	56	36	11	103	**12**	7	5	24	232
Total Volume	16	120	84	220	61	16	158	235	245	169	32	446	28	22	25	75	976
% App. Total	7.3	54.5	38.2		26	6.8	67.2		54.9	37.9	7.2		37.3	29.3	33.3		
PHF	.800	.769	.875	.948	.763	.500	.919	.948	.851	.899	.727	.907	.583	.688	.568	.694	.964

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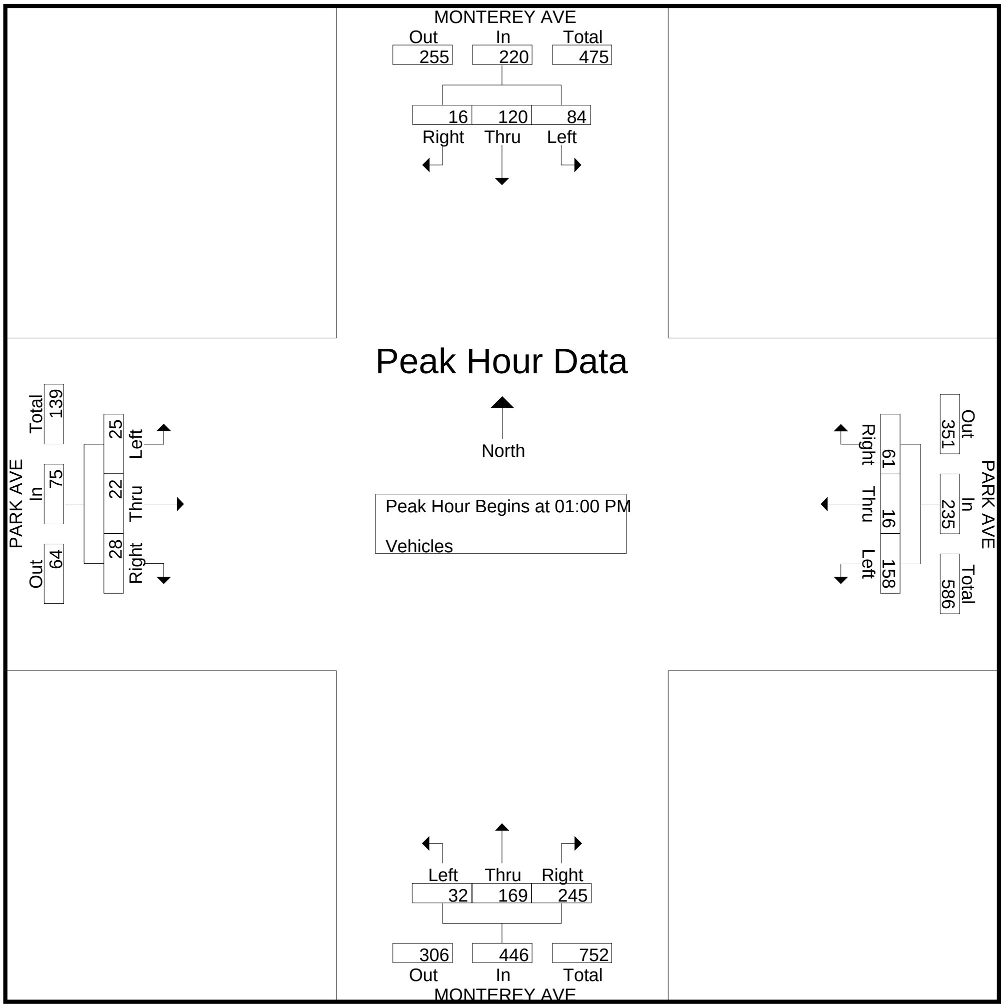

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File Name : 4AM FINAL
Site Code : 00000004
Start Date : 9/12/2013
Page No : 1

Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	17	4	0	1	22	0	0	0	0	0	0	5	22	0	27	5	0	11	1	17	66
07:15 AM	19	7	0	0	26	0	0	0	0	0	0	11	29	0	40	11	0	19	0	30	96
07:30 AM	84	16	0	3	103	0	0	0	0	0	0	24	29	0	53	14	0	86	8	108	264
07:45 AM	112	19	0	5	136	0	0	0	0	0	0	25	60	0	85	21	0	78	8	107	328
Total	232	46	0	9	287	0	0	0	0	0	0	65	140	0	205	51	0	194	17	262	754
08:00 AM	47	7	0	2	56	0	0	0	0	0	0	7	48	0	55	18	0	15	1	34	145
08:15 AM	36	6	0	1	43	0	0	0	0	0	0	6	31	0	37	26	0	22	2	50	130
08:30 AM	34	7	0	3	44	0	0	0	0	0	0	4	28	0	32	19	0	14	1	34	110
08:45 AM	41	13	0	1	55	0	0	0	0	0	0	3	40	0	43	18	0	14	1	33	131
Total	158	33	0	7	198	0	0	0	0	0	0	20	147	0	167	81	0	65	5	151	516
Grand Total	390	79	0	16	485	0	0	0	0	0	0	85	287	0	372	132	0	259	22	413	1270
Apprch %	80.4	16.3	0	3.3		0	0	0	0		0	22.8	77.2	0		32	0	62.7	5.3		
Total %	30.7	6.2	0	1.3	38.2	0	0	0	0	0	0	6.7	22.6	0	29.3	10.4	0	20.4	1.7	32.5	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	84	16	0	100	0	0	0	0	0	24	29	53	14	0	**86**	**100**	253
07:45 AM	**112**	**19**	0	**131**	0	0	0	0	0	**25**	**60**	**85**	21	0	78	99	**315**
08:00 AM	47	7	0	54	0	0	0	0	0	7	48	55	18	0	15	33	142
08:15 AM	36	6	0	42	0	0	0	0	0	6	31	37	**26**	0	22	48	127
Total Volume	279	48	0	327	0	0	0	0	0	62	168	230	79	0	201	280	837
% App. Total	85.3	14.7	0		0	0	0		0	27	73		28.2	0	71.8		
PHF	.623	.632	.000	.624	.000	.000	.000	.000	.000	.620	.700	.676	.760	.000	.584	.700	.664

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File Name : 4AM FINAL
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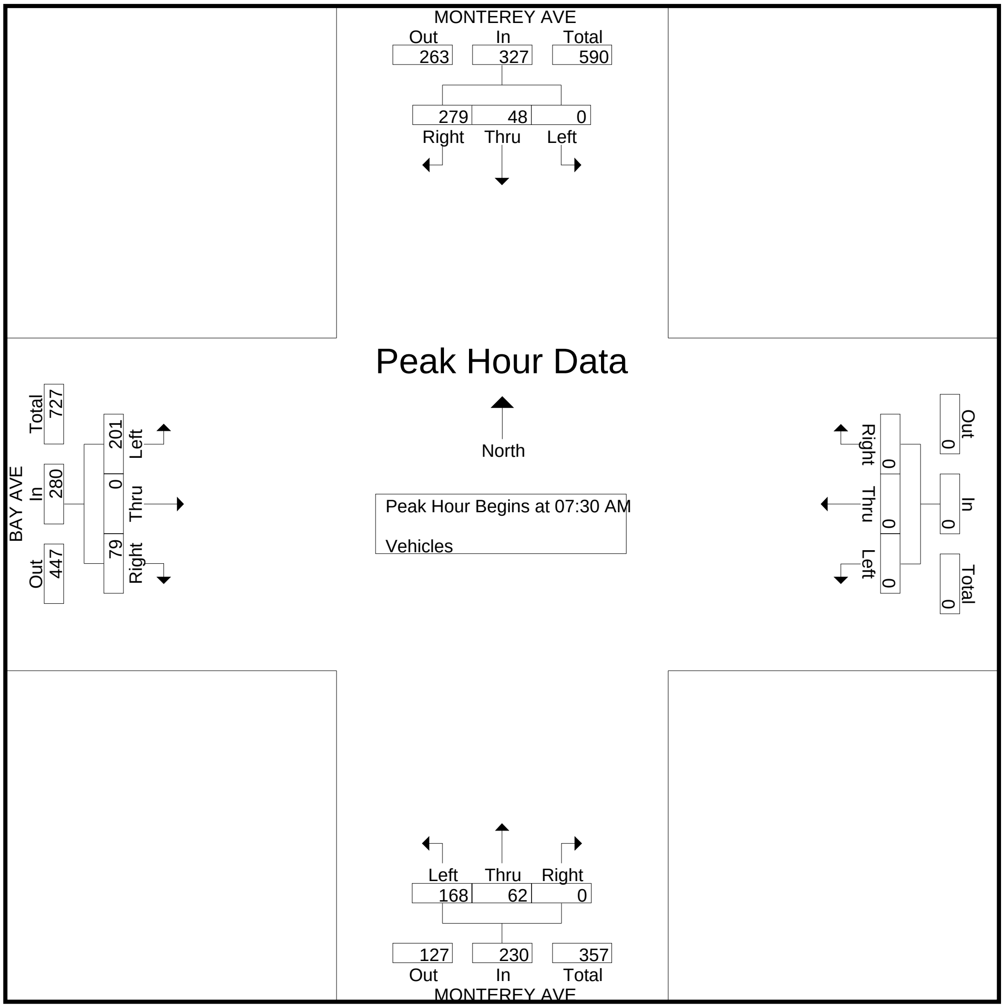

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File Name : 4PM FINAL
Site Code : 00000004
Start Date : 8/8/2013
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	21	12	0	1	34	0	0	0	0	0	0	8	57	0	65	40	0	37	0	77	176
04:15 PM	29	13	0	1	43	0	0	0	0	0	0	5	44	0	49	51	0	32	2	85	177
04:30 PM	26	13	0	2	41	0	0	0	0	0	0	14	49	0	63	43	0	41	1	85	189
04:45 PM	22	7	0	4	33	0	0	0	0	0	0	12	35	0	47	44	0	53	6	103	183
Total	98	45	0	8	151	0	0	0	0	0	0	39	185	0	224	178	0	163	9	350	725
05:00 PM	20	7	0	0	27	0	0	0	0	0	0	10	46	0	56	49	0	50	0	99	182
05:15 PM	23	9	0	3	35	0	0	0	0	0	0	7	50	0	57	39	0	46	4	89	181
05:30 PM	24	9	0	5	38	0	0	0	0	0	0	7	36	0	43	46	0	46	2	94	175
05:45 PM	27	8	0	7	42	0	0	0	0	0	0	9	39	0	48	40	0	50	3	93	183
Total	94	33	0	15	142	0	0	0	0	0	0	33	171	0	204	174	0	192	9	375	721
Grand Total	192	78	0	23	293	0	0	0	0	0	0	72	356	0	428	352	0	355	18	725	1446
Apprch %	65.5	26.6	0	7.8		0	0	0	0		0	16.8	83.2	0		48.6	0	49	2.5		
Total %	13.3	5.4	0	1.6	20.3	0	0	0	0	0	0	5	24.6	0	29.6	24.3	0	24.6	1.2	50.1	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**29**	**13**	0	**42**	0	0	0	0	0	5	44	49	**51**	0	32	83	174
04:30 PM	26	13	0	39	0	0	0	0	0	**14**	**49**	**63**	43	0	41	84	**186**
04:45 PM	22	7	0	29	0	0	0	0	0	12	35	47	44	0	**53**	97	173
05:00 PM	20	7	0	27	0	0	0	0	0	10	46	56	49	0	50	**99**	182
Total Volume	97	40	0	137	0	0	0	0	0	41	174	215	187	0	176	363	715
% App. Total	70.8	29.2	0		0	0	0		0	19.1	80.9		51.5	0	48.5		
PHF	.836	.769	.000	.815	.000	.000	.000	.000	.000	.732	.888	.853	.917	.000	.830	.917	.961

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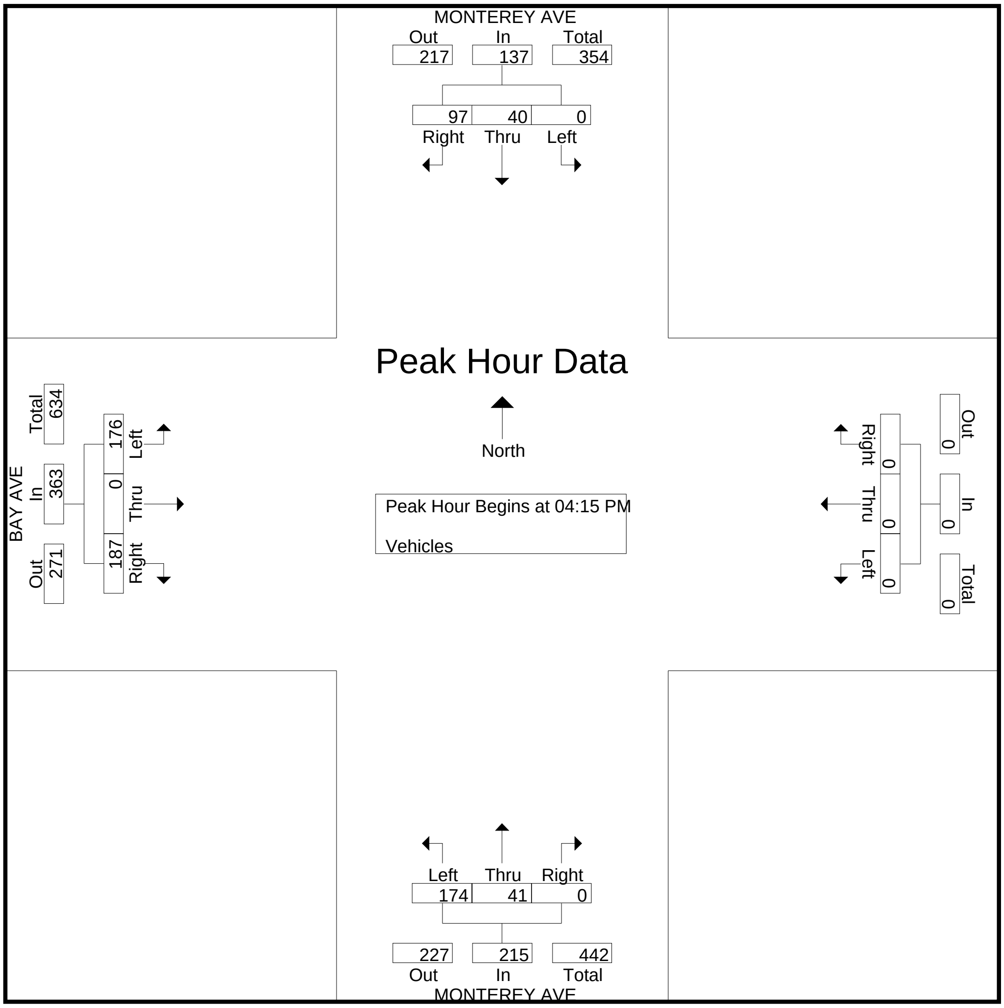

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File Name : 4MID FINAL
Site Code : 00000004
Start Date : 8/10/2013
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	32	7	0	3	42	0	0	0	0	0	0	5	39	0	44	43	0	18	6	67	153
12:15 PM	37	6	0	2	45	0	0	0	0	0	0	7	44	0	51	52	0	19	3	74	170
12:30 PM	41	9	0	1	51	0	0	0	0	0	0	6	48	0	54	46	0	18	4	68	173
12:45 PM	33	6	0	9	48	0	0	0	0	0	0	1	55	2	58	46	0	18	6	70	176
Total	143	28	0	15	186	0	0	0	0	0	0	19	186	2	207	187	0	73	19	279	672
01:00 PM	41	11	0	5	57	0	0	0	0	0	0	10	53	0	63	46	0	22	1	69	189
01:15 PM	27	8	0	6	41	0	0	0	0	0	0	12	53	0	65	45	0	21	10	76	182
01:30 PM	28	9	0	0	37	0	0	0	0	0	0	9	61	0	70	46	0	28	3	77	184
01:45 PM	23	3	0	13	39	0	0	0	0	0	0	7	50	0	57	53	0	27	16	96	192
Total	119	31	0	24	174	0	0	0	0	0	0	38	217	0	255	190	0	98	30	318	747
Grand Total	262	59	0	39	360	0	0	0	0	0	0	57	403	2	462	377	0	171	49	597	1419
Apprch %	72.8	16.4	0	10.8		0	0	0	0		0	12.3	87.2	0.4		63.1	0	28.6	8.2		
Total %	18.5	4.2	0	2.7	25.4	0	0	0	0	0	0	4	28.4	0.1	32.6	26.6	0	12.1	3.5	42.1	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	**41**	**11**	0	**52**	0	0	0	0	0	10	53	63	46	0	22	68	**183**
01:15 PM	27	8	0	35	0	0	0	0	0	**12**	53	65	45	0	21	66	166
01:30 PM	28	9	0	37	0	0	0	0	0	9	**61**	**70**	46	0	**28**	74	181
01:45 PM	23	3	0	26	0	0	0	0	0	7	50	57	**53**	0	27	**80**	163
Total Volume	119	31	0	150	0	0	0	0	0	38	217	255	190	0	98	288	693
% App. Total	79.3	20.7	0		0	0	0		0	14.9	85.1		66	0	34		
PHF	.726	.705	.000	.721	.000	.000	.000	.000	.000	.792	.889	.911	.896	.000	.875	.900	.947

Traffic Data Service

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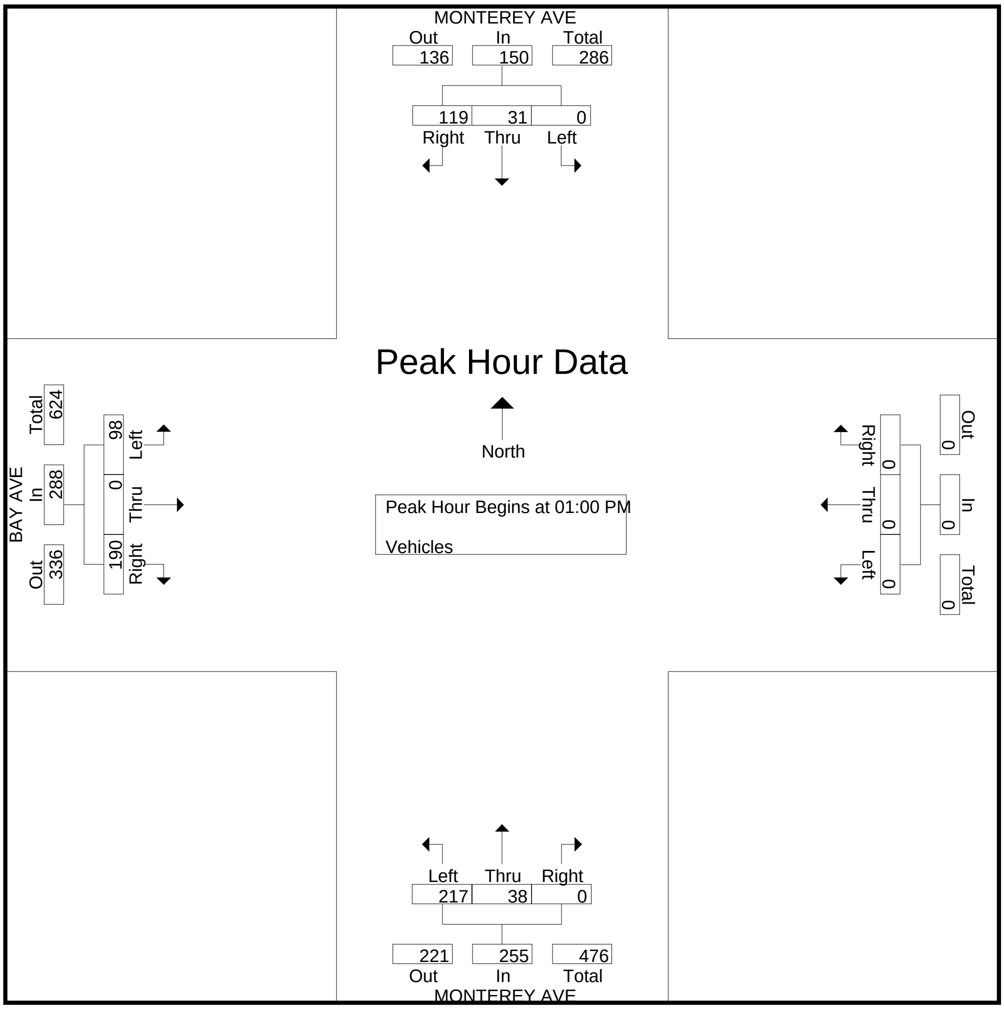

Traffic Data Service
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File Name : 5AM FINAL
Site Code : 00000005
Start Date : 9/12/2013
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Groups Printed- Vehicles

	CAPITOLA AVE Southbound					BAY AVE Westbound					CAPITOLA AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	7	12	1	2	22	4	44	2	1	51	1	5	9	2	17	11	12	8	1	32	122
07:15 AM	14	9	4	4	31	6	45	2	1	54	3	9	14	0	26	14	26	14	1	55	166
07:30 AM	16	20	30	0	66	6	91	7	4	108	2	10	16	4	32	19	82	14	0	115	321
07:45 AM	10	28	21	4	63	13	109	10	2	134	4	17	16	9	46	29	50	16	0	95	338
Total	47	69	56	10	182	29	289	21	8	347	10	41	55	15	121	73	170	52	2	297	947
08:00 AM	15	16	8	0	39	15	75	1	1	92	3	28	29	1	61	35	21	19	0	75	267
08:15 AM	11	26	14	1	52	8	51	7	0	66	4	11	24	0	39	40	33	15	0	88	245
08:30 AM	9	21	3	3	36	9	51	11	5	76	2	16	12	3	33	31	25	13	0	69	214
08:45 AM	14	22	5	0	41	10	69	11	6	96	0	22	25	1	48	40	24	24	0	88	273
Total	49	85	30	4	168	42	246	30	12	330	9	77	90	5	181	146	103	71	0	320	999
Grand Total	96	154	86	14	350	71	535	51	20	677	19	118	145	20	302	219	273	123	2	617	1946
Apprch %	27.4	44	24.6	4		10.5	79	7.5	3		6.3	39.1	48	6.6		35.5	44.2	19.9	0.3		
Total %	4.9	7.9	4.4	0.7	18	3.6	27.5	2.6	1	34.8	1	6.1	7.5	1	15.5	11.3	14	6.3	0.1	31.7	

	CAPITOLA AVE Southbound				BAY AVE Westbound				CAPITOLA AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**16**	20	**30**	**66**	6	91	7	104	2	10	16	28	19	**82**	14	**115**	313
07:45 AM	10	**28**	21	59	13	**109**	**10**	**132**	**4**	17	16	37	29	50	16	95	**323**
08:00 AM	15	16	8	39	**15**	75	1	91	3	**28**	**29**	**60**	35	21	**19**	75	265
08:15 AM	11	26	14	51	8	51	7	66	4	11	24	39	**40**	33	15	88	244
Total Volume	52	90	73	215	42	326	25	393	13	66	85	164	123	186	64	373	1145
% App. Total	24.2	41.9	34		10.7	83	6.4		7.9	40.2	51.8		33	49.9	17.2		
PHF	.813	.804	.608	.814	.700	.748	.625	.744	.813	.589	.733	.683	.769	.567	.842	.811	.886

Traffic Data Service

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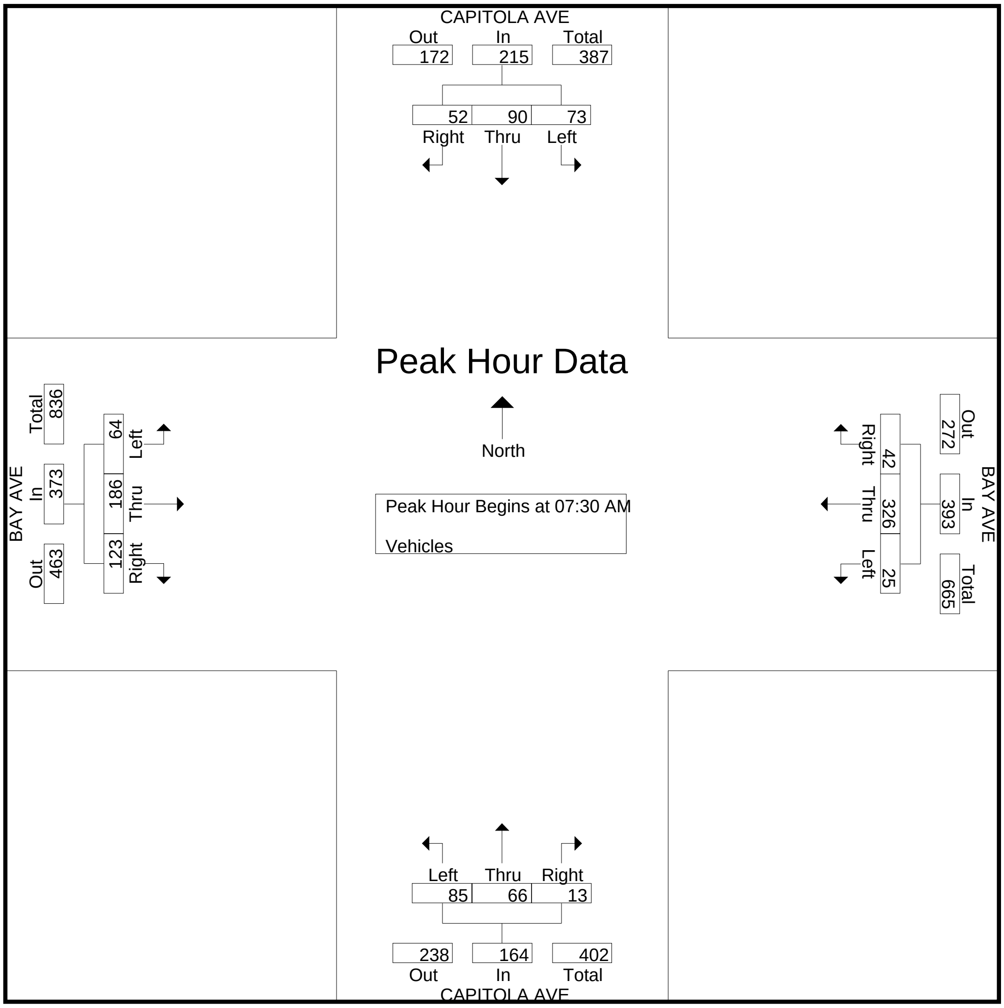

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File Name : 5PM FINAL
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Groups Printed- Vehicles

	CAPITOLA AVE Southbound					BAY AVE Westbound					CAPITOLA AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	11	25	3	2	41	8	53	14	0	75	6	21	32	0	59	34	45	19	2	100	275
04:15 PM	15	30	11	1	57	6	45	12	0	63	5	21	31	2	59	39	52	26	1	118	297
04:30 PM	6	21	16	1	44	7	54	12	2	75	8	24	16	2	50	24	55	17	7	103	272
04:45 PM	14	18	22	1	55	10	53	10	0	73	5	21	35	1	62	30	58	28	2	118	308
Total	46	94	52	5	197	31	205	48	2	286	24	87	114	5	230	127	210	90	12	439	1152
05:00 PM	14	15	9	0	38	6	66	6	3	81	9	18	35	1	63	30	65	19	2	116	298
05:15 PM	12	24	11	2	49	14	66	8	3	91	8	16	22	1	47	27	75	18	1	121	308
05:30 PM	9	16	12	4	41	11	45	7	2	65	6	20	24	4	54	31	83	11	2	127	287
05:45 PM	10	18	7	1	36	15	44	14	2	75	3	16	29	6	54	31	85	15	0	131	296
Total	45	73	39	7	164	46	221	35	10	312	26	70	110	12	218	119	308	63	5	495	1189
Grand Total	91	167	91	12	361	77	426	83	12	598	50	157	224	17	448	246	518	153	17	934	2341
Apprch %	25.2	46.3	25.2	3.3		12.9	71.2	13.9	2		11.2	35	50	3.8		26.3	55.5	16.4	1.8		
Total %	3.9	7.1	3.9	0.5	15.4	3.3	18.2	3.5	0.5	25.5	2.1	6.7	9.6	0.7	19.1	10.5	22.1	6.5	0.7	39.9	

	CAPITOLA AVE Southbound				BAY AVE Westbound				CAPITOLA AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**14**	18	**22**	**54**	10	53	**10**	73	5	**21**	**35**	61	30	58	**28**	116	**304**
05:00 PM	14	15	9	38	6	**66**	6	78	**9**	18	35	**62**	30	65	19	114	292
05:15 PM	12	**24**	11	47	**14**	66	8	**88**	8	16	22	46	27	75	18	120	301
05:30 PM	9	16	12	37	11	45	7	63	6	20	24	50	**31**	**83**	11	**125**	275
Total Volume	49	73	54	176	41	230	31	302	28	75	116	219	118	281	76	475	1172
% App. Total	27.8	41.5	30.7		13.6	76.2	10.3		12.8	34.2	53		24.8	59.2	16		
PHF	.875	.760	.614	.815	.732	.871	.775	.858	.778	.893	.829	.883	.952	.846	.679	.950	.964

Traffic Data Service
Campbell, CA
(408) 377-2988
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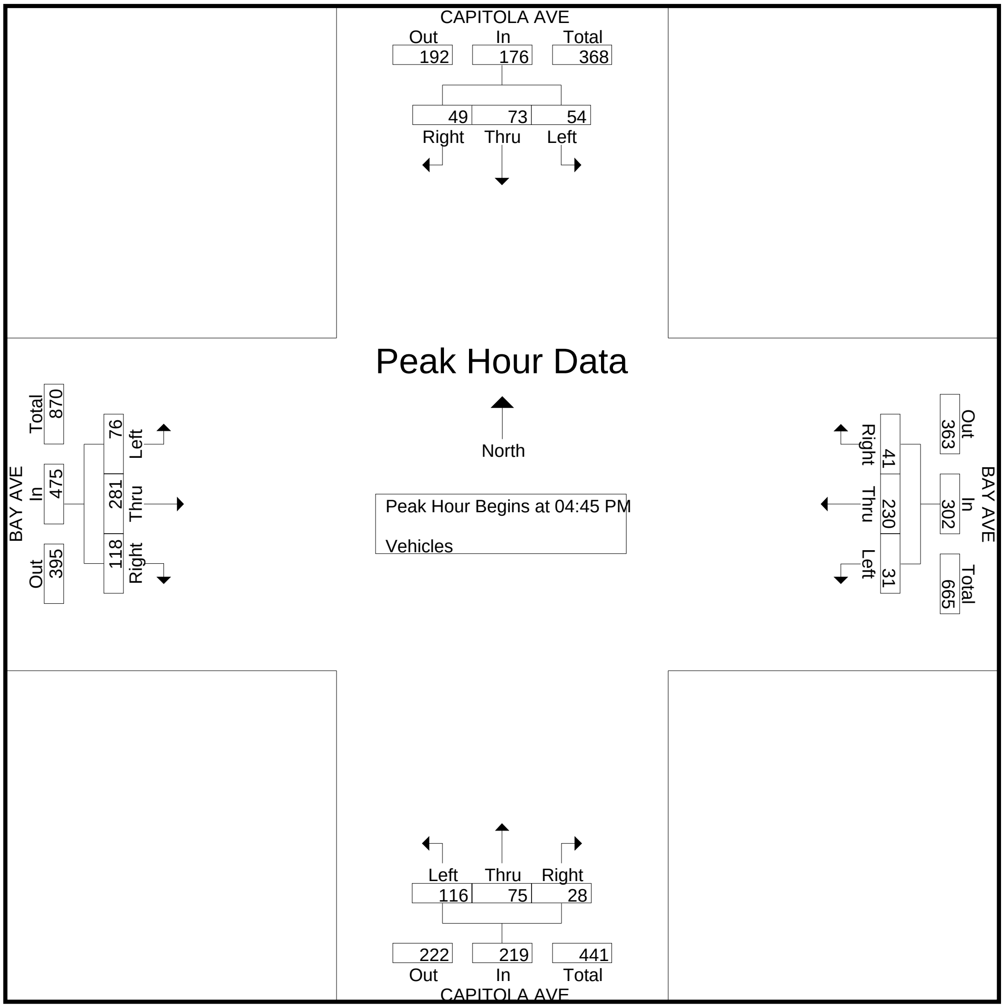
File Name : 5PM FINAL
Site Code : 00000005
Start Date : 9/12/2013
Page No : 2



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tdsbay@cs.com

File Name : 5MID FINAL
Site Code : 00000005
Start Date : 8/10/2013
Page No : 1

Groups Printed- Vehicles

	CAPITOLA AVE Southbound					BAY AVE Westbound					CAPITOLA AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	13	20	10	6	49	7	64	10	13	94	5	17	24	6	52	44	45	30	5	124	319
12:15 PM	22	14	7	8	51	10	68	20	7	105	9	15	29	1	54	44	56	24	4	128	338
12:30 PM	16	24	9	0	49	11	79	17	8	115	8	22	30	1	61	44	56	27	0	127	352
12:45 PM	18	16	16	1	51	16	52	24	25	117	8	22	32	10	72	53	50	20	7	130	370
Total	69	74	42	15	200	44	263	71	53	431	30	76	115	18	239	185	207	101	16	509	1379
01:00 PM	19	18	11	7	55	10	91	14	11	126	7	15	32	8	62	37	45	26	8	116	359
01:15 PM	25	12	10	1	48	6	60	16	13	95	3	17	23	5	48	38	61	22	6	127	318
01:30 PM	18	19	11	2	50	15	86	9	8	118	6	17	25	7	55	50	66	21	10	147	370
01:45 PM	19	20	10	1	50	7	72	15	2	96	8	9	31	3	51	46	65	23	6	140	337
Total	81	69	42	11	203	38	309	54	34	435	24	58	111	23	216	171	237	92	30	530	1384
Grand Total	150	143	84	26	403	82	572	125	87	866	54	134	226	41	455	356	444	193	46	1039	2763
Apprch %	37.2	35.5	20.8	6.5		9.5	66.1	14.4	10		11.9	29.5	49.7	9		34.3	42.7	18.6	4.4		
Total %	5.4	5.2	3	0.9	14.6	3	20.7	4.5	3.1	31.3	2	4.8	8.2	1.5	16.5	12.9	16.1	7	1.7	37.6	

	CAPITOLA AVE Southbound				BAY AVE Westbound				CAPITOLA AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15 PM																	
12:15 PM	**22**	14	7	43	10	68	20	98	**9**	15	29	53	44	**56**	24	124	318
12:30 PM	16	**24**	9	49	11	79	17	107	8	**22**	30	60	44	56	**27**	**127**	**343**
12:45 PM	18	16	**16**	**50**	**16**	52	**24**	92	8	22	**32**	**62**	**53**	50	20	123	327
01:00 PM	19	18	11	48	10	**91**	14	**115**	7	15	32	54	37	45	26	108	325
Total Volume	75	72	43	190	47	290	75	412	32	74	123	229	178	207	97	482	1313
% App. Total	39.5	37.9	22.6		11.4	70.4	18.2		14	32.3	53.7		36.9	42.9	20.1		
PHF	.852	.750	.672	.950	.734	.797	.781	.896	.889	.841	.961	.923	.840	.924	.898	.949	.957

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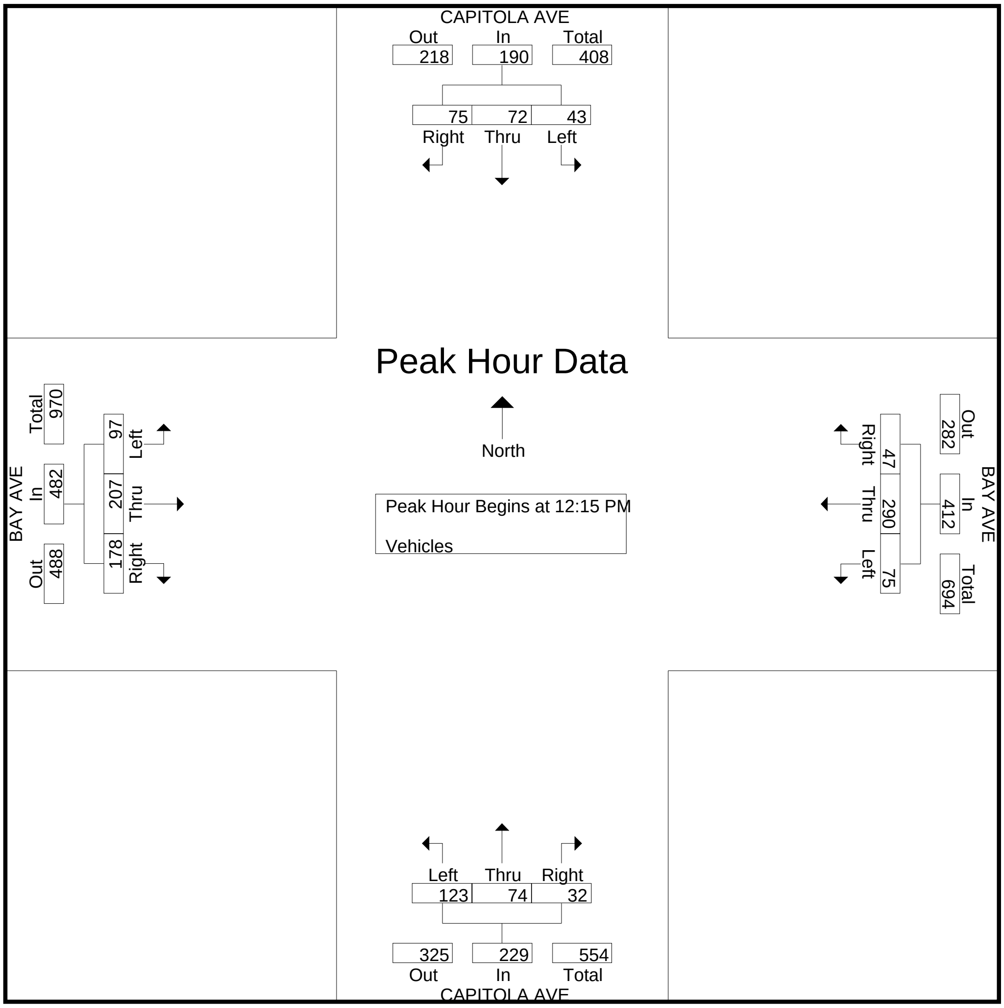
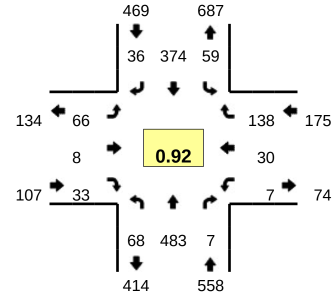
File Name : 5MID FINAL
Site Code : 00000005
Start Date : 8/10/2013
Page No : 2

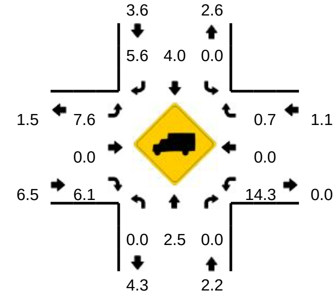


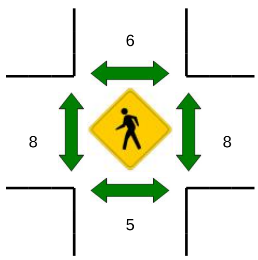
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

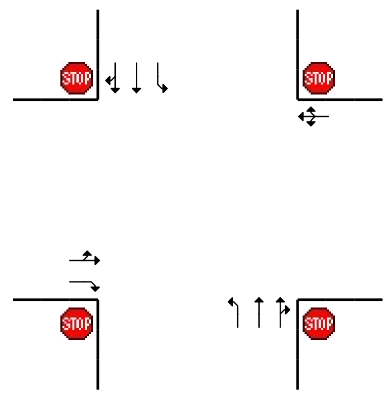
LOCATION: Bay Ave -- Hill St | **QC JOB #:** 10963617
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

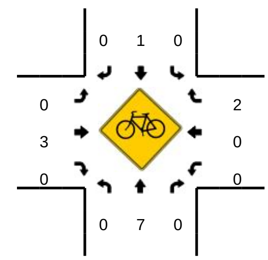


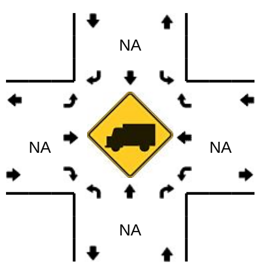
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

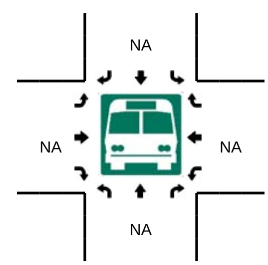












15-Min Count Period Beginning At	Bay Ave (Northbound) Left	Thru	Right	U	Bay Ave (Southbound) Left	Thru	Right	U	Hill St (Eastbound) Left	Thru	Right	U	Hill St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	12	51	1	0	10	31	2	0	10	3	5	0	0	7	14	0	146	
7:15 AM	15	70	0	0	6	44	7	0	18	1	5	0	1	6	30	0	203	
7:30 AM	12	102	2	0	13	132	6	0	14	1	9	0	1	4	33	0	329	
7:45 AM	26	138	1	0	13	96	8	0	17	2	8	0	3	9	35	0	356	1034
8:00 AM	20	124	0	0	14	65	12	0	16	3	10	0	1	10	32	0	307	1195
8:15 AM	10	119	4	0	19	81	10	0	19	2	6	0	2	7	38	0	317	1309
8:30 AM	18	99	0	0	29	80	8	0	13	3	10	0	1	12	35	0	308	1288
8:45 AM	22	82	2	0	22	87	7	0	14	5	16	0	2	4	27	0	290	1222

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	104	552	4	0	52	384	32	0	68	8	32	0	12	36	140	0	1424
Heavy Trucks	0	12	0		0	20	0		0	0	0		4	0	4		40
Pedestrians		4				8				16				12			40
Bicycles	0	1	0		0	0	0		0	2	0		0	0	0		3
Railroad																	
Stopped Buses																	

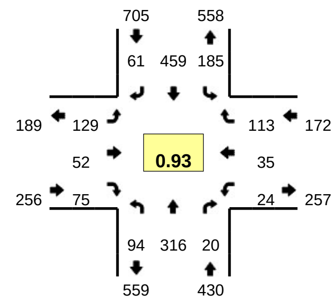
Comments:

Report generated on 6/7/2013 1:32 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

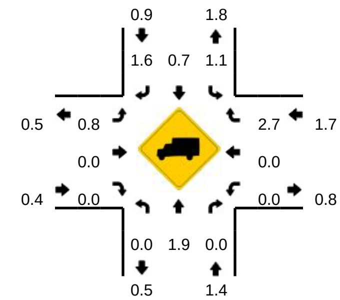
LOCATION: Bay Ave -- Hill St | **QC JOB #:** 10963618

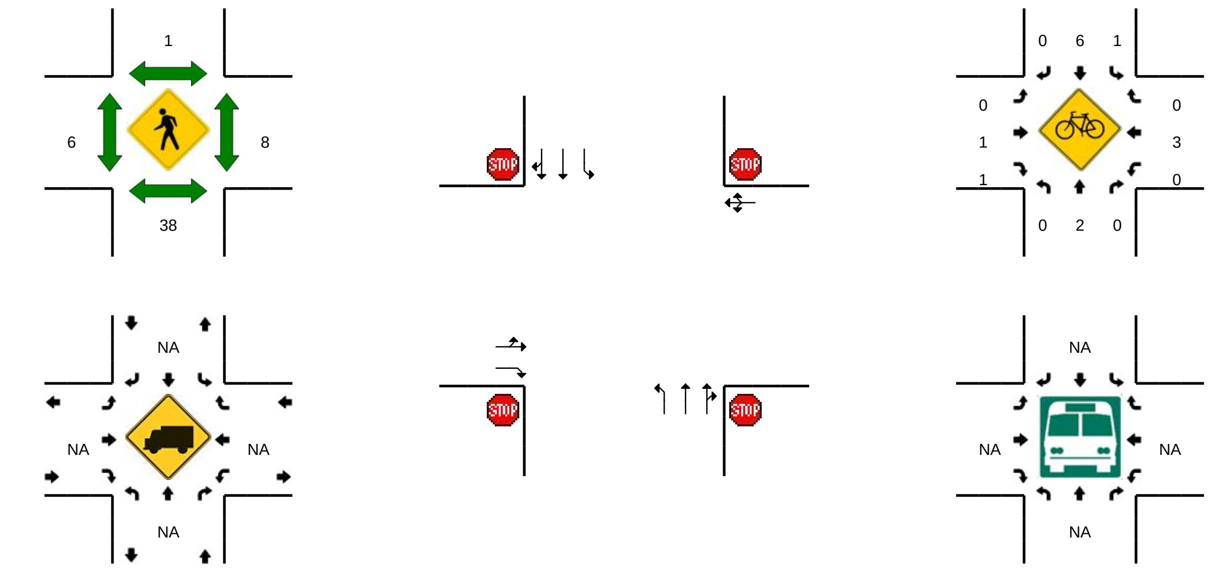
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013



Peak-Hour: 4:30 PM -- 5:30 PM

Peak 15-Min: 5:00 PM -- 5:15 PM





15-Min Count Period Beginning At	Bay Ave (Northbound) Left	Thru	Right	U	Bay Ave (Southbound) Left	Thru	Right	U	Hill St (Eastbound) Left	Thru	Right	U	Hill St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	11	98	4	0	33	74	20	1	25	10	11	0	7	8	19	0	321	
4:15 PM	19	81	6	1	38	91	16	0	25	10	16	0	4	10	20	0	337	
4:30 PM	18	87	3	0	45	111	17	0	31	10	15	0	5	8	31	0	381	
4:45 PM	26	64	6	0	39	103	12	0	35	16	20	0	8	10	32	0	371	1410
5:00 PM	26	80	5	1	59	117	13	0	32	18	21	0	7	4	35	0	418	1507
5:15 PM	23	85	6	0	42	128	19	0	31	8	19	0	4	13	15	0	393	1563
5:30 PM	16	69	4	0	35	113	14	0	28	11	22	0	5	8	22	0	347	1529
5:45 PM	9	57	2	0	45	107	16	0	25	15	24	0	6	12	22	0	340	1498

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	104	320	20	4	236	468	52	0	128	72	84	0	28	16	140	0	1672
Heavy Trucks	0	8	0		0	0	0		0	0	0		0	0	4		12
Pedestrians		48				0				8				0			56
Bicycles	0	1	0		0	3	0		0	1	0		0	0	0		5
Railroad																	
Stopped Buses																	

Comments:

Traffic Data Service

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File Name : 6MID FINAL
Site Code : 00000006
Start Date : 8/10/2013
Page No : 1

Groups Printed- Vehicles

	BAY AVE Southbound					HILL ST Westbound					BAY AVE Northbound					DRIVEWAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	14	122	28	12	176	24	15	7	4	50	5	96	21	7	129	13	7	24	24	68	423
12:15 PM	15	132	30	0	177	23	16	5	7	51	5	108	15	11	139	17	14	24	52	107	474
12:30 PM	15	113	31	0	159	36	6	3	2	47	5	115	17	7	144	20	7	26	59	112	462
12:45 PM	18	117	28	3	166	19	6	3	2	30	6	109	15	7	137	14	6	26	46	92	425
Total	62	484	117	15	678	102	43	18	15	178	21	428	68	32	549	64	34	100	181	379	1784
01:00 PM	20	108	21	5	154	15	11	6	2	34	5	124	15	10	154	13	12	32	4	61	403
01:15 PM	14	121	40	0	175	28	10	2	3	43	8	95	20	9	132	19	11	24	2	56	406
01:30 PM	11	124	34	0	169	24	7	5	5	41	5	107	28	8	148	22	7	26	2	57	415
01:45 PM	10	127	26	4	167	33	4	3	0	40	4	104	24	5	137	10	9	17	6	42	386
Total	55	480	121	9	665	100	32	16	10	158	22	430	87	32	571	64	39	99	14	216	1610
Grand Total	117	964	238	24	1343	202	75	34	25	336	43	858	155	64	1120	128	73	199	195	595	3394
Apprch %	8.7	71.8	17.7	1.8		60.1	22.3	10.1	7.4		3.8	76.6	13.8	5.7		21.5	12.3	33.4	32.8		
Total %	3.4	28.4	7	0.7	39.6	6	2.2	1	0.7	9.9	1.3	25.3	4.6	1.9	33	3.8	2.2	5.9	5.7	17.5	

	BAY AVE Southbound				HILL ST Westbound				BAY AVE Northbound				DRIVEWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15 PM																	
12:15 PM	15	**132**	30	**177**	23	**16**	5	44	5	108	15	128	17	**14**	24	55	**404**
12:30 PM	15	113	**31**	159	**36**	6	3	**45**	5	115	**17**	137	**20**	7	26	53	394
12:45 PM	18	117	28	163	19	6	3	28	**6**	109	15	130	14	6	26	46	367
01:00 PM	**20**	108	21	149	15	11	**6**	32	5	**124**	15	**144**	13	12	**32**	**57**	382
Total Volume	68	470	110	648	93	39	17	149	21	456	62	539	64	39	108	211	1547
% App. Total	10.5	72.5	17		62.4	26.2	11.4		3.9	84.6	11.5		30.3	18.5	51.2		
PHF	.850	.890	.887	.915	.646	.609	.708	.828	.875	.919	.912	.936	.800	.696	.844	.925	.957

Traffic Data Service

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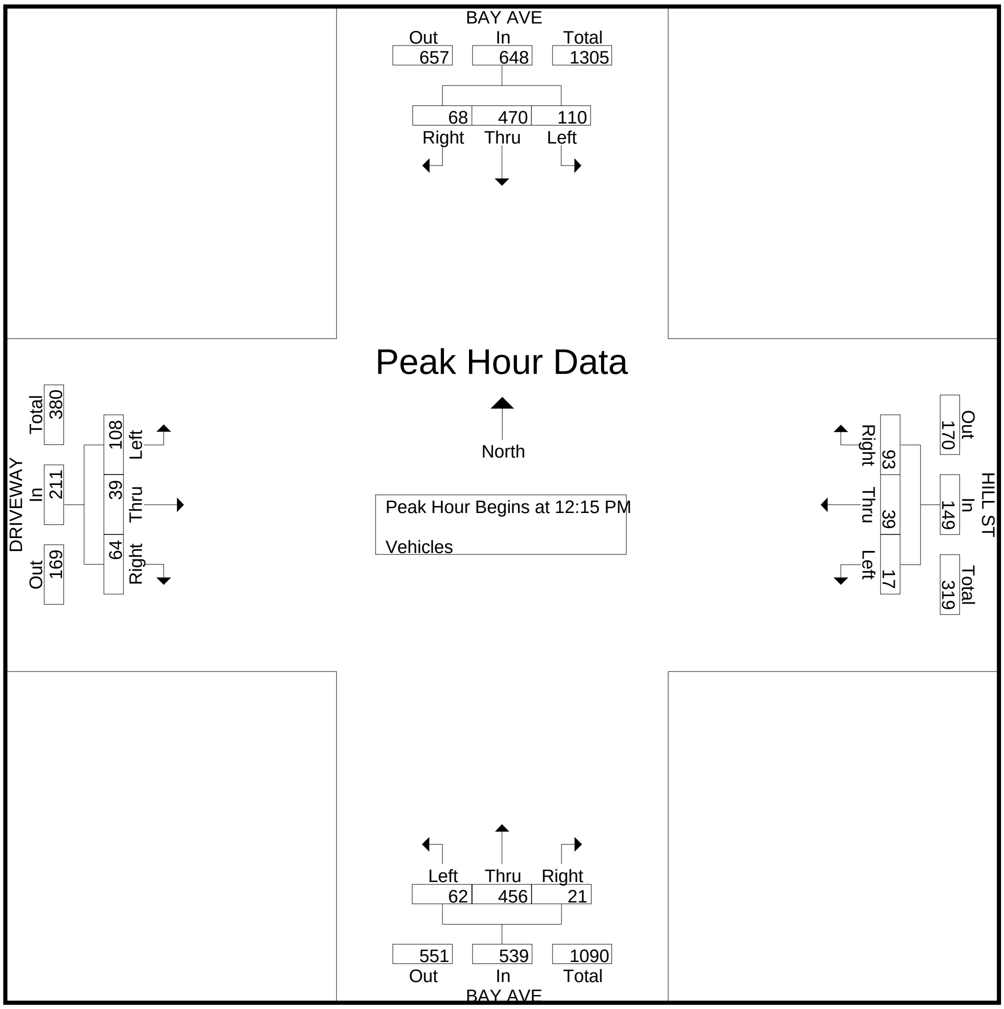
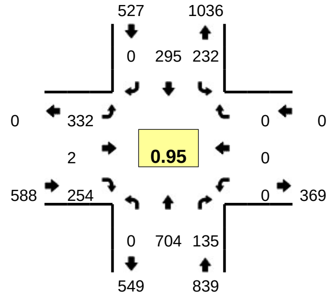
File Name : 6MID FINAL
Site Code : 00000006
Start Date : 8/10/2013
Page No : 2

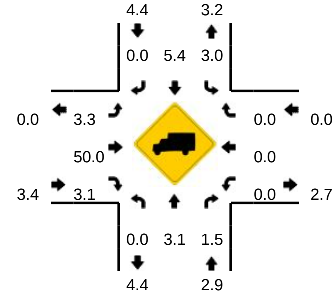


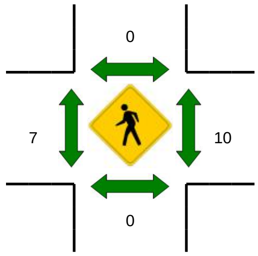
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

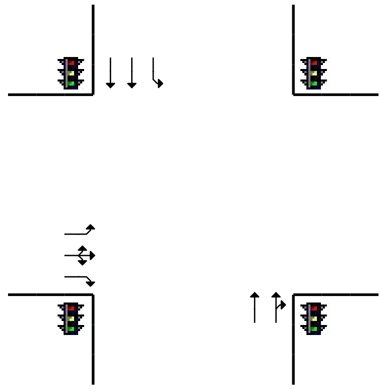
LOCATION: Bay Ave -- SR 1 SB Ramps | **QC JOB #:** 10963615
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

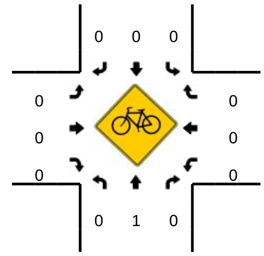


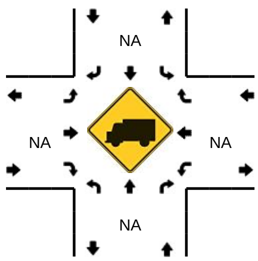
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

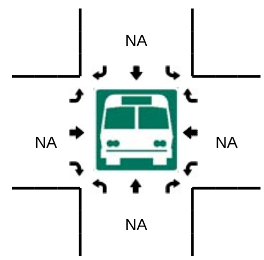












15-Min Count Period Beginning At	Bay Ave (Northbound) Left	Thru	Right	U	Bay Ave (Southbound) Left	Thru	Right	U	SR 1 SB Ramps (Eastbound) Left	Thru	Right	U	SR 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	64	28	0	38	52	0	0	38	0	35	0	0	0	0	0	255	
7:15 AM	0	121	30	0	43	55	0	0	42	0	46	0	0	0	0	0	337	
7:30 AM	0	132	31	0	63	96	0	0	58	0	80	0	0	0	0	0	460	
7:45 AM	0	192	43	0	56	90	0	0	64	0	69	0	0	0	0	0	514	1566
8:00 AM	0	176	28	0	55	51	0	0	97	1	58	0	0	0	0	0	466	1777
8:15 AM	0	177	31	0	67	71	0	0	102	1	47	0	0	0	0	0	496	1936
8:30 AM	0	159	33	0	54	83	0	0	69	0	80	0	0	0	0	0	478	1954
8:45 AM	0	119	22	0	51	83	0	0	71	0	63	0	0	0	0	0	409	1849

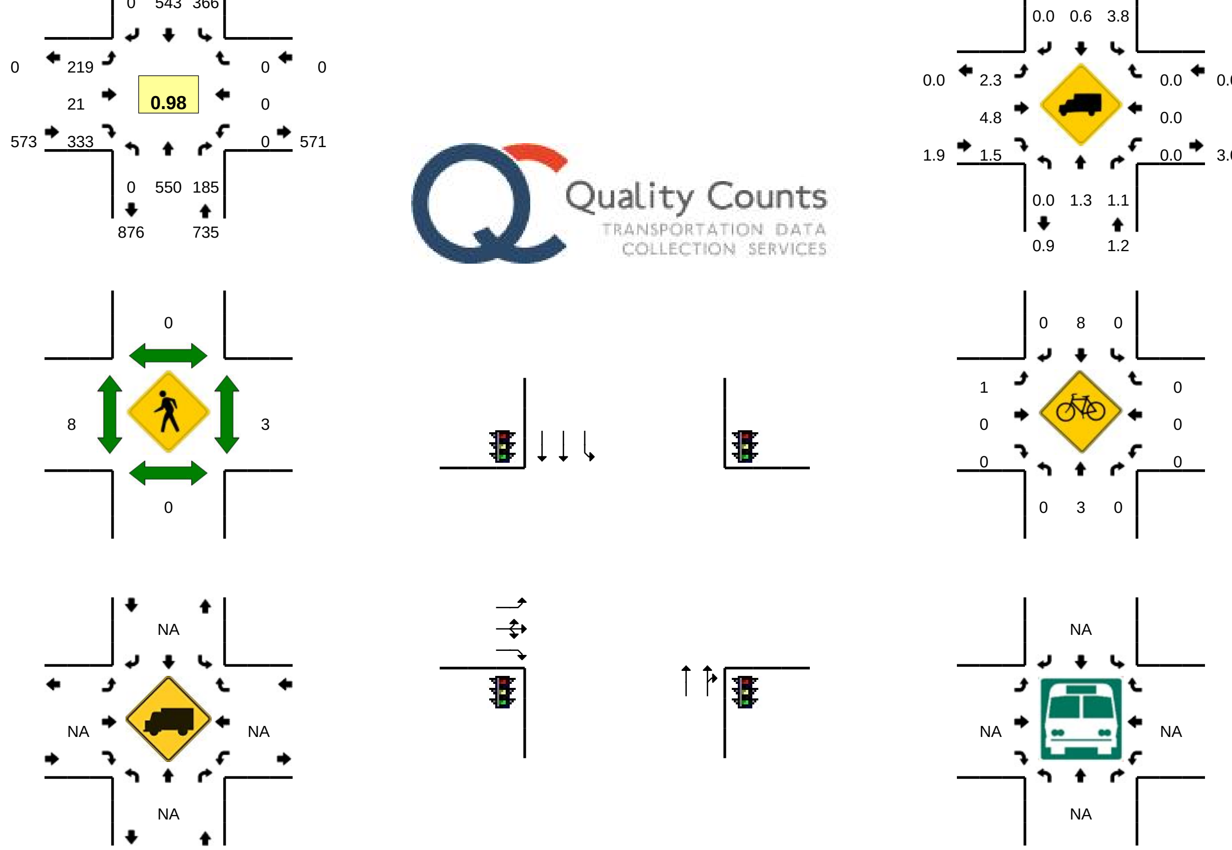
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	768	172	0	224	360	0	0	256	0	276	0	0	0	0	0	2056
Heavy Trucks	0	20	4		8	16	0		12	0	12		0	0	0		72
Pedestrians		0				0				8				8			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Bay Ave -- SR 1 SB Ramps | **QC JOB #:** 10963616
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



15-Min Count Period Beginning At	Bay Ave (Northbound) Left	Thru	Right	U	Bay Ave (Southbound) Left	Thru	Right	U	SR 1 SB Ramps (Eastbound) Left	Thru	Right	U	SR 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	142	56	0	93	118	0	0	43	0	65	0	0	0	0	0	517	
4:15 PM	0	94	52	0	105	128	0	0	46	4	65	0	0	0	0	0	494	
4:30 PM	0	159	42	0	88	110	0	0	50	4	93	0	0	0	0	0	546	
4:45 PM	0	130	53	0	104	138	0	0	59	6	72	0	0	0	0	0	562	2119
5:00 PM	0	135	45	0	92	138	0	0	58	6	92	0	0	0	0	0	566	2168
5:15 PM	0	126	45	0	81	157	0	1	52	5	76	0	0	0	0	0	543	2217
5:30 PM	0	97	32	0	86	134	0	0	66	4	88	0	0	0	0	0	507	2178
5:45 PM	0	103	29	0	94	128	0	0	68	5	87	0	0	0	0	0	514	2130

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	540	180	0	368	552	0	0	232	24	368	0	0	0	0	0	2264
Heavy Trucks	0	12	0		12	0	0		8	4	0		0	0	0		36
Pedestrians		0				0				20				0			20
Bicycles	0	1	0		0	3	0		0	0	0		0	0	0		4
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/7/2013 1:32 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Traffic Data Service

Campbell, CA
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File Name : 7MID FINAL
Site Code : 00000007
Start Date : 8/10/2013
Page No : 1

Groups Printed- Vehicles

	BAY AVE Southbound					HWY 1 SB ON-RAMP Westbound					BAY AVE Northbound					HWY 1 SB OFF-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	0	112	46	0	158	0	0	0	4	4	33	137	0	0	170	103	1	59	2	165	497
12:15 PM	0	100	61	0	161	0	0	0	2	2	47	151	0	0	198	113	0	55	5	173	534
12:30 PM	0	105	62	0	167	0	0	0	2	2	50	159	0	0	209	98	2	73	2	175	553
12:45 PM	0	108	64	0	172	0	0	0	2	2	48	148	0	0	196	94	0	55	2	151	521
Total	0	425	233	0	658	0	0	0	10	10	178	595	0	0	773	408	3	242	11	664	2105
01:00 PM	0	107	58	0	165	0	0	0	3	3	41	157	0	0	198	86	1	70	2	159	525
01:15 PM	0	127	59	0	186	0	0	0	2	2	55	136	0	0	191	115	0	60	1	176	555
01:30 PM	0	102	56	0	158	0	0	0	5	5	46	153	0	0	199	98	0	68	1	167	529
01:45 PM	0	103	49	0	152	0	0	0	0	0	51	138	0	0	189	100	2	51	1	154	495
Total	0	439	222	0	661	0	0	0	10	10	193	584	0	0	777	399	3	249	5	656	2104
Grand Total	0	864	455	0	1319	0	0	0	20	20	371	1179	0	0	1550	807	6	491	16	1320	4209
Apprch %	0	65.5	34.5	0		0	0	0	100		23.9	76.1	0	0		61.1	0.5	37.2	1.2		
Total %	0	20.5	10.8	0	31.3	0	0	0	0.5	0.5	8.8	28	0	0	36.8	19.2	0.1	11.7	0.4	31.4	

	BAY AVE Southbound				HWY 1 SB ON-RAMP Westbound				BAY AVE Northbound				HWY 1 SB OFF-RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	105	62	167	0	0	0	0	50	**159**	0	**209**	98	**2**	**73**	173	549
12:45 PM	0	108	**64**	172	0	0	0	0	48	148	0	196	94	0	55	149	517
01:00 PM	0	107	58	165	0	0	0	0	41	157	0	198	86	1	70	157	520
01:15 PM	0	**127**	59	**186**	0	0	0	0	**55**	136	0	191	**115**	0	60	**175**	**552**
Total Volume	0	447	243	690	0	0	0	0	194	600	0	794	393	3	258	654	2138
% App. Total	0	64.8	35.2		0	0	0		24.4	75.6	0		60.1	0.5	39.4		
PHF	.000	.880	.949	.927	.000	.000	.000	.000	.882	.943	.000	.950	.854	.375	.884	.934	.968

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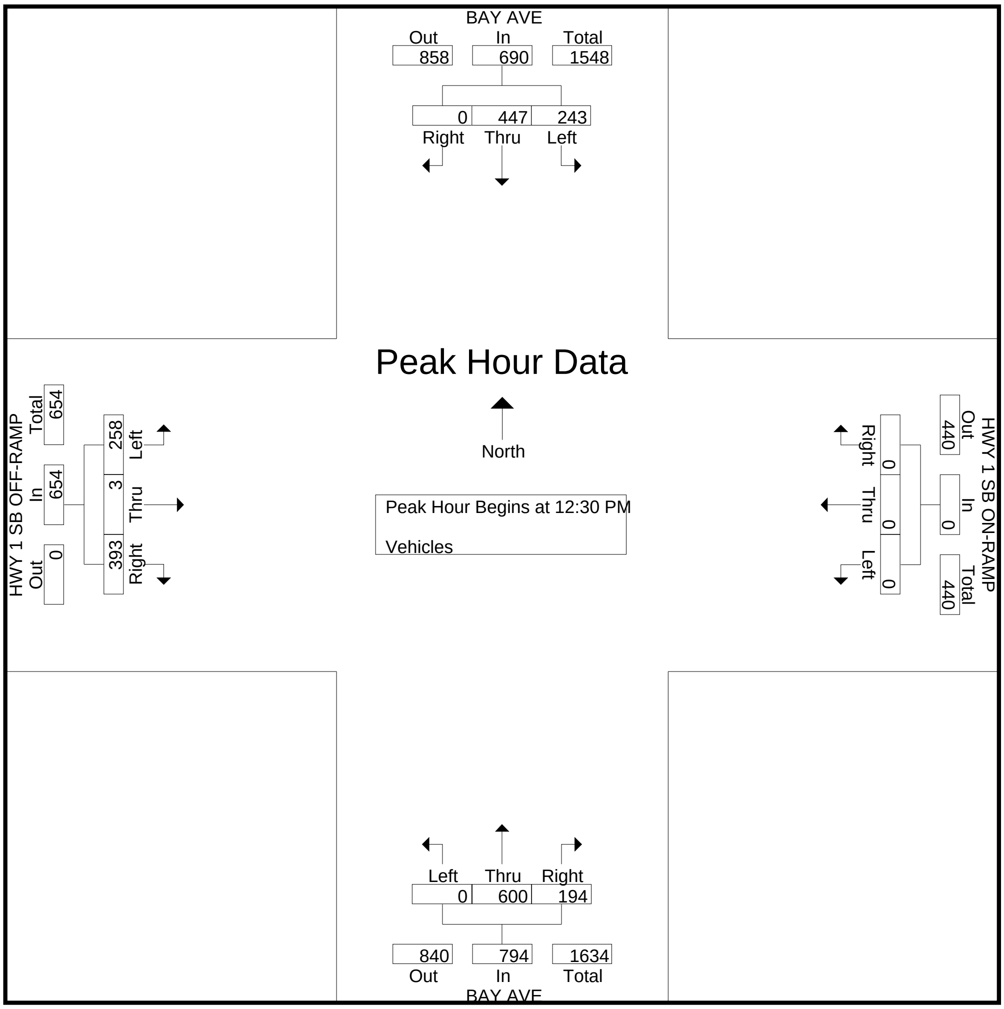


Type of peak hour being reported: Intersection Peak

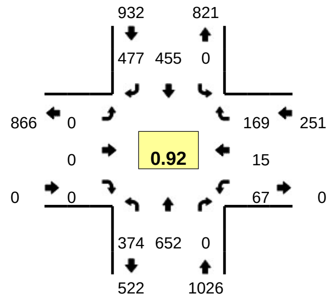
Method for determining peak hour: Total Entering Volume

LOCATION: Porter St -- SR 1 NB Ramps

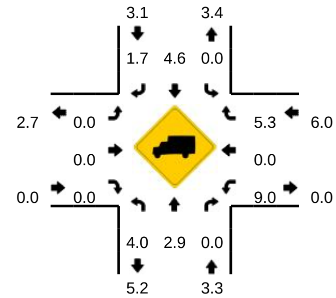
CITY/STATE: Capitola, CA

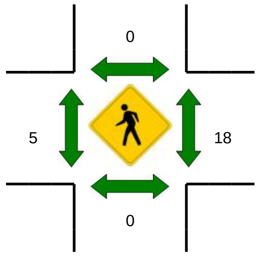
QC JOB #: 10963613

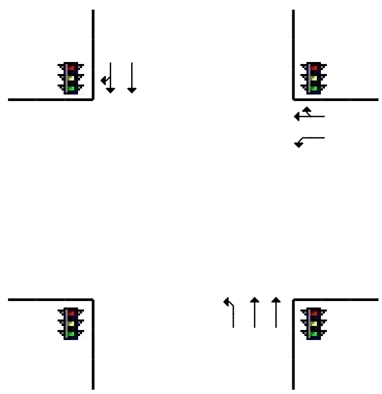
DATE: Thu, May 23 2013

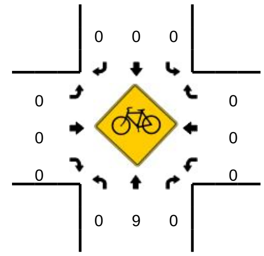


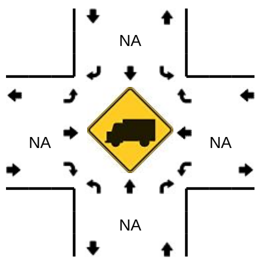
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

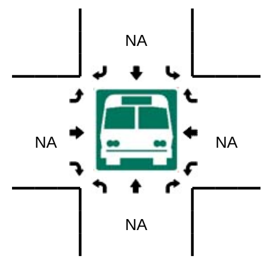












15-Min Count Period Beginning At	Porter St (Northbound) Left	Thru	Right	U	Porter St (Southbound) Left	Thru	Right	U	SR 1 NB Ramps (Eastbound) Left	Thru	Right	U	SR 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	54	63	0	0	0	75	61	0	0	0	0	0	18	0	47	0	318	
7:15 AM	68	81	0	0	0	77	96	0	0	0	0	0	21	0	48	0	391	
7:30 AM	83	112	0	0	0	134	92	0	0	0	0	0	19	1	42	0	483	
7:45 AM	102	154	0	0	0	125	106	0	0	0	0	0	15	7	31	0	540	1732
8:00 AM	105	197	0	0	0	91	122	0	0	0	0	0	14	2	40	0	571	1985
8:15 AM	87	182	0	0	0	126	135	0	0	0	0	0	18	3	51	0	602	2196
8:30 AM	80	119	0	0	0	113	114	0	0	0	0	0	20	3	47	0	496	2209
8:45 AM	77	112	0	0	0	108	76	0	0	0	0	0	29	2	46	0	450	2119

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	348	728	0	0	0	504	540	0	0	0	0	0	72	12	204	0	2408
Heavy Trucks	20	16	0		0	12	4		0	0	0		16	0	12		80
Pedestrians		0				0				0				24			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

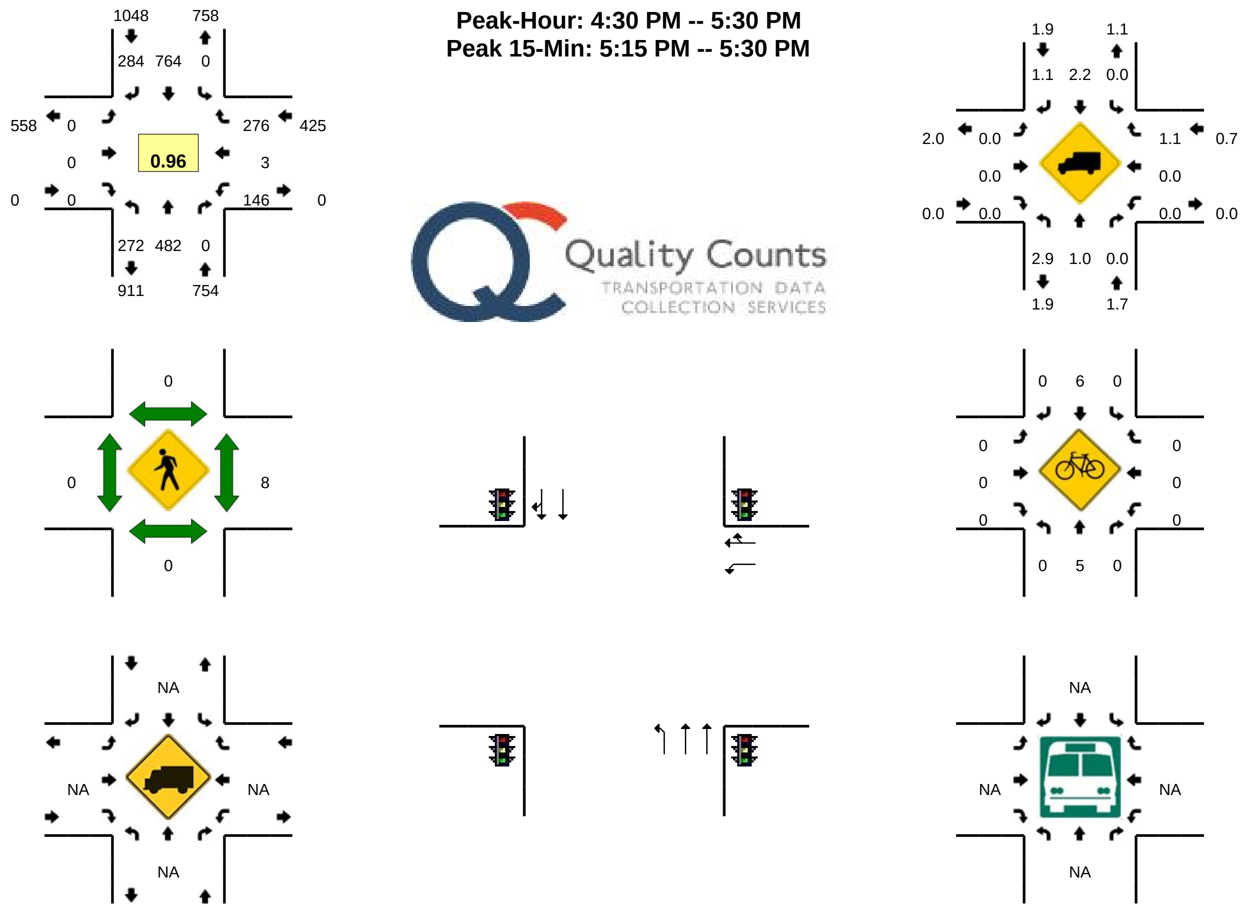
Report generated on 6/7/2013 1:32 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Porter St -- SR 1 NB Ramps | **QC JOB #:** 10963614
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM



15-Min Count Period Beginning At	Porter St (Northbound) Left	Thru	Right	U	Porter St (Southbound) Left	Thru	Right	U	SR 1 NB Ramps (Eastbound) Left	Thru	Right	U	SR 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	71	104	0	0	0	189	75	0	0	0	0	0	27	3	54	0	523	
4:15 PM	63	90	0	0	0	181	74	0	0	0	0	0	42	1	53	0	504	
4:30 PM	76	125	0	1	0	177	77	0	0	0	0	0	31	1	49	0	537	
4:45 PM	54	124	0	0	0	199	68	0	0	0	0	0	38	1	73	0	557	2121
5:00 PM	78	116	0	0	0	192	63	0	0	0	0	0	37	1	69	0	556	2154
5:15 PM	63	117	0	0	0	196	76	0	0	0	0	0	40	0	85	0	577	2227
5:30 PM	59	112	0	0	0	200	64	0	0	0	0	0	33	0	62	0	530	2220
5:45 PM	63	104	0	0	0	182	59	0	0	0	0	0	36	0	61	0	505	2168

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	252	468	0	0	0	784	304	0	0	0	0	0	160	0	340	0	2308
Heavy Trucks	4	4	0		0	4	4		0	0	0		0	0	0		16
Pedestrians		0				0				0				20			20
Bicycles	0	3	0		0	0	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Traffic Data Service

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File Name : 8MID FINAL
Site Code : 00000008
Start Date : 8/10/2013
Page No : 1

Groups Printed- Vehicles

	PORTER ST Southbound					HWY 1 NB OFF-RAMP Westbound					BAY AVE Northbound					HWY 1 NB ON-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	69	118	0	0	187	62	0	37	4	103	0	107	86	0	193	0	0	0	0	0	483
12:15 PM	87	134	0	0	221	62	0	32	2	96	0	127	88	0	215	0	0	0	0	0	532
12:30 PM	80	125	0	0	205	49	0	41	2	92	0	136	97	0	233	0	0	0	0	0	530
12:45 PM	94	134	0	0	228	46	0	35	2	83	0	110	89	0	199	0	0	0	0	0	510
Total	330	511	0	0	841	219	0	145	10	374	0	480	360	0	840	0	0	0	0	0	2055
01:00 PM	91	139	0	0	230	43	0	35	0	78	0	135	95	0	230	0	0	0	2	2	540
01:15 PM	89	154	0	0	243	75	1	27	2	105	0	112	79	0	191	0	0	0	1	1	540
01:30 PM	82	121	0	0	203	60	1	32	4	97	0	125	93	0	218	0	0	0	1	1	519
01:45 PM	63	124	0	0	187	58	2	33	0	93	0	100	98	0	198	0	0	0	1	1	479
Total	325	538	0	0	863	236	4	127	6	373	0	472	365	0	837	0	0	0	5	5	2078
Grand Total	655	1049	0	0	1704	455	4	272	16	747	0	952	725	0	1677	0	0	0	5	5	4133
Apprch %	38.4	61.6	0	0		60.9	0.5	36.4	2.1		0	56.8	43.2	0		0	0	0	100		
Total %	15.8	25.4	0	0	41.2	11	0.1	6.6	0.4	18.1	0	23	17.5	0	40.6	0	0	0	0.1	0.1	

	PORTER ST Southbound				HWY 1 NB OFF-RAMP Westbound				BAY AVE Northbound				HWY 1 NB ON-RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	80	125	0	205	49	0	**41**	90	0	**136**	**97**	**233**	0	0	0	0	528
12:45 PM	**94**	134	0	228	46	0	35	81	0	110	89	199	0	0	0	0	508
01:00 PM	91	139	0	230	43	0	35	78	0	135	95	230	0	0	0	0	**538**
01:15 PM	89	**154**	0	**243**	**75**	**1**	27	**103**	0	112	79	191	0	0	0	0	537
Total Volume	354	552	0	906	213	1	138	352	0	493	360	853	0	0	0	0	2111
% App. Total	39.1	60.9	0		60.5	0.3	39.2		0	57.8	42.2		0	0	0		
PHF	.941	.896	.000	.932	.710	.250	.841	.854	.000	.906	.928	.915	.000	.000	.000	.000	.981

Traffic Data Service

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File Name : 8MID FINAL
Site Code : 00000008
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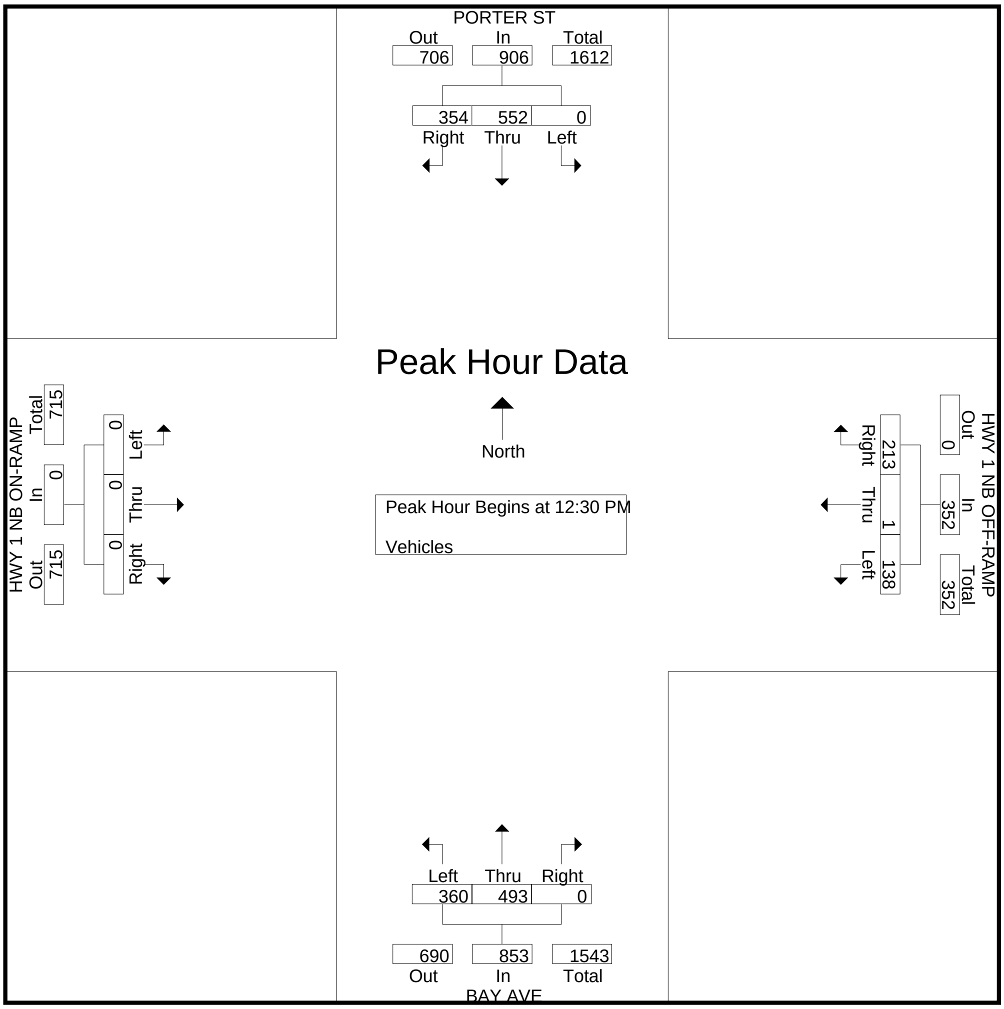
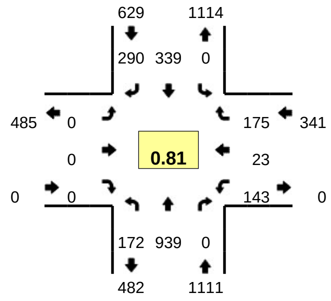
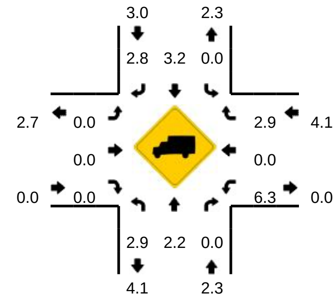


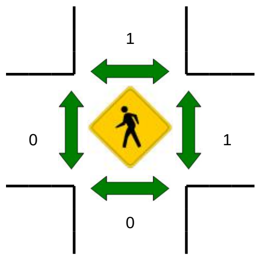
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

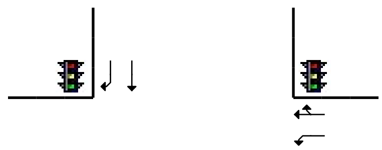
LOCATION: Park Ave -- SR 1 NB Ramps | **QC JOB #:** 10963625
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

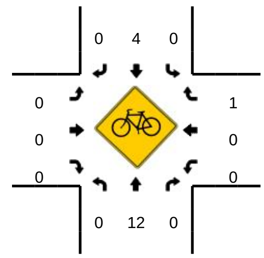


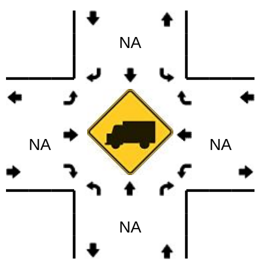
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

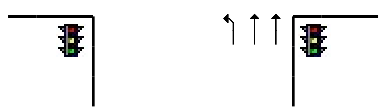


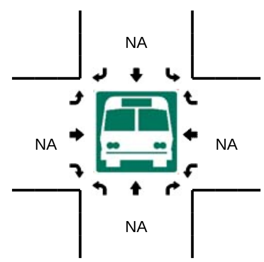










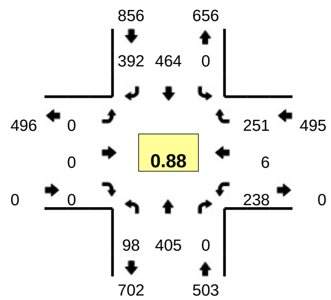


15-Min Count Period Beginning At	Park Ave (Northbound) Left	Thru	Right	U	Park Ave (Southbound) Left	Thru	Right	U	SR 1 NB Ramps (Eastbound) Left	Thru	Right	U	SR 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	23	39	0	0	0	33	52	0	1	0	0	0	20	0	30	0	198	
7:15 AM	34	60	0	0	0	53	75	0	0	0	0	0	18	1	24	0	265	
7:30 AM	44	156	0	0	0	78	87	0	0	0	0	0	30	2	28	0	425	
7:45 AM	50	335	0	0	0	93	78	0	0	0	0	0	37	3	47	0	643	1531
8:00 AM	49	249	0	0	0	79	63	0	0	0	0	0	30	8	47	0	525	1858
8:15 AM	41	184	0	0	0	80	75	0	0	0	0	0	35	9	34	0	458	2051
8:30 AM	32	171	0	0	0	87	74	0	0	0	0	0	41	3	47	0	455	2081
8:45 AM	47	225	1	0	0	79	85	0	0	0	0	0	43	4	49	0	533	1971

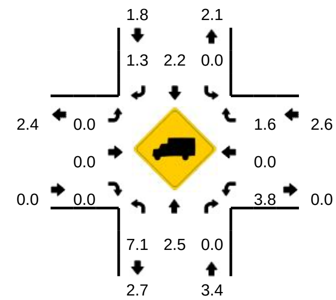
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	200	1340	0	0	0	372	312	0	0	0	0	0	148	12	188	0	2572
Heavy Trucks	4	32	0		0	4	8		0	0	0		8	0	0		56
Pedestrians		0				0				0				0			0
Bicycles	0	4	0		0	2	0		0	0	0		0	0	1		7
Railroad																	
Stopped Buses																	

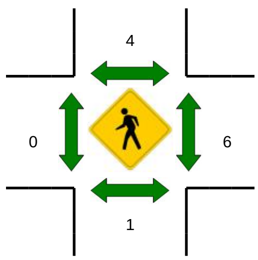
Comments:

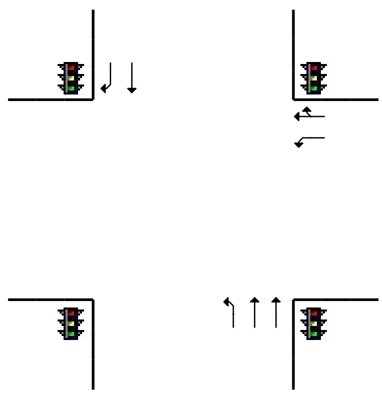
LOCATION: Park Ave -- SR 1 NB Ramps | **QC JOB #:** 10963626
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

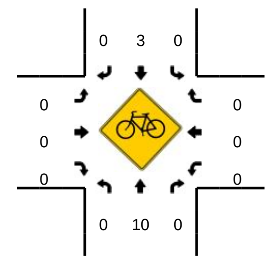


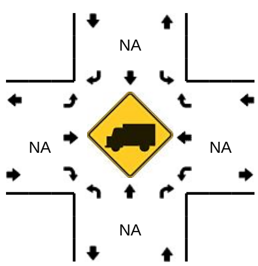
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

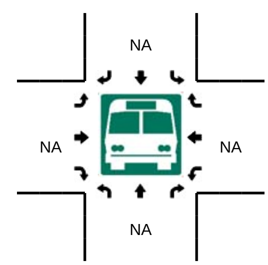












15-Min Count Period Beginning At	Park Ave (Northbound) Left	Thru	Right	U	Park Ave (Southbound) Left	Thru	Right	U	SR 1 NB Ramps (Eastbound) Left	Thru	Right	U	SR 1 NB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	30	108	0	0	0	122	107	0	0	0	0	0	64	3	90	0	524	
4:15 PM	26	110	0	0	0	100	88	0	0	0	0	0	67	1	61	0	453	
4:30 PM	20	88	0	0	0	124	107	0	0	0	0	0	51	1	51	0	442	
4:45 PM	22	99	0	0	0	118	90	0	0	0	0	0	56	1	49	0	435	1854
5:00 PM	30	84	0	0	0	110	112	0	0	0	0	0	39	0	45	0	420	1750
5:15 PM	27	97	0	0	0	112	95	0	0	0	0	0	41	2	68	0	442	1739
5:30 PM	17	93	0	0	0	97	99	0	0	0	0	0	46	0	48	0	400	1697
5:45 PM	24	127	0	0	0	77	97	0	0	0	0	0	27	0	39	0	391	1653

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	120	432	0	0	0	488	428	0	0	0	0	0	256	12	360	0	2096
Heavy Trucks	4	0	0		0	12	8		0	0	0		16	0	12		52
Pedestrians		0				0				0				8			8
Bicycles	0	5	0		0	1	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

Comments:

Traffic Data Service

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Groups Printed- Vehicles

	PARK AVE Southbound					HWY 1 NB OFF-RAMP Westbound					PARK AVE Northbound					HWY 1 NB ON-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	79	79	0	0	158	49	3	46	1	99	0	103	30	0	133	0	0	0	0	0	390
12:15 PM	92	78	0	0	170	55	2	49	1	107	0	84	23	0	107	0	0	0	0	0	384
12:30 PM	65	67	0	0	132	63	1	46	0	110	0	103	36	0	139	0	0	0	0	0	381
12:45 PM	60	59	0	0	119	64	2	53	7	126	0	106	38	0	144	0	0	0	0	0	389
Total	296	283	0	0	579	231	8	194	9	442	0	396	127	0	523	0	0	0	0	0	1544
01:00 PM	56	55	0	0	111	31	2	38	5	76	0	91	27	0	118	0	0	0	0	0	305
01:15 PM	66	58	0	0	124	32	2	38	3	75	0	108	37	0	145	0	0	0	0	0	344
01:30 PM	56	52	0	0	108	33	0	42	2	77	0	111	17	0	128	0	0	0	0	0	313
01:45 PM	64	60	0	0	124	39	0	32	1	72	0	88	33	0	121	0	0	0	0	0	317
Total	242	225	0	0	467	135	4	150	11	300	0	398	114	0	512	0	0	0	0	0	1279
Grand Total	538	508	0	0	1046	366	12	344	20	742	0	794	241	0	1035	0	0	0	0	0	2823
Apprch %	51.4	48.6	0	0		49.3	1.6	46.4	2.7		0	76.7	23.3	0		0	0	0	0		
Total %	19.1	18	0	0	37.1	13	0.4	12.2	0.7	26.3	0	28.1	8.5	0	36.7	0	0	0	0	0	

Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 12:00 PM

	PARK AVE Southbound				HWY 1 NB OFF-RAMP Westbound				PARK AVE Northbound				HWY 1 NB ON-RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
12:00 PM	79	**79**	0	158	49	**3**	46	98	0	103	30	133	0	0	0	0	**389**
12:15 PM	**92**	78	0	**170**	55	2	49	106	0	84	23	107	0	0	0	0	383
12:30 PM	65	67	0	132	63	1	46	110	0	103	36	139	0	0	0	0	381
12:45 PM	60	59	0	119	**64**	2	**53**	**119**	0	**106**	**38**	**144**	0	0	0	0	382
Total Volume	296	283	0	579	231	8	194	433	0	396	127	523	0	0	0	0	1535
% App. Total	51.1	48.9	0		53.3	1.8	44.8		0	75.7	24.3		0	0	0		
PHF	.804	.896	.000	.851	.902	.667	.915	.910	.000	.934	.836	.908	.000	.000	.000	.000	.987

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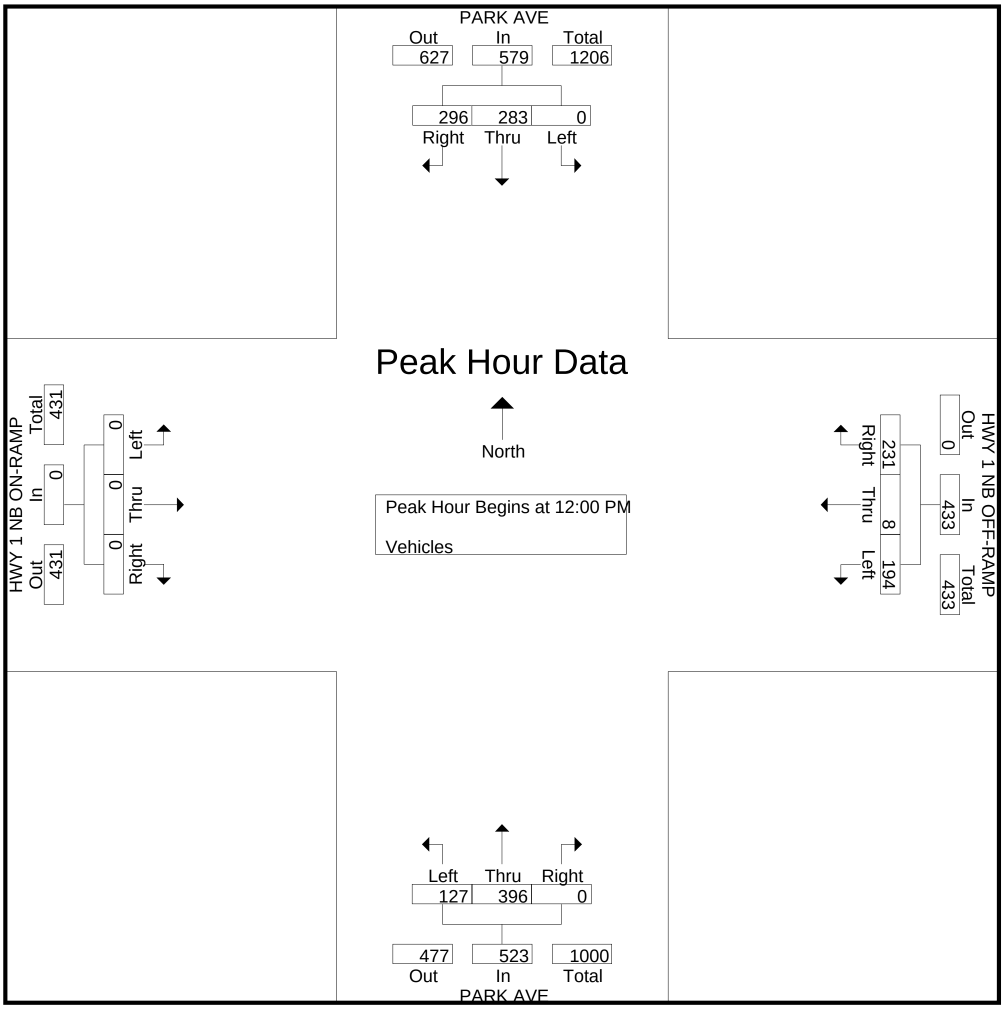


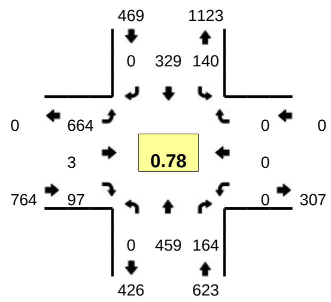
Type of peak hour being reported: Intersection Peak　　Method for determining peak hour: Total Entering Volume

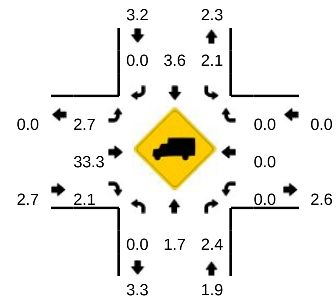
LOCATION: Park Ave -- SR 1 SB Ramps　　**QC JOB #:** 10963627

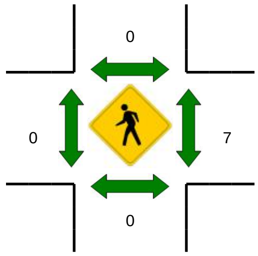
CITY/STATE: Capitola, CA　　**DATE:** Thu, May 23 2013

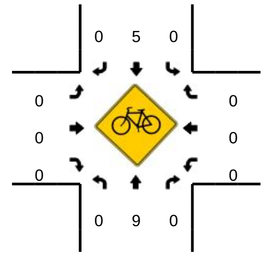
Peak-Hour: 7:30 AM -- 8:30 AM

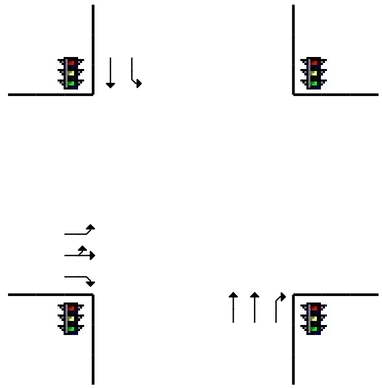
Peak 15-Min: 7:45 AM -- 8:00 AM

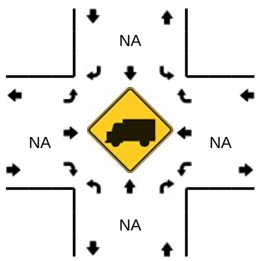


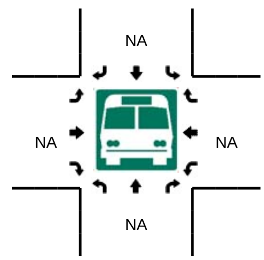












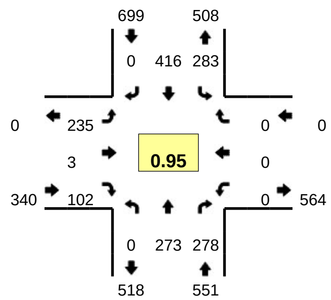
15-Min Count Period Beginning At	Park Ave (Northbound) Left	Thru	Right	U	Park Ave (Southbound) Left	Thru	Right	U	SR 1 SB Ramps (Eastbound) Left	Thru	Right	U	SR 1 SB Ramps (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	40	17	0	27	24	0	0	30	0	4	0	0	0	0	0	142	
7:15 AM	0	56	32	0	37	37	0	0	48	0	9	0	0	0	0	0	219	
7:30 AM	0	83	40	0	32	75	0	0	146	1	25	0	0	0	0	0	402	
7:45 AM	0	158	50	0	34	98	0	0	228	1	29	0	0	0	0	0	598	1361
8:00 AM	0	132	45	0	40	75	0	0	143	0	21	0	0	0	0	0	456	1675
8:15 AM	0	86	29	0	34	81	0	0	147	1	22	0	0	0	0	0	400	1856
8:30 AM	0	75	34	0	38	91	0	0	121	0	25	0	0	0	0	0	384	1838
8:45 AM	0	81	31	0	42	79	0	0	185	0	19	0	0	0	0	0	437	1677

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	632	200	0	136	392	0	0	912	4	116	0	0	0	0	0	2392
Heavy Trucks	0	8	4		0	12	0		20	4	8		0	0	0		56
Pedestrians		0				0				0				0			0
Bicycles	0	3	0		0	2	0		0	0	0		0	0	0		5
Railroad																	
Stopped Buses																	

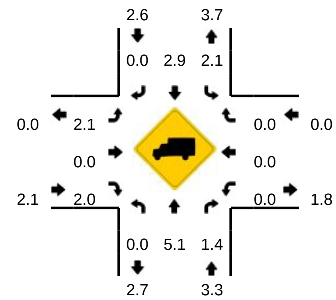
Comments:

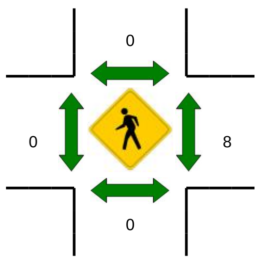
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

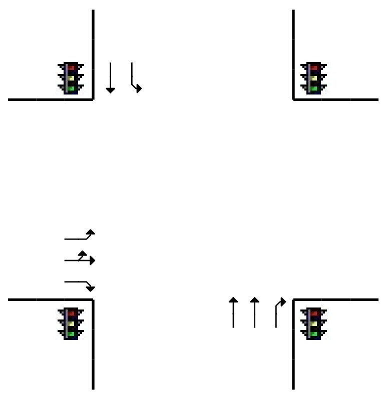
LOCATION: Park Ave -- SR 1 SB Ramps | **QC JOB #:** 10963628
CITY/STATE: Capitola, CA | **DATE:** Thu, May 23 2013

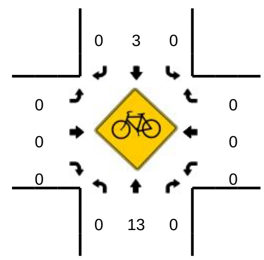


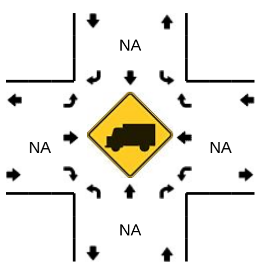
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

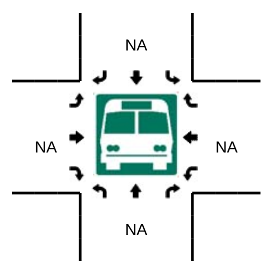












15-Min Count Period Beginning At	Park Ave (Northbound)				Park Ave (Southbound)				SR 1 SB Ramps (Eastbound)				SR 1 SB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	69	78	0	60	120	0	0	71	0	20	0	0	0	0	0	418	
4:15 PM	0	69	56	0	62	104	0	0	63	0	21	0	0	0	0	0	375	
4:30 PM	0	71	76	0	84	102	0	0	39	0	36	0	0	0	0	0	408	
4:45 PM	0	64	68	0	77	90	0	0	62	3	25	0	0	0	0	0	389	1590
5:00 PM	0	78	73	0	72	79	0	0	39	1	29	0	0	0	0	0	371	1543
5:15 PM	0	68	59	0	53	84	0	0	45	1	27	0	0	0	0	0	337	1505
5:30 PM	0	64	71	0	51	89	0	0	56	0	30	0	0	0	0	0	361	1458
5:45 PM	0	66	65	0	47	54	0	0	88	0	32	0	0	0	0	0	352	1421

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	276	312	0	240	480	0	0	284	0	80	0	0	0	0	0	1672
Heavy Trucks	0	4	8		0	20	0		0	0	4		0	0	0		36
Pedestrians		0				0				0				8			8
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Railroad																	
Stopped Buses																	

Comments:

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Groups Printed- Vehicles

	PARK AVE Southbound					HWY 1 SB ON-RAMP Westbound					PARK AVE Northbound					HWY 1 SB OFF-RAMP Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	0	81	42	0	123	0	0	0	1	1	35	55	0	0	90	35	1	75	0	111	325
12:15 PM	0	74	46	0	120	0	0	0	1	1	40	43	0	0	83	31	1	63	0	95	299
12:30 PM	0	79	40	0	119	0	0	0	0	0	36	59	0	0	95	27	0	82	0	109	323
12:45 PM	0	79	34	0	113	0	0	0	6	6	38	71	0	0	109	36	1	71	0	108	336
Total	0	313	162	0	475	0	0	0	8	8	149	228	0	0	377	129	3	291	0	423	1283
01:00 PM	0	60	31	0	91	0	0	0	4	4	27	59	0	0	86	30	0	59	0	89	270
01:15 PM	0	58	30	0	88	0	0	0	3	3	39	56	0	0	95	35	0	90	0	125	311
01:30 PM	0	59	40	0	99	0	0	0	2	2	35	53	0	0	88	33	1	75	0	109	298
01:45 PM	0	49	43	0	92	0	0	0	1	1	44	60	0	0	104	24	0	60	0	84	281
Total	0	226	144	0	370	0	0	0	10	10	145	228	0	0	373	122	1	284	0	407	1160
Grand Total	0	539	306	0	845	0	0	0	18	18	294	456	0	0	750	251	4	575	0	830	2443
Apprch %	0	63.8	36.2	0		0	0	0	100		39.2	60.8	0	0		30.2	0.5	69.3	0		
Total %	0	22.1	12.5	0	34.6	0	0	0	0.7	0.7	12	18.7	0	0	30.7	10.3	0.2	23.5	0	34	

	PARK AVE Southbound				HWY 1 SB ON-RAMP Westbound				PARK AVE Northbound				HWY 1 SB OFF-RAMP Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	**81**	42	**123**	0	0	0	0	35	55	0	90	35	**1**	75	**111**	324
12:15 PM	0	74	**46**	120	0	0	0	0	**40**	43	0	83	31	1	63	95	298
12:30 PM	0	79	40	119	0	0	0	0	36	59	0	95	27	0	**82**	109	323
12:45 PM	0	79	34	113	0	0	0	0	38	**71**	0	**109**	**36**	1	71	108	**330**
Total Volume	0	313	162	475	0	0	0	0	149	228	0	377	129	3	291	423	1275
% App. Total	0	65.9	34.1		0	0	0		39.5	60.5	0		30.5	0.7	68.8		
PHF	.000	.966	.880	.965	.000	.000	.000	.000	.931	.803	.000	.865	.896	.750	.887	.953	.966

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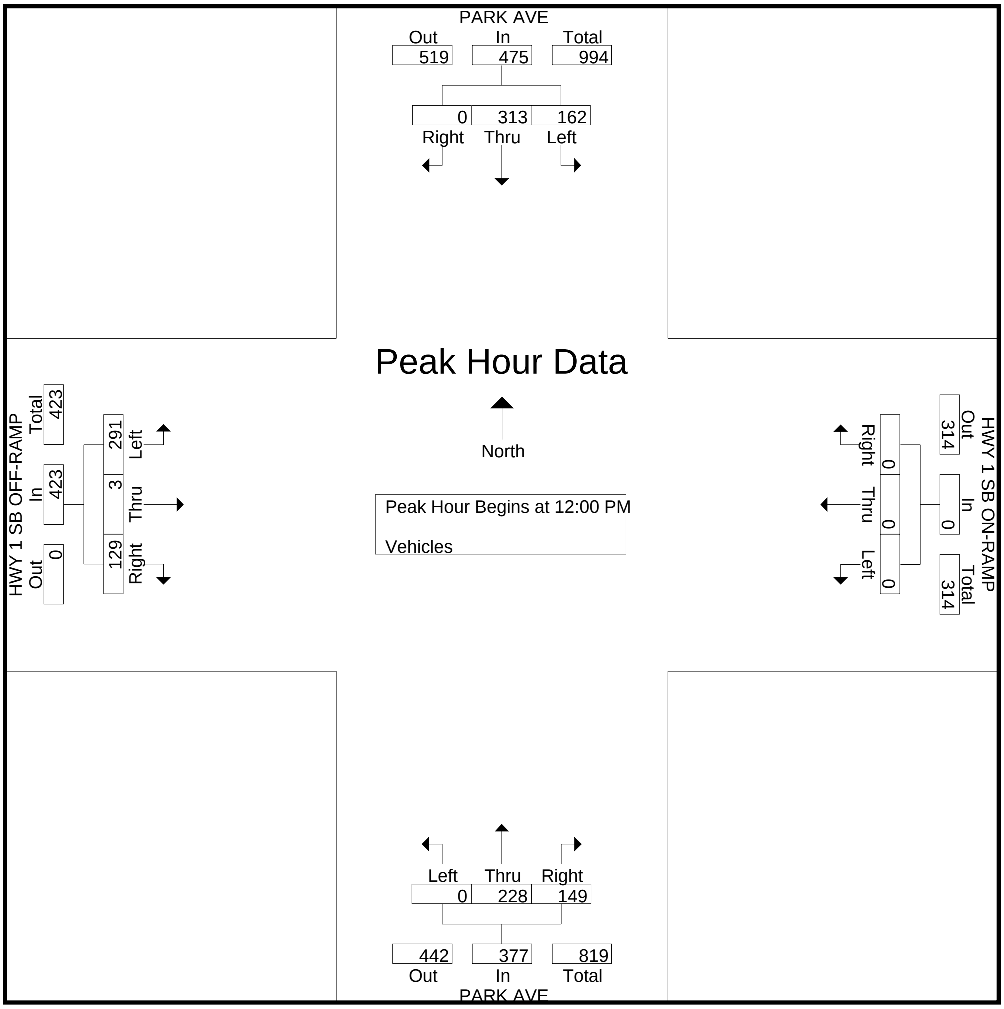

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File Name : 1AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					CAPITOLA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	29	0	0	4	33	0	0	0	0	0	0	2	8	1	11	0	0	15	1	16	60
07:15 AM	42	0	0	0	42	0	0	0	0	0	0	2	5	1	8	0	0	21	1	22	72
07:30 AM	61	0	0	1	62	0	0	0	0	0	0	3	9	1	13	0	0	24	1	25	100
07:45 AM	72	0	0	2	74	0	0	0	0	0	0	10	6	0	16	0	0	31	3	34	124
Total	204	0	0	7	211	0	0	0	0	0	0	17	28	3	48	0	0	91	6	97	356
08:00 AM	90	0	0	0	90	0	0	0	0	0	0	15	8	3	26	0	0	33	3	36	152
08:15 AM	84	0	0	3	87	0	0	0	0	0	0	13	10	6	29	0	0	35	0	35	151
08:30 AM	68	0	0	0	68	0	0	0	0	0	0	8	3	6	17	0	0	26	2	28	113
08:45 AM	97	0	0	2	99	0	0	0	0	0	0	13	24	6	43	0	0	33	6	39	181
Total	339	0	0	5	344	0	0	0	0	0	0	49	45	21	115	0	0	127	11	138	597
Grand Total	543	0	0	12	555	0	0	0	0	0	0	66	73	24	163	0	0	218	17	235	953
Apprch %	97.8	0	0	2.2		0	0	0	0		0	40.5	44.8	14.7		0	0	92.8	7.2		
Total %	57	0	0	1.3	58.2	0	0	0	0	0	0	6.9	7.7	2.5	17.1	0	0	22.9	1.8	24.7	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				CAPITOLA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	90	0	0	90	0	0	0	0	0	**15**	8	23	0	0	33	33	146
08:15 AM	84	0	0	84	0	0	0	0	0	13	10	23	0	0	**35**	**35**	142
08:30 AM	68	0	0	68	0	0	0	0	0	8	3	11	0	0	26	26	105
08:45 AM	**97**	0	0	**97**	0	0	0	0	0	13	**24**	**37**	0	0	33	33	**167**
Total Volume	339	0	0	339	0	0	0	0	0	49	45	94	0	0	127	127	560
% App. Total	100	0	0		0	0	0		0	52.1	47.9		0	0	100		
PHF	.874	.000	.000	.874	.000	.000	.000	.000	.000	.817	.469	.635	.000	.000	.907	.907	.838

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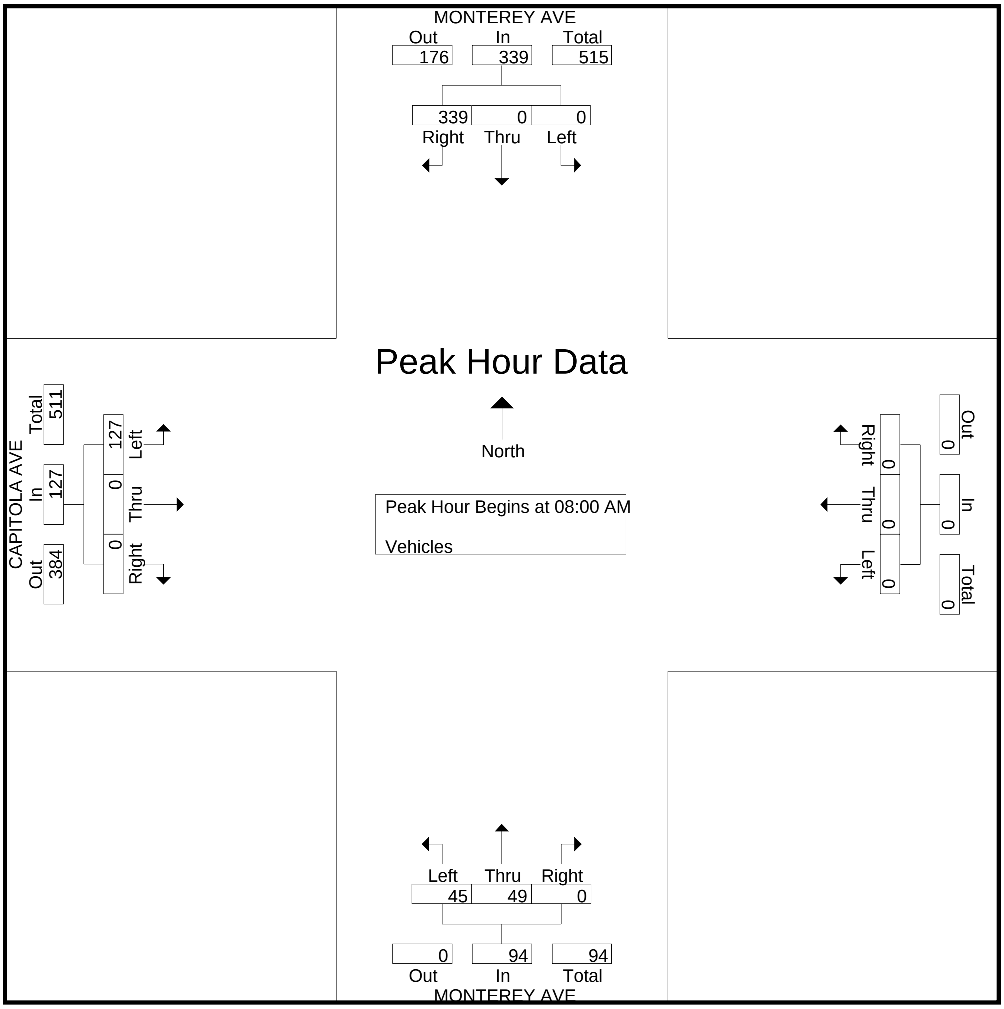

Traffic Data Service

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File Name : 1AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					ESCALONA DR Westbound					MONTEREY AVE Northbound					FANMAR WAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	35	1	3	39	19	0	2	0	21	0	27	0	2	29	0	1	1	0	2	91
07:15 AM	0	47	4	0	51	8	0	3	7	18	2	37	0	1	40	0	0	0	1	1	110
07:30 AM	2	89	6	0	97	15	0	2	3	20	0	97	0	1	98	0	0	3	4	7	222
07:45 AM	0	131	8	0	139	13	0	5	1	19	6	101	1	0	108	0	0	0	1	1	267
Total	2	302	19	3	326	55	0	12	11	78	8	262	1	4	275	0	1	4	6	11	690
08:00 AM	2	116	9	0	127	11	0	4	0	15	3	38	0	1	42	0	0	1	4	5	189
08:15 AM	2	95	16	0	113	11	0	6	0	17	0	50	0	0	50	0	0	3	3	6	186
08:30 AM	0	100	12	0	112	9	1	2	0	12	5	42	0	1	48	0	0	0	0	0	172
08:45 AM	4	89	10	2	105	14	0	4	0	18	5	60	1	0	66	0	0	0	4	4	193
Total	8	400	47	2	457	45	1	16	0	62	13	190	1	2	206	0	0	4	11	15	740
Grand Total	10	702	66	5	783	100	1	28	11	140	21	452	2	6	481	0	1	8	17	26	1430
Apprch %	1.3	89.7	8.4	0.6		71.4	0.7	20	7.9		4.4	94	0.4	1.2		0	3.8	30.8	65.4		
Total %	0.7	49.1	4.6	0.3	54.8	7	0.1	2	0.8	9.8	1.5	31.6	0.1	0.4	33.6	0	0.1	0.6	1.2	1.8	

	MONTEREY AVE Southbound				ESCALONA DR Westbound				MONTEREY AVE Northbound				FANMAR WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**2**	89	6	97	**15**	0	2	17	0	97	0	97	0	0	**3**	**3**	214
07:45 AM	0	**131**	8	**139**	13	0	5	**18**	**6**	**101**	**1**	**108**	0	0	0	0	**265**
08:00 AM	2	116	9	127	11	0	4	15	3	38	0	41	0	0	1	1	184
08:15 AM	2	95	**16**	113	11	0	**6**	17	0	50	0	50	0	0	3	3	183
Total Volume	6	431	39	476	50	0	17	67	9	286	1	296	0	0	7	7	846
% App. Total	1.3	90.5	8.2		74.6	0	25.4		3	96.6	0.3		0	0	100		
PHF	.750	.823	.609	.856	.833	.000	.708	.931	.375	.708	.250	.685	.000	.000	.583	.583	.798

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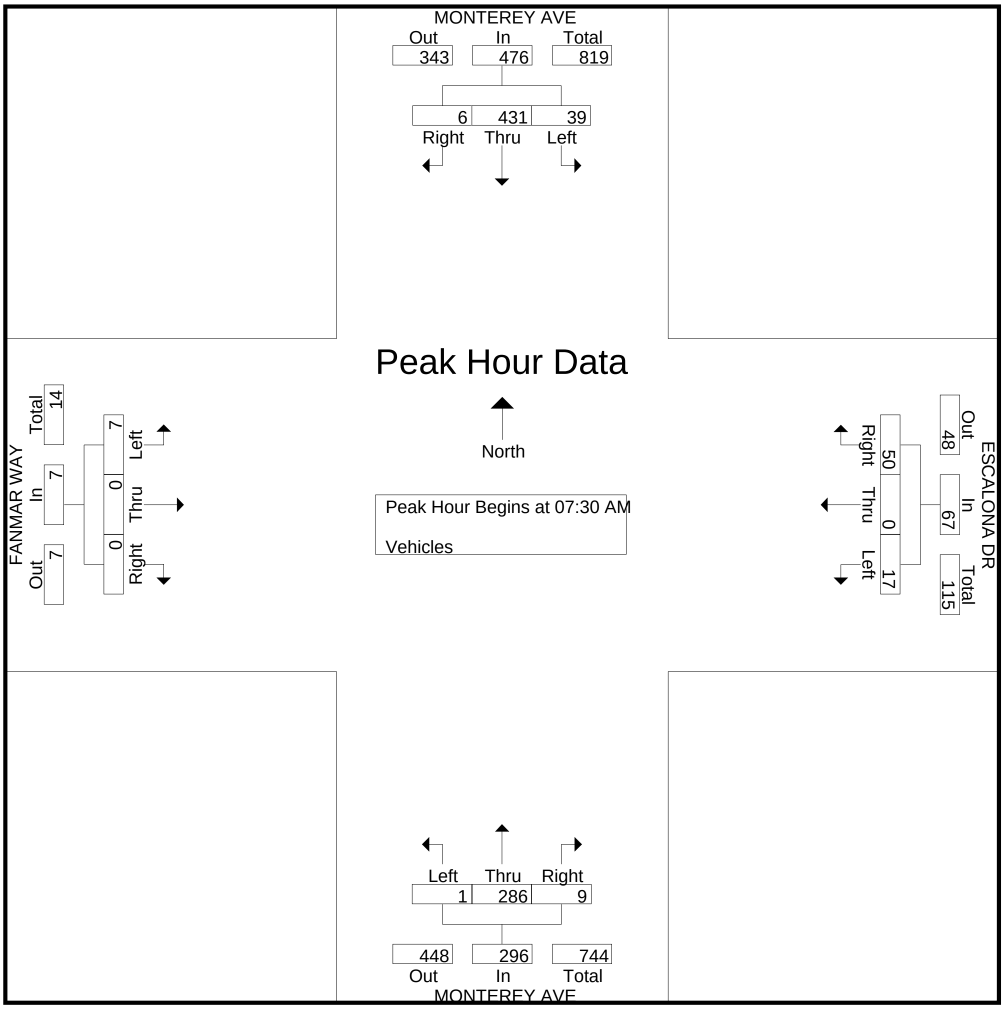

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File Name : 1PM FINAL
Site Code : 00000001
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					CAPITOLA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	63	0	0	12	75	0	0	0	0	0	0	47	29	23	99	0	0	92	48	140	314
04:15 PM	74	0	0	28	102	0	0	0	0	0	0	30	19	23	72	0	0	93	35	128	302
04:30 PM	76	0	0	9	85	0	0	0	0	0	0	33	24	11	68	0	0	108	38	146	299
04:45 PM	67	0	0	21	88	0	0	0	0	0	0	42	25	26	93	0	0	107	27	134	315
Total	280	0	0	70	350	0	0	0	0	0	0	152	97	83	332	0	0	400	148	548	1230
05:00 PM	68	0	0	22	90	0	0	0	0	0	0	28	20	14	62	0	0	112	23	135	287
05:15 PM	70	0	0	16	86	0	0	0	0	0	0	42	27	11	80	0	0	102	23	125	291
05:30 PM	91	0	0	20	111	0	0	0	0	0	0	36	20	23	79	0	0	108	17	125	315
05:45 PM	83	0	0	5	88	0	0	0	0	0	0	35	25	16	76	0	0	116	16	132	296
Total	312	0	0	63	375	0	0	0	0	0	0	141	92	64	297	0	0	438	79	517	1189
Grand Total	592	0	0	133	725	0	0	0	0	0	0	293	189	147	629	0	0	838	227	1065	2419
Apprch %	81.7	0	0	18.3		0	0	0	0		0	46.6	30	23.4		0	0	78.7	21.3		
Total %	24.5	0	0	5.5	30	0	0	0	0	0	0	12.1	7.8	6.1	26	0	0	34.6	9.4	44	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				CAPITOLA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	68	0	0	68	0	0	0	0	0	28	20	48	0	0	112	112	228
05:15 PM	70	0	0	70	0	0	0	0	0	**42**	**27**	**69**	0	0	102	102	241
05:30 PM	**91**	0	0	**91**	0	0	0	0	0	36	20	56	0	0	108	108	255
05:45 PM	83	0	0	83	0	0	0	0	0	35	25	60	0	0	**116**	**116**	**259**
Total Volume	312	0	0	312	0	0	0	0	0	141	92	233	0	0	438	438	983
% App. Total	100	0	0		0	0	0		0	60.5	39.5		0	0	100		
PHF	.857	.000	.000	.857	.000	.000	.000	.000	.000	.839	.852	.844	.000	.000	.944	.944	.949

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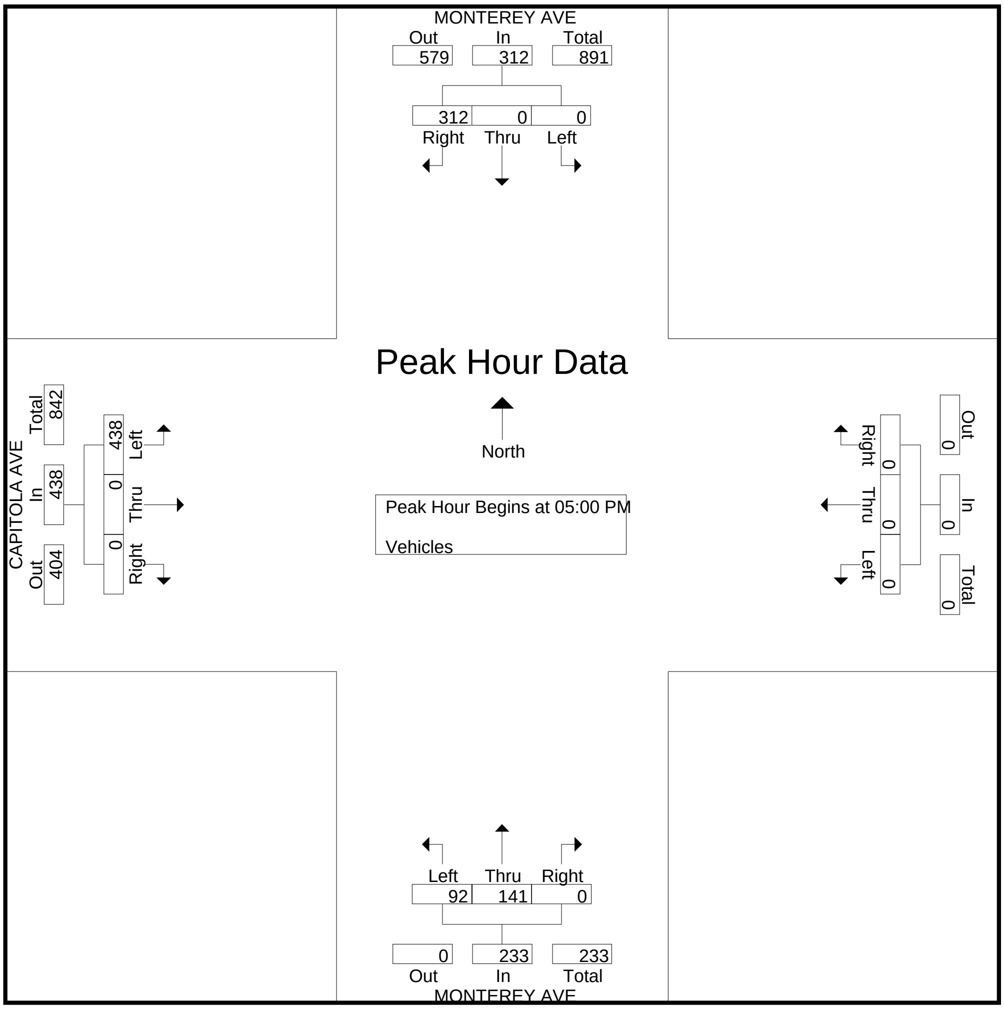

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File Name : 1PM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					ESCALONA DR Westbound					MONTEREY AVE Northbound					FANMAR WAY Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	58	16	0	75	11	0	3	2	16	6	135	0	3	144	0	0	0	4	4	239
04:15 PM	1	56	15	0	72	12	0	5	0	17	8	157	1	2	168	0	0	1	8	9	266
04:30 PM	1	56	12	0	69	14	0	10	3	27	6	151	1	1	159	0	0	1	3	4	259
04:45 PM	4	64	15	0	83	9	0	7	3	19	4	152	0	4	160	0	0	1	5	6	268
Total	7	234	58	0	299	46	0	25	8	79	24	595	2	10	631	0	0	3	20	23	1032
05:00 PM	2	66	13	0	81	14	1	3	0	18	2	145	0	0	147	0	0	0	4	4	250
05:15 PM	3	70	12	0	85	8	1	5	0	14	13	140	0	0	153	0	0	0	8	8	260
05:30 PM	6	61	12	0	79	9	0	11	0	20	6	150	0	1	157	0	0	3	4	7	263
05:45 PM	4	61	19	0	84	13	0	3	0	16	11	138	0	0	149	1	0	0	8	9	258
Total	15	258	56	0	329	44	2	22	0	68	32	573	0	1	606	1	0	3	24	28	1031
Grand Total	22	492	114	0	628	90	2	47	8	147	56	1168	2	11	1237	1	0	6	44	51	2063
Apprch %	3.5	78.3	18.2	0		61.2	1.4	32	5.4		4.5	94.4	0.2	0.9		2	0	11.8	86.3		
Total %	1.1	23.8	5.5	0	30.4	4.4	0.1	2.3	0.4	7.1	2.7	56.6	0.1	0.5	60	0	0	0.3	2.1	2.5	

	MONTEREY AVE Southbound				ESCALONA DR Westbound				MONTEREY AVE Northbound				FANMAR WAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	4	64	**15**	83	9	0	7	16	4	**152**	0	**156**	0	0	1	1	256
05:00 PM	2	66	13	81	**14**	**1**	3	18	2	145	0	147	0	0	0	0	246
05:15 PM	3	**70**	12	**85**	8	1	5	14	**13**	140	0	153	0	0	0	0	252
05:30 PM	**6**	61	12	79	9	0	**11**	**20**	6	150	0	156	0	0	**3**	**3**	**258**
Total Volume	15	261	52	328	40	2	26	68	25	587	0	612	0	0	4	4	1012
% App. Total	4.6	79.6	15.9		58.8	2.9	38.2		4.1	95.9	0		0	0	100		
PHF	.625	.932	.867	.965	.714	.500	.591	.850	.481	.965	.000	.981	.000	.000	.333	.333	.981

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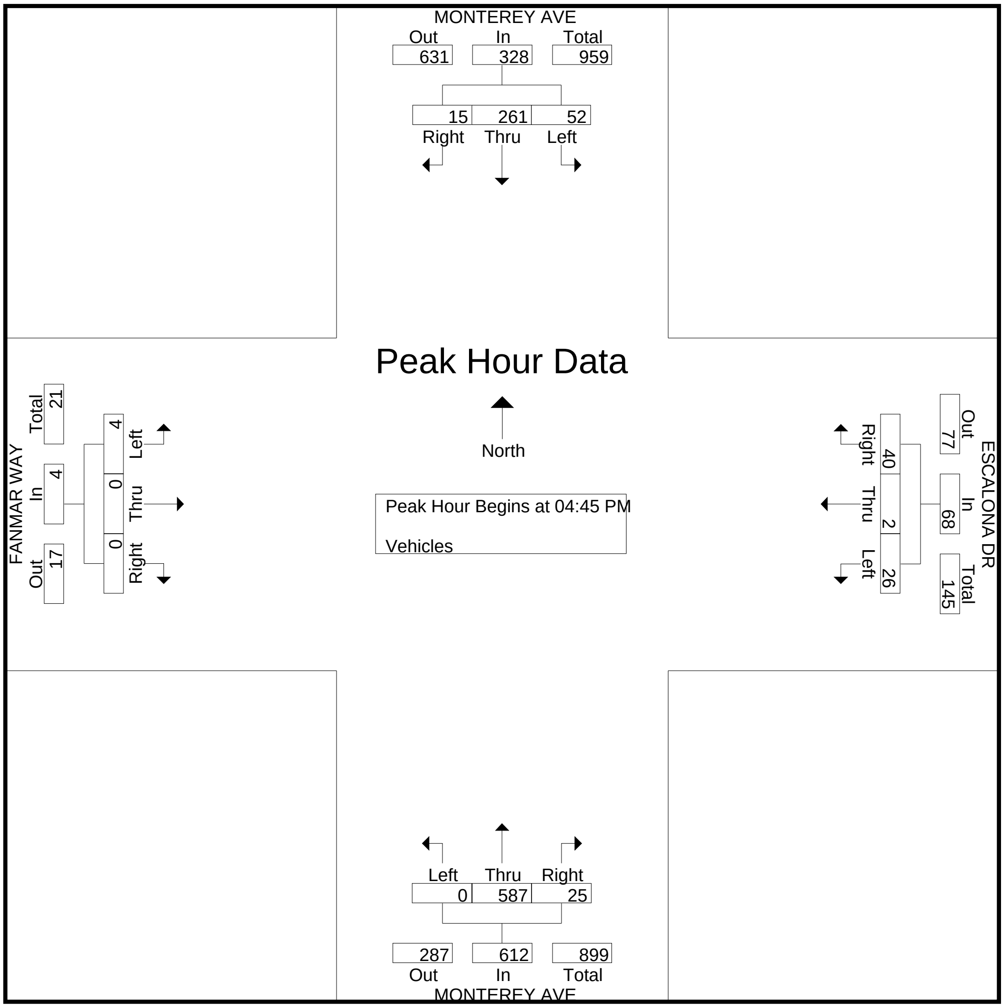

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File Name : 3AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					PARK AVE Westbound					MONTEREY AVE Northbound					PARK AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	5	4	0	9	12	1	22	1	36	14	9	0	1	24	0	0	2	4	6	75
07:15 AM	0	8	2	0	10	6	0	31	3	40	20	13	0	1	34	0	0	0	2	2	86
07:30 AM	0	19	6	0	25	7	0	45	0	52	22	17	0	1	40	1	1	1	4	7	124
07:45 AM	0	19	6	0	25	16	0	53	4	73	33	26	0	0	59	0	0	2	3	5	162
Total	0	51	18	0	69	41	1	151	8	201	89	65	0	3	157	1	1	5	13	20	447
08:00 AM	0	18	5	0	23	13	3	74	1	91	36	16	0	1	53	1	0	0	2	3	170
08:15 AM	0	16	4	0	20	13	0	74	1	88	41	14	1	0	56	1	0	0	3	4	168
08:30 AM	0	18	7	1	26	8	0	72	0	80	31	25	0	0	56	1	2	1	5	9	171
08:45 AM	0	25	5	0	30	16	0	66	3	85	35	21	0	0	56	2	1	0	6	9	180
Total	0	77	21	1	99	50	3	286	5	344	143	76	1	1	221	5	3	1	16	25	689
Grand Total	0	128	39	1	168	91	4	437	13	545	232	141	1	4	378	6	4	6	29	45	1136
Apprch %	0	76.2	23.2	0.6		16.7	0.7	80.2	2.4		61.4	37.3	0.3	1.1		13.3	8.9	13.3	64.4		
Total %	0	11.3	3.4	0.1	14.8	8	0.4	38.5	1.1	48	20.4	12.4	0.1	0.4	33.3	0.5	0.4	0.5	2.6	4	

	MONTEREY AVE Southbound				PARK AVE Westbound				MONTEREY AVE Northbound				PARK AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	18	5	23	13	**3**	**74**	**90**	36	16	0	52	1	0	0	1	166
08:15 AM	0	16	4	20	13	0	74	87	**41**	14	**1**	**56**	1	0	0	1	164
08:30 AM	0	18	**7**	25	8	0	72	80	31	**25**	0	56	1	**2**	**1**	**4**	165
08:45 AM	0	**25**	5	**30**	**16**	0	66	82	35	21	0	56	**2**	1	0	3	**171**
Total Volume	0	77	21	98	50	3	286	339	143	76	1	220	5	3	1	9	666
% App. Total	0	78.6	21.4		14.7	0.9	84.4		65	34.5	0.5		55.6	33.3	11.1		
PHF	.000	.770	.750	.817	.781	.250	.966	.942	.872	.760	.250	.982	.625	.375	.250	.563	.974

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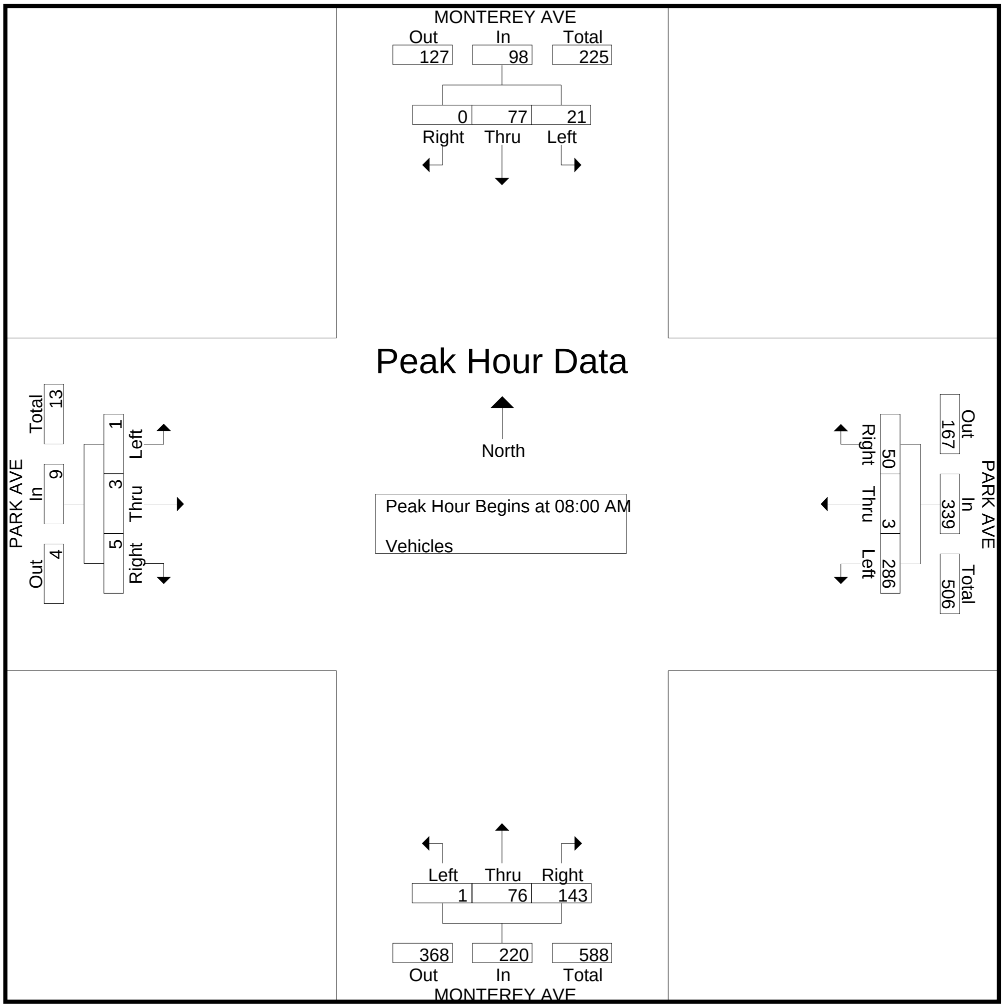

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File Name : 3PM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					PARK AVE Westbound					MONTEREY AVE Northbound					PARK AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	32	20	0	52	9	1	41	8	59	104	46	1	4	155	6	4	7	3	20	286
04:15 PM	1	35	26	0	62	10	0	58	3	71	95	34	2	1	132	2	4	5	5	16	281
04:30 PM	0	37	21	0	58	7	0	47	1	55	100	47	1	0	148	4	1	8	2	15	276
04:45 PM	1	27	22	0	50	7	1	45	5	58	100	39	1	1	141	4	3	1	5	13	262
Total	2	131	89	0	222	33	2	191	17	243	399	166	5	6	576	16	12	21	15	64	1105
05:00 PM	1	28	25	2	56	14	1	56	4	75	112	35	1	0	148	3	5	8	9	25	304
05:15 PM	1	20	28	1	50	15	0	51	4	70	114	38	1	0	153	5	3	5	4	17	290
05:30 PM	1	27	25	0	53	15	1	65	5	86	108	25	4	5	142	5	3	2	4	14	295
05:45 PM	1	25	23	1	50	10	0	70	6	86	122	34	1	5	162	0	3	5	7	15	313
Total	4	100	101	4	209	54	2	242	19	317	456	132	7	10	605	13	14	20	24	71	1202
Grand Total	6	231	190	4	431	87	4	433	36	560	855	298	12	16	1181	29	26	41	39	135	2307
Apprch %	1.4	53.6	44.1	0.9		15.5	0.7	77.3	6.4		72.4	25.2	1	1.4		21.5	19.3	30.4	28.9		
Total %	0.3	10	8.2	0.2	18.7	3.8	0.2	18.8	1.6	24.3	37.1	12.9	0.5	0.7	51.2	1.3	1.1	1.8	1.7	5.9	

	MONTEREY AVE Southbound				PARK AVE Westbound				MONTEREY AVE Northbound				PARK AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**1**	**28**	25	**54**	14	**1**	56	71	112	35	1	148	3	**5**	**8**	**16**	289
05:15 PM	1	20	**28**	49	**15**	0	51	66	114	**38**	1	153	**5**	3	5	13	281
05:30 PM	1	27	25	53	15	1	65	**81**	108	25	**4**	137	5	3	2	10	281
05:45 PM	1	25	23	49	10	0	**70**	80	**122**	34	1	**157**	0	3	5	8	**294**
Total Volume	4	100	101	205	54	2	242	298	456	132	7	595	13	14	20	47	1145
% App. Total	2	48.8	49.3		18.1	0.7	81.2		76.6	22.2	1.2		27.7	29.8	42.6		
PHF	1.00	.893	.902	.949	.900	.500	.864	.920	.934	.868	.438	.947	.650	.700	.625	.734	.974

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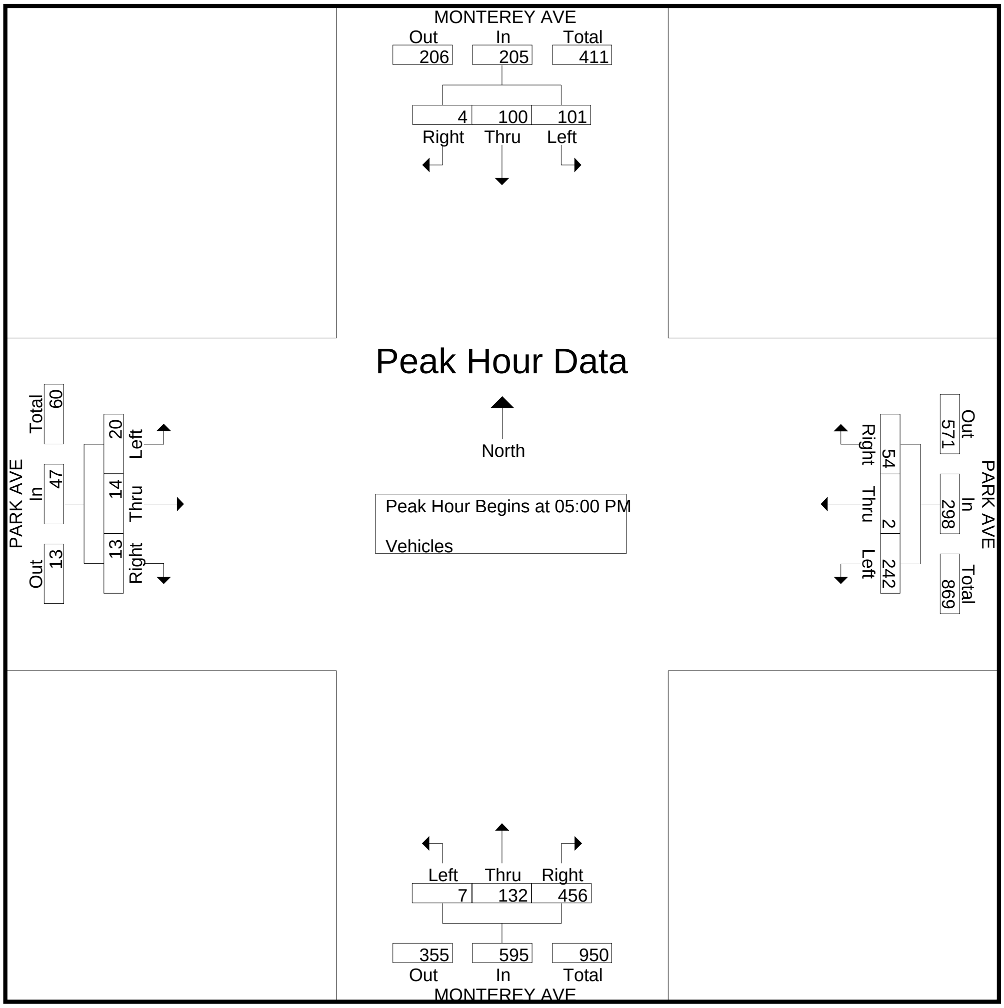

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File Name : 4AM FINAL
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Groups Printed- Vehicles

	MONTEREY AVE Southbound					Westbound					MONTEREY AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	13	3	0	0	16	0	0	0	0	0	0	6	15	0	21	6	0	6	1	13	50
07:15 AM	18	4	0	3	25	0	0	0	0	0	0	6	14	0	20	6	0	4	0	10	55
07:30 AM	12	11	0	0	23	0	0	0	0	0	0	6	19	0	25	14	0	8	1	23	71
07:45 AM	19	11	0	3	33	0	0	0	0	0	0	3	43	0	46	13	0	6	4	23	102
Total	62	29	0	6	97	0	0	0	0	0	0	21	91	0	112	39	0	24	6	69	278
08:00 AM	31	6	0	1	38	0	0	0	0	0	0	4	28	0	32	16	0	19	0	35	105
08:15 AM	28	6	0	0	34	0	0	0	0	0	0	1	26	0	27	15	0	9	1	25	86
08:30 AM	26	9	0	0	35	0	0	0	0	0	0	3	31	0	34	17	0	13	4	34	103
08:45 AM	23	8	0	1	32	0	0	0	0	0	0	5	32	0	37	20	0	13	3	36	105
Total	108	29	0	2	139	0	0	0	0	0	0	13	117	0	130	68	0	54	8	130	399
Grand Total	170	58	0	8	236	0	0	0	0	0	0	34	208	0	242	107	0	78	14	199	677
Apprch %	72	24.6	0	3.4		0	0	0	0		0	14	86	0		53.8	0	39.2	7		
Total %	25.1	8.6	0	1.2	34.9	0	0	0	0	0	0	5	30.7	0	35.7	15.8	0	11.5	2.1	29.4	

	MONTEREY AVE Southbound				Westbound				MONTEREY AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**31**	6	0	**37**	0	0	0	0	0	4	28	32	16	0	**19**	**35**	**104**
08:15 AM	28	6	0	34	0	0	0	0	0	1	26	27	15	0	9	24	85
08:30 AM	26	**9**	0	35	0	0	0	0	0	3	31	34	17	0	13	30	99
08:45 AM	23	8	0	31	0	0	0	0	0	**5**	**32**	**37**	**20**	0	13	33	101
Total Volume	108	29	0	137	0	0	0	0	0	13	117	130	68	0	54	122	389
% App. Total	78.8	21.2	0		0	0	0		0	10	90		55.7	0	44.3		
PHF	.871	.806	.000	.926	.000	.000	.000	.000	.000	.650	.914	.878	.850	.000	.711	.871	.935

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File Name : 4AM FINAL
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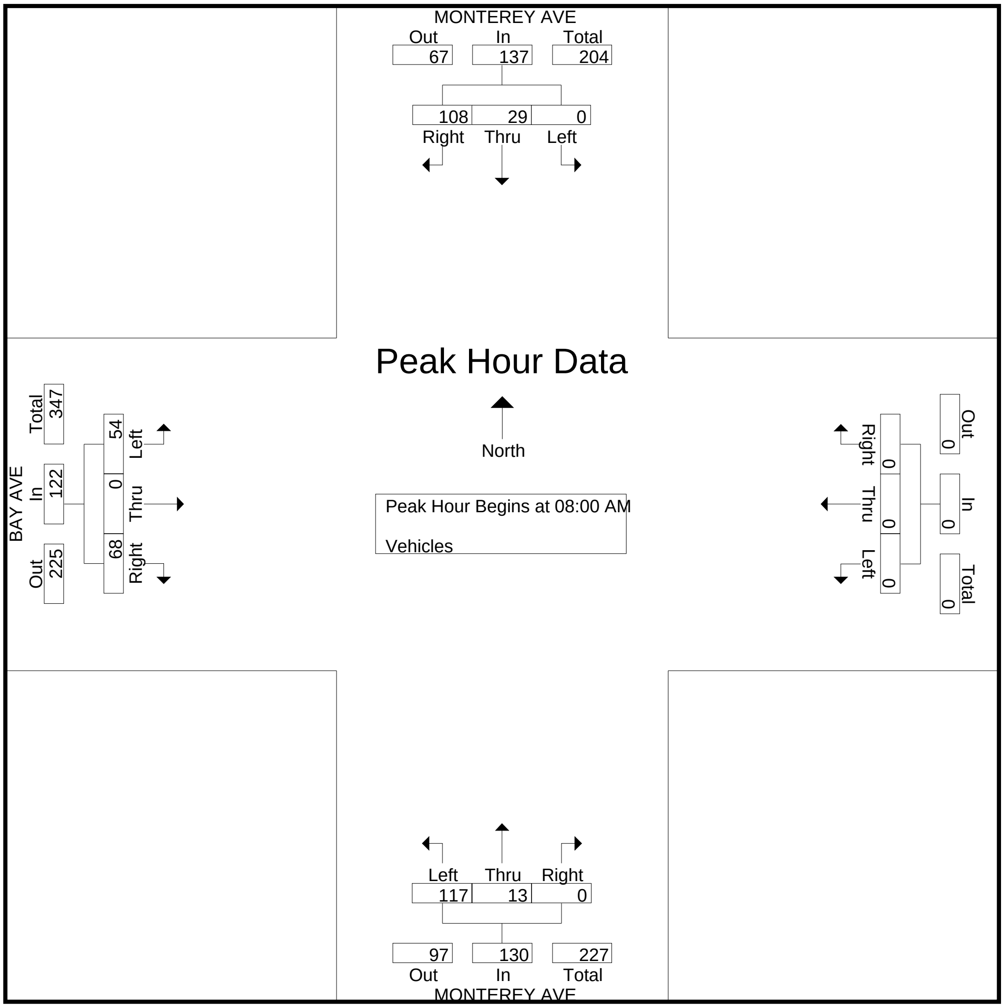

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File Name : 5AM FINAL
Site Code : 00000005
Start Date : 8/8/2013
Page No : 1

Groups Printed- Vehicles

	CAPITOLA AVE Southbound					BAY AVE Westbound					CAPITOLA AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	9	3	1	16	3	26	2	0	31	2	1	16	2	21	11	11	5	0	27	95
07:15 AM	8	11	4	0	23	3	31	2	3	39	1	2	10	2	15	14	5	6	0	25	102
07:30 AM	7	10	5	0	22	4	34	2	1	41	2	6	15	0	23	15	15	12	1	43	129
07:45 AM	7	14	2	1	24	5	51	6	0	62	2	7	13	1	23	15	16	7	3	41	150
Total	25	44	14	2	85	15	142	12	4	173	7	16	54	5	82	55	47	30	4	136	476
08:00 AM	10	13	3	2	28	6	40	10	1	57	2	13	15	5	35	18	29	13	0	60	180
08:15 AM	14	18	5	0	37	10	48	7	1	66	5	15	15	2	37	23	17	14	1	55	195
08:30 AM	10	19	7	1	37	7	45	10	1	63	6	15	19	2	42	39	19	15	2	75	217
08:45 AM	11	24	7	2	44	6	50	12	5	73	2	12	27	1	42	38	30	22	0	90	249
Total	45	74	22	5	146	29	183	39	8	259	15	55	76	10	156	118	95	64	3	280	841
Grand Total	70	118	36	7	231	44	325	51	12	432	22	71	130	15	238	173	142	94	7	416	1317
Apprch %	30.3	51.1	15.6	3		10.2	75.2	11.8	2.8		9.2	29.8	54.6	6.3		41.6	34.1	22.6	1.7		
Total %	5.3	9	2.7	0.5	17.5	3.3	24.7	3.9	0.9	32.8	1.7	5.4	9.9	1.1	18.1	13.1	10.8	7.1	0.5	31.6	

	CAPITOLA AVE Southbound				BAY AVE Westbound				CAPITOLA AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	10	13	3	26	6	40	10	56	2	13	15	30	18	29	13	60	172
08:15 AM	**14**	18	5	37	**10**	48	7	65	5	**15**	15	35	23	17	14	54	191
08:30 AM	10	19	**7**	36	7	45	10	62	**6**	15	19	40	**39**	19	15	73	211
08:45 AM	11	**24**	7	**42**	6	**50**	**12**	**68**	2	12	**27**	**41**	38	**30**	**22**	**90**	**241**
Total Volume	45	74	22	141	29	183	39	251	15	55	76	146	118	95	64	277	815
% App. Total	31.9	52.5	15.6		11.6	72.9	15.5		10.3	37.7	52.1		42.6	34.3	23.1		
PHF	.804	.771	.786	.839	.725	.915	.813	.923	.625	.917	.704	.890	.756	.792	.727	.769	.845

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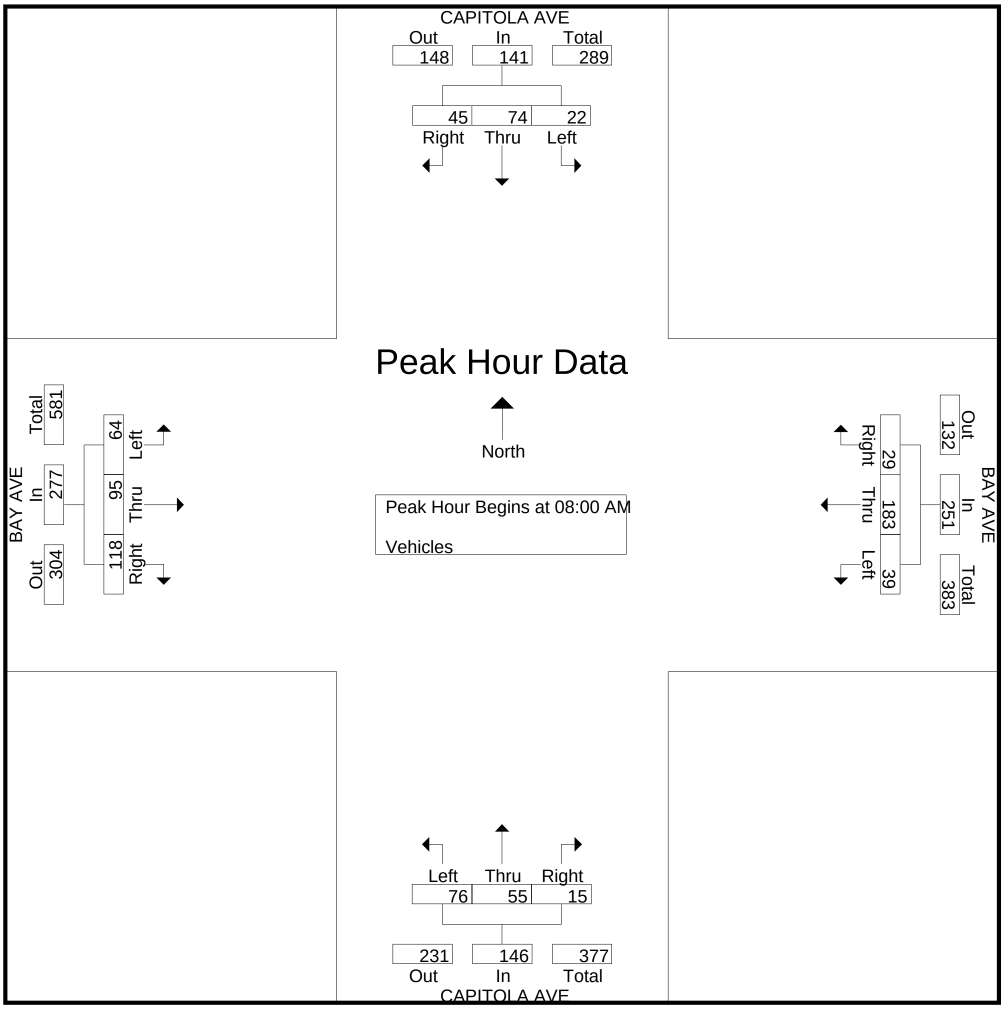
File Name : 5AM FINAL
Site Code : 00000005
Start Date : 8/8/2013
Page No : 2



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File Name : 5PM FINAL
Site Code : 00000005
Start Date : 8/8/2013
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Groups Printed- Vehicles

	CAPITOLA AVE Southbound					BAY AVE Westbound					CAPITOLA AVE Northbound					BAY AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	9	19	13	4	45	12	58	9	10	89	9	16	33	3	61	37	58	28	6	129	324
04:15 PM	13	17	10	4	44	11	74	8	8	101	10	12	39	4	65	41	65	22	1	129	339
04:30 PM	8	20	11	2	41	8	71	8	13	100	13	14	26	4	57	39	52	17	1	109	307
04:45 PM	12	15	15	4	46	8	50	14	3	75	8	22	33	3	66	35	64	17	5	121	308
Total	42	71	49	14	176	39	253	39	34	365	40	64	131	14	249	152	239	84	13	488	1278
05:00 PM	16	8	9	4	37	7	58	10	1	76	10	18	22	4	54	48	81	18	0	147	314
05:15 PM	12	15	8	6	41	4	62	9	6	81	5	21	31	4	61	38	77	13	5	133	316
05:30 PM	11	17	13	2	43	8	50	9	3	70	6	19	27	8	60	41	67	13	1	122	295
05:45 PM	5	12	13	0	30	9	52	12	0	73	6	23	26	2	57	38	71	22	2	133	293
Total	44	52	43	12	151	28	222	40	10	300	27	81	106	18	232	165	296	66	8	535	1218
Grand Total	86	123	92	26	327	67	475	79	44	665	67	145	237	32	481	317	535	150	21	1023	2496
Apprch %	26.3	37.6	28.1	8		10.1	71.4	11.9	6.6		13.9	30.1	49.3	6.7		31	52.3	14.7	2.1		
Total %	3.4	4.9	3.7	1	13.1	2.7	19	3.2	1.8	26.6	2.7	5.8	9.5	1.3	19.3	12.7	21.4	6	0.8	41	

	CAPITOLA AVE Southbound				BAY AVE Westbound				CAPITOLA AVE Northbound				BAY AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	13	17	10	40	**11**	**74**	8	**93**	10	12	**39**	61	41	65	**22**	128	**322**
04:30 PM	8	**20**	11	39	8	71	8	87	**13**	14	26	53	39	52	17	108	287
04:45 PM	12	15	**15**	**42**	8	50	**14**	72	8	**22**	33	**63**	35	64	17	116	293
05:00 PM	**16**	8	9	33	7	58	10	75	10	18	22	50	**48**	**81**	18	**147**	305
Total Volume	49	60	45	154	34	253	40	327	41	66	120	227	163	262	74	499	1207
% App. Total	31.8	39	29.2		10.4	77.4	12.2		18.1	29.1	52.9		32.7	52.5	14.8		
PHF	.766	.750	.750	.917	.773	.855	.714	.879	.788	.750	.769	.901	.849	.809	.841	.849	.937

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File Name : 5PM FINAL
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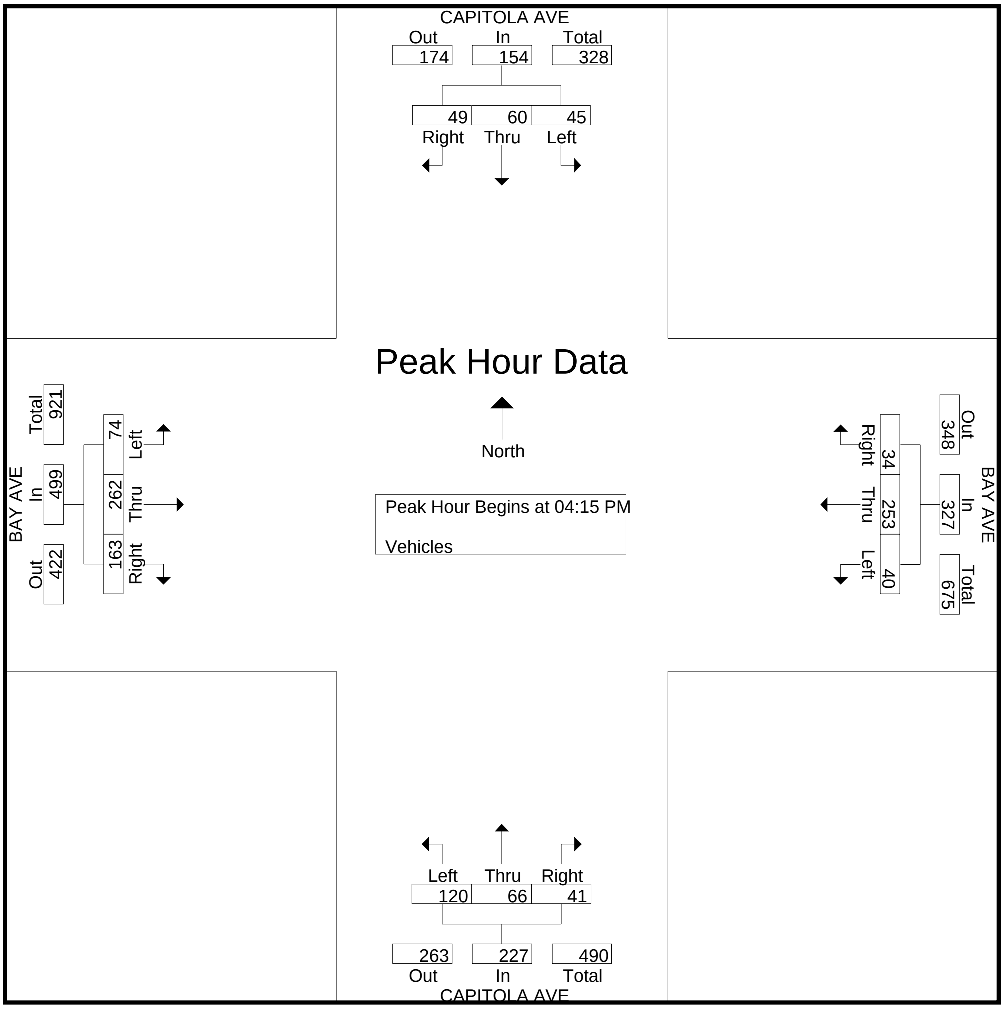

Traffic Data Service

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File Name : 1AM FINAL
Site Code : 00000001
Start Date : 10/3/2013
Page No : 1

Groups Printed- Vehicles

	Southbound					ABREGO ST ENTRANCE Westbound					Northbound					ABREGO ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
07:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
07:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	3	0	0	3	15
08:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
08:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
08:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	6	0	0	6	23
Grand Total	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	9	0	0	9	38
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	76.3	0	0	76.3	0	0	0	0	0	0	23.7	0	0	23.7	

	Southbound				ABREGO ST ENTRANCE Westbound				Northbound				ABREGO ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
08:15 AM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	1	0	1	6
08:30 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
08:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	**3**	0	**3**	**8**
Total Volume	0	0	0	0	0	17	0	17	0	0	0	0	0	6	0	6	23
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.850	.000	.850	.000	.000	.000	.000	.000	.500	.000	.500	.719

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File Name : 1AM FINAL
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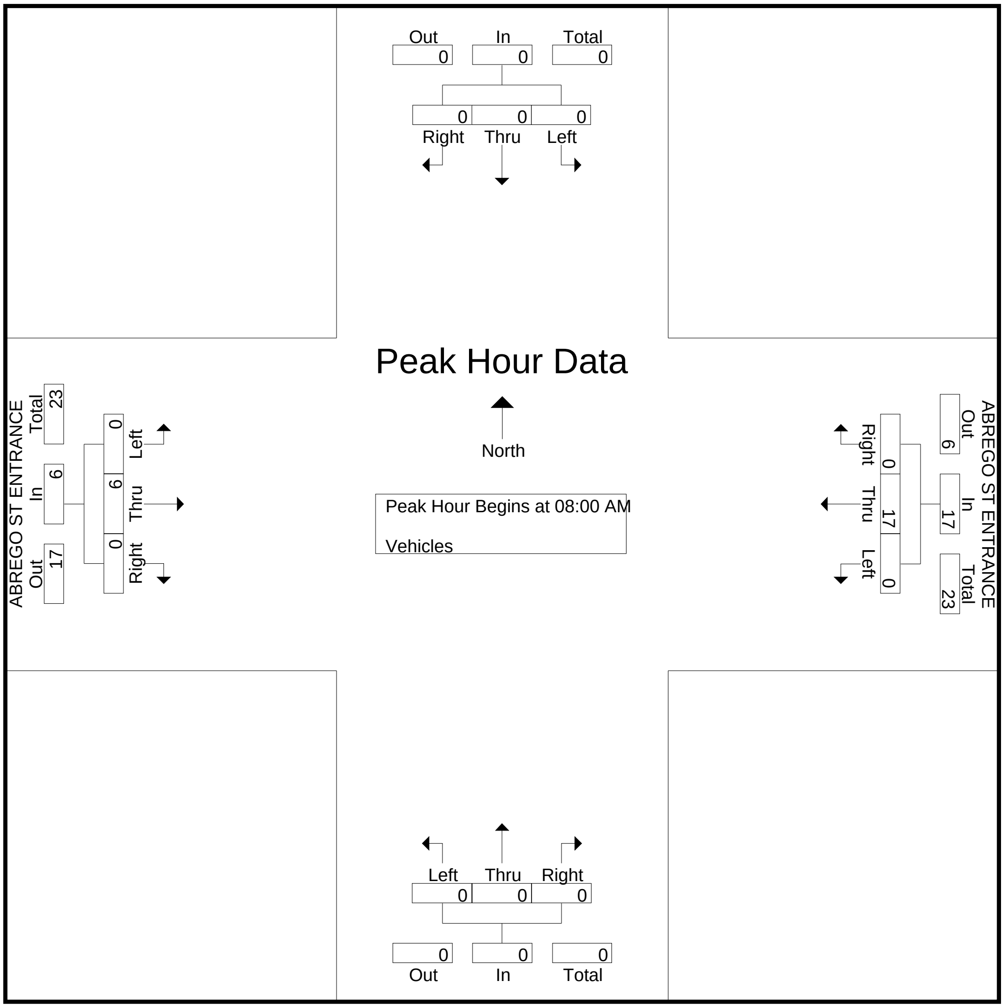

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File Name : 1MID FINAL
Site Code : 00000001
Start Date : 10/5/2013
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Groups Printed- Vehicles

	Southbound					ABREGO ST ENTRANCE Westbound					Northbound					ABREGO ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
12:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	18
01:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
01:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	9
01:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
01:45 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Total	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	17	0	0	17	31
Grand Total	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	25	0	0	25	49
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	51	0	0	51	

	Southbound				ABREGO ST ENTRANCE Westbound				Northbound				ABREGO ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	3	0	3	**9**
01:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**7**	0	**7**	9
01:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	5	0	5	6
01:45 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	2	0	2	7
Total Volume	0	0	0	0	0	14	0	14	0	0	0	0	0	17	0	17	31
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.583	.000	.583	.000	.000	.000	.000	.000	.607	.000	.607	.861

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File Name : 1MID FINAL
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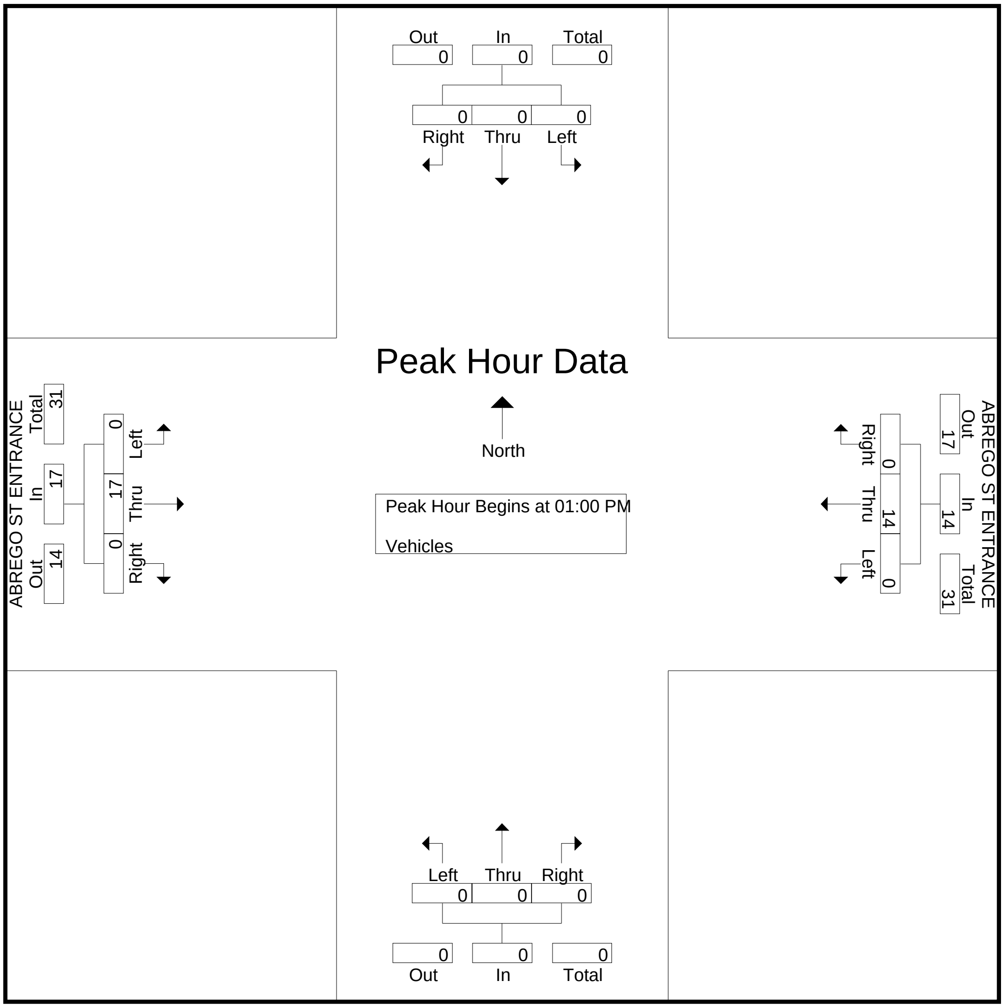

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File Name : 1PM FINAL
Site Code : 00000001
Start Date : 10/3/2013
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Groups Printed- Vehicles

	Southbound					ABREGO ST ENTRANCE Westbound					Northbound					ABREGO ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
04:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
04:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	15	0	0	15	29
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
05:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8
05:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Total	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	17	0	0	17	28
Grand Total	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	32	0	0	32	57
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	43.9	0	0	43.9	0	0	0	0	0	0	56.1	0	0	56.1	

	Southbound				ABREGO ST ENTRANCE Westbound				Northbound				ABREGO ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	0	**5**	6
04:30 PM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	5	0	5	**10**
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Total Volume	0	0	0	0	0	14	0	14	0	0	0	0	0	15	0	15	29
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.700	.000	.700	.000	.000	.000	.000	.000	.750	.000	.750	.725

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File Name : 1PM FINAL
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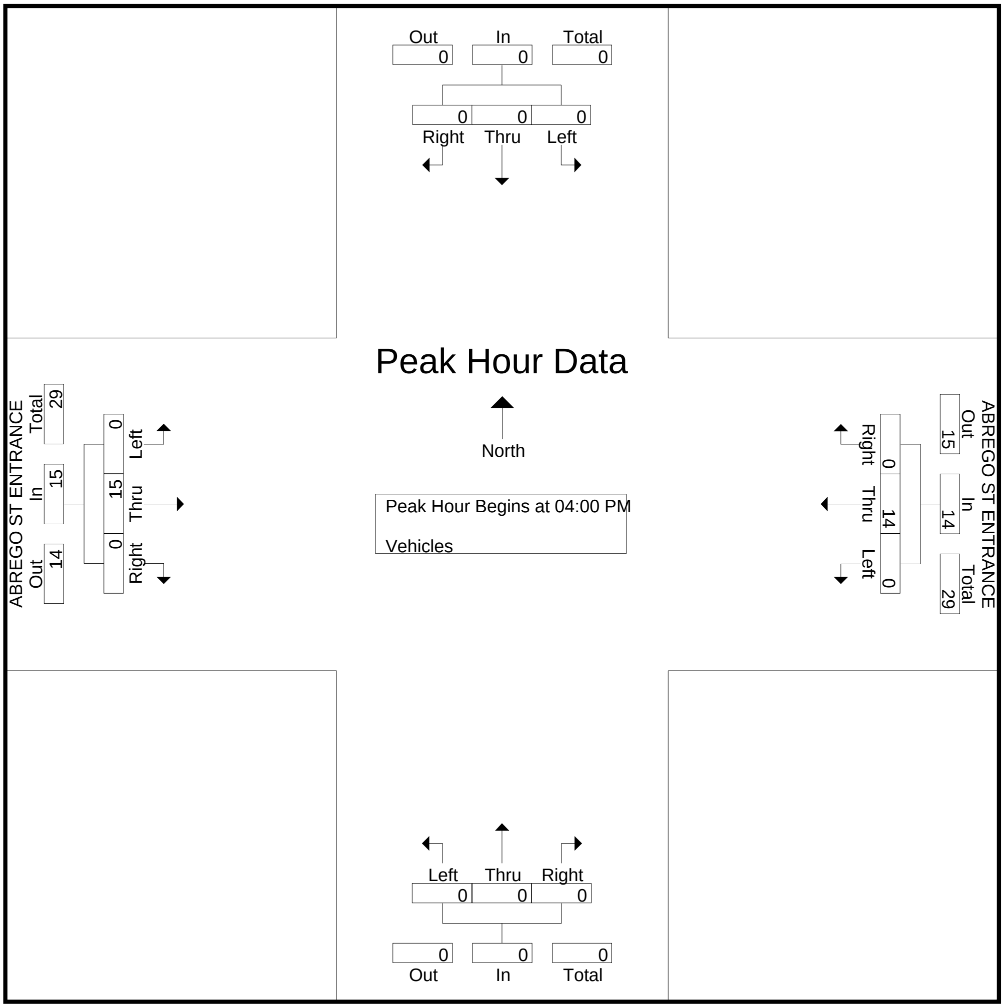

Traffic Data Service

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File Name : 2AM FINAL
Site Code : 00000002
Start Date : 10/3/2013
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Groups Printed- Vehicles

	Southbound					MAJOR SHERMAN LN ENTRANCE Westbound					Northbound					MAJOR SHERMAN LN ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
08:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	1	0	0	1	10
Grand Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	1	0	0	1	13
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	92.3	0	0	92.3	0	0	0	0	0	0	7.7	0	0	7.7	

	Southbound				MAJOR SHERMAN LN ENTRANCE Westbound				Northbound				MAJOR SHERMAN LN ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	**1**	0	**1**	3
08:15 AM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	0	0	0	**5**
Total Volume	0	0	0	0	0	9	0	9	0	0	0	0	0	1	0	1	10
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.450	.000	.450	.000	.000	.000	.000	.000	.250	.000	.250	.500

Traffic Data Service

Campbell, CA
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File Name : 2AM FINAL
Site Code : 00000002
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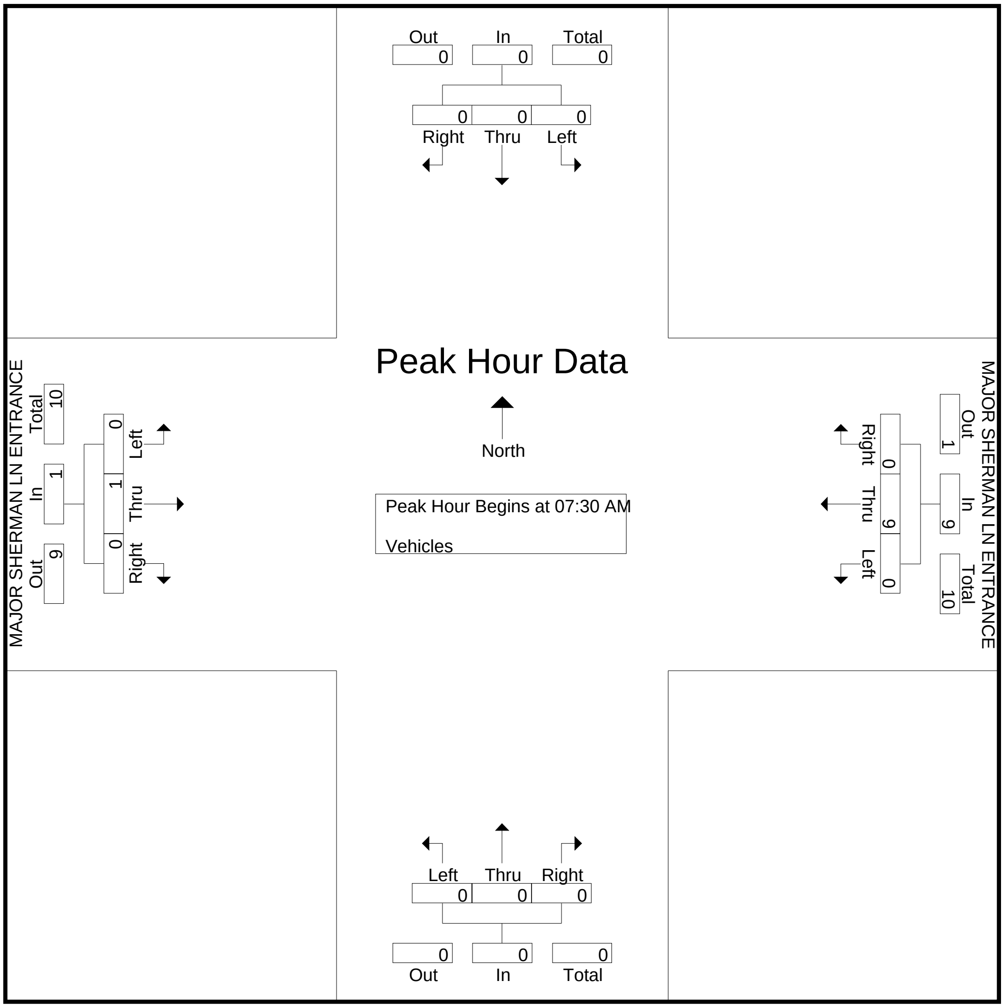

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File Name : 2MID FINAL
Site Code : 00000002
Start Date : 10/5/2013
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Groups Printed- Vehicles

	Southbound					MAJOR SHERMAN LN ENTRANCE Westbound					Northbound					MAJOR SHERMAN LN ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
12:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
01:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	71.4	0	0	71.4	0	0	0	0	0	0	28.6	0	0	28.6	

	Southbound				MAJOR SHERMAN LN ENTRANCE Westbound				Northbound				MAJOR SHERMAN LN ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	**2**
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
01:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	1.00	.000	1.00	.000	.000	.000	.000	.000	.500	.000	.500	.750

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File Name : 2MID FINAL
Site Code : 00000002
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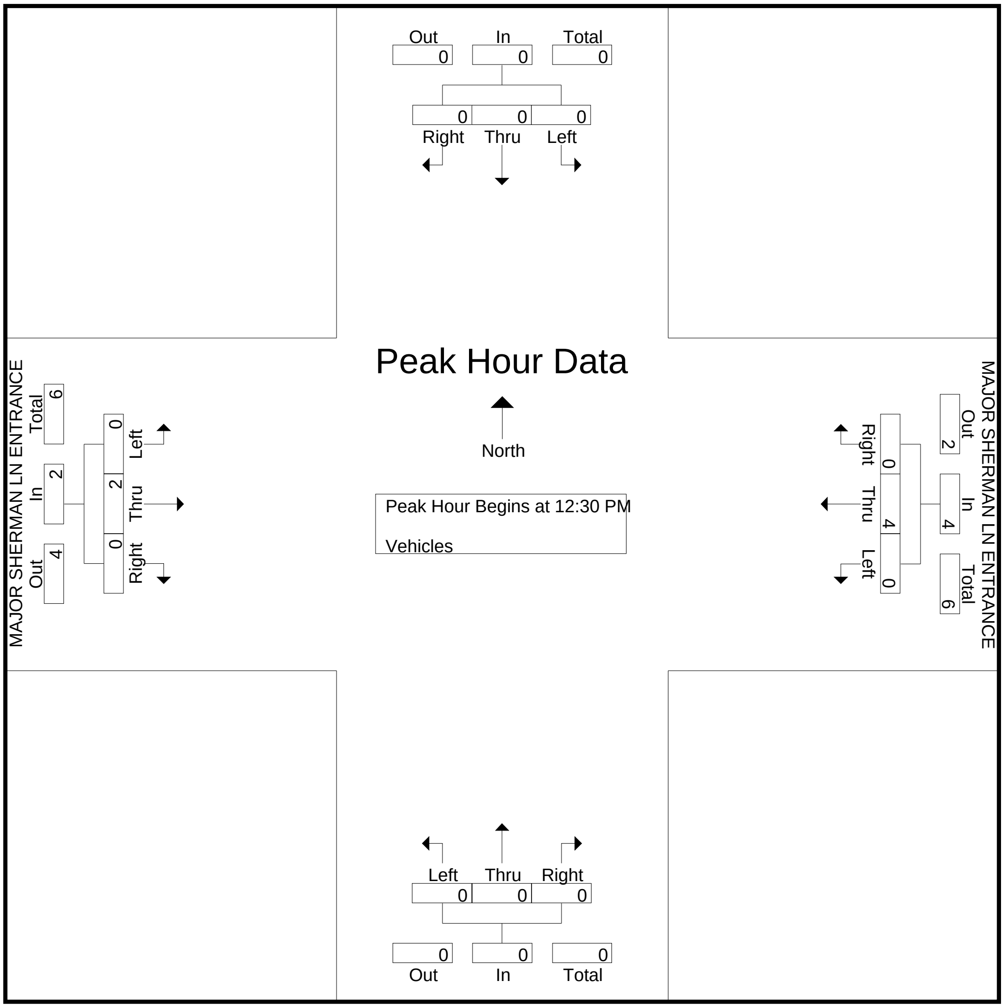

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File Name : 2PM FINAL
Site Code : 00000002
Start Date : 10/3/2013
Page No : 1

Groups Printed- Vehicles

	Southbound					MAJOR SHERMAN LN ENTRANCE Westbound					Northbound					MAJOR SHERMAN LN ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	9
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	33.3	0	0	33.3	0	0	0	0	0	0	66.7	0	0	66.7	

	Southbound				MAJOR SHERMAN LN ENTRANCE Westbound				Northbound				MAJOR SHERMAN LN ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1	**2**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	2
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.875

Traffic Data Service

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File Name : 2PM FINAL
Site Code : 00000002
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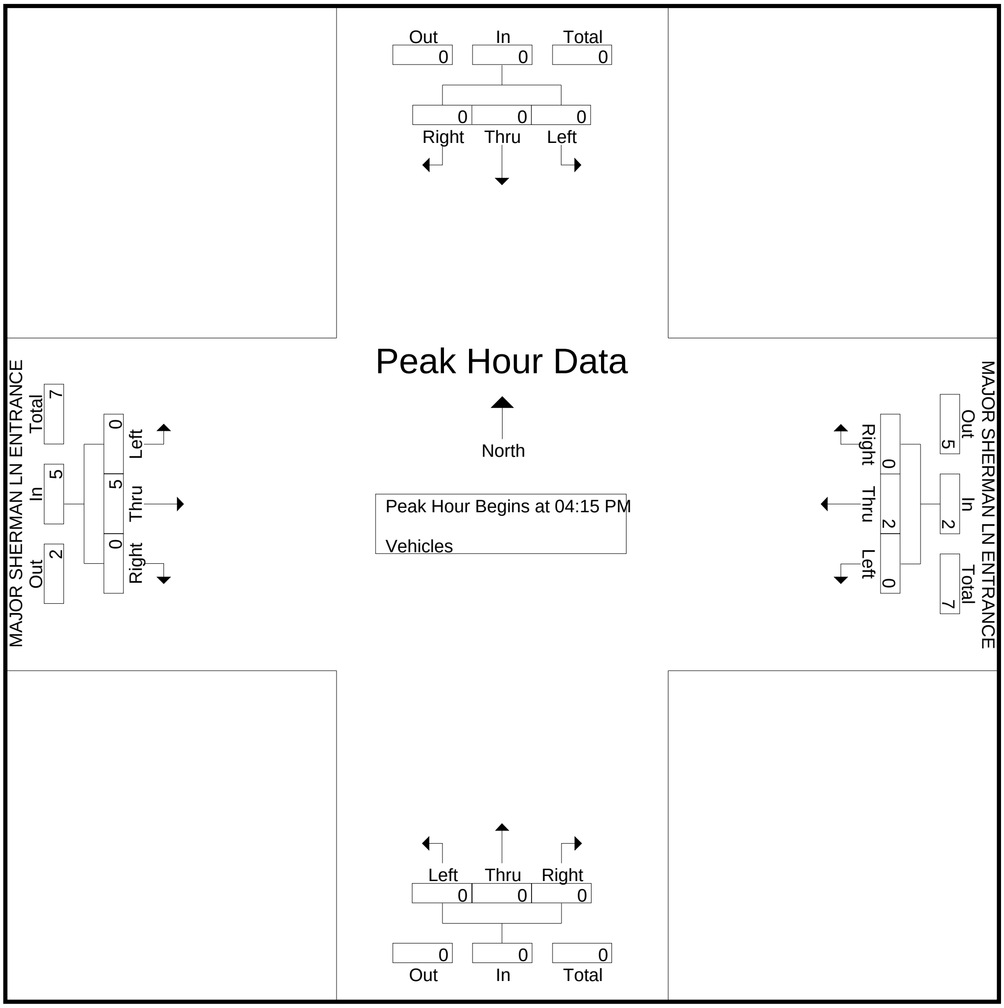

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File Name : 3AM FINAL
Site Code : 00000003
Start Date : 10/3/2013
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Groups Printed- Vehicles

	Southbound					PACIFIC ST ENTRANCE Westbound					Northbound					PACIFIC ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	16
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
08:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
08:45 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	16
Total	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	11	0	0	11	27
Grand Total	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	18	0	0	18	43
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	58.1	0	0	58.1	0	0	0	0	0	0	41.9	0	0	41.9	

	Southbound				PACIFIC ST ENTRANCE Westbound				Northbound				PACIFIC ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
08:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	1	0	1	6
08:45 AM	0	0	0	0	0	**9**	0	**9**	0	0	0	0	0	**7**	0	**7**	**16**
Total Volume	0	0	0	0	0	16	0	16	0	0	0	0	0	11	0	11	27
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.444	.000	.444	.000	.000	.000	.000	.000	.393	.000	.393	.422

Traffic Data Service
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File Name : 3AM FINAL
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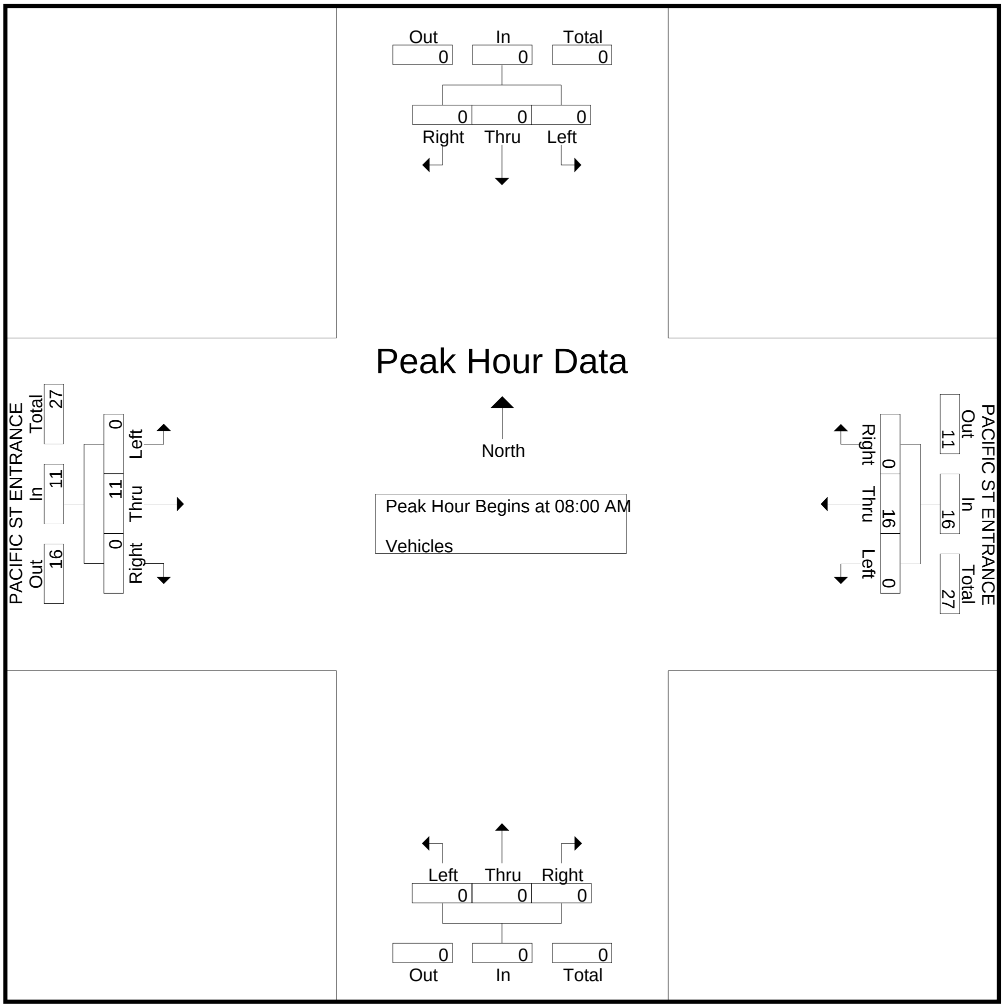

Traffic Data Service

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File Name : 3MID FINAL
Site Code : 00000003
Start Date : 10/5/2013

Groups Printed- Vehicles

	Southbound					PACIFIC ST ENTRANCE Westbound					Northbound					PACIFIC ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
12:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	16	0	0	16	25
01:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	8
01:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
01:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
01:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	26
Grand Total	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	26	0	0	26	51
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	51	0	0	51	

	Southbound				PACIFIC ST ENTRANCE Westbound				Northbound				PACIFIC ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:45 PM																	
12:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
01:00 PM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	2	0	2	8
01:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
01:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	**5**	0	**5**	**9**
Total Volume	0	0	0	0	0	15	0	15	0	0	0	0	0	11	0	11	26
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.550	.000	.550	.722

Traffic Data Service

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File Name : 3MID FINAL
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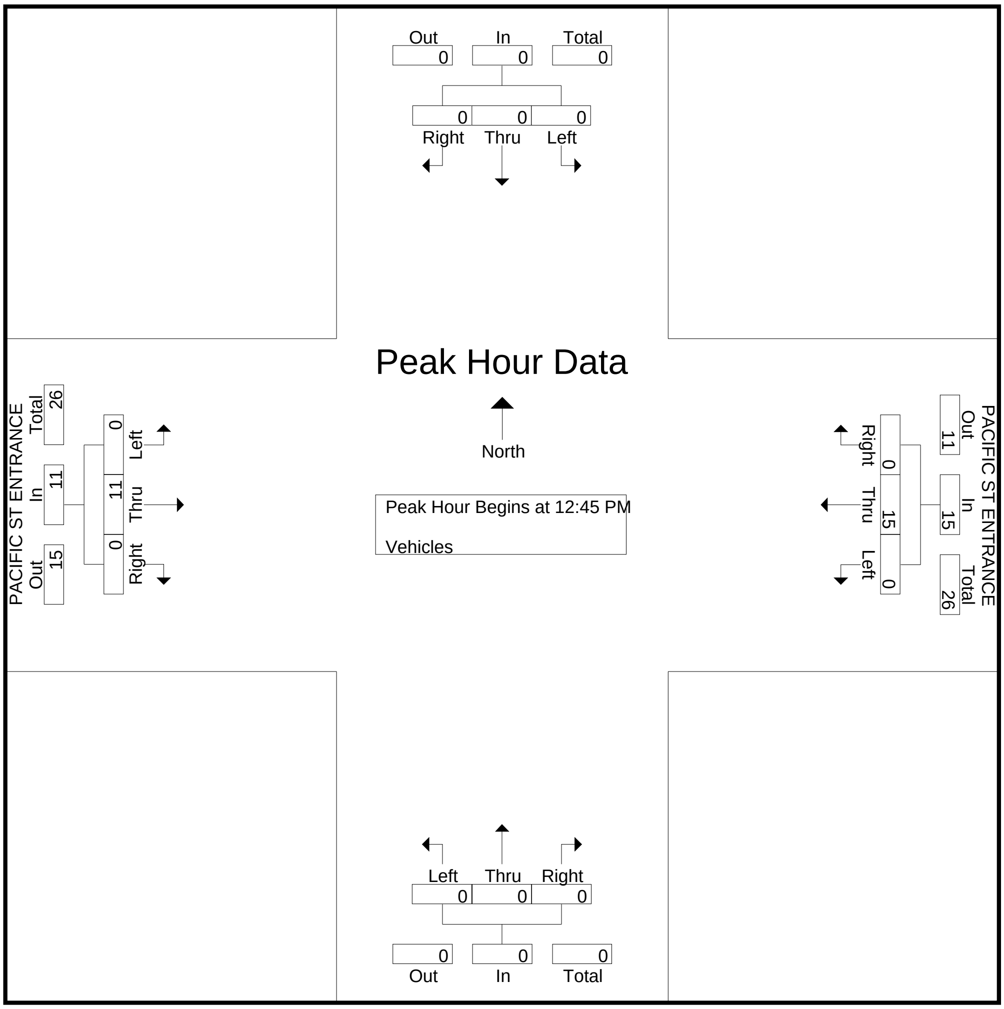

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File Name : 3PM FINAL
Site Code : 00000003
Start Date : 10/3/2013
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Groups Printed- Vehicles

	Southbound					PACIFIC ST ENTRANCE Westbound					Northbound					PACIFIC ST ENTRANCE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	2	0	0	2	12
04:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	9
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
04:45 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	14	0	0	14	32
05:00 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	1	0	0	1	8
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
05:30 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
05:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	12	0	0	12	29
Grand Total	0	0	0	0	0	0	35	0	0	35	0	0	0	0	0	0	26	0	0	26	61
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	0	0	0	0	0	0	57.4	0	0	57.4	0	0	0	0	0	0	42.6	0	0	42.6	

	Southbound				PACIFIC ST ENTRANCE Westbound				Northbound				PACIFIC ST ENTRANCE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**10**	0	**10**	0	0	0	0	0	2	0	2	**12**
04:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**7**	0	**7**	9
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Total Volume	0	0	0	0	0	18	0	18	0	0	0	0	0	14	0	14	32
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.450	.000	.450	.000	.000	.000	.000	.000	.500	.000	.500	.667

Traffic Data Service

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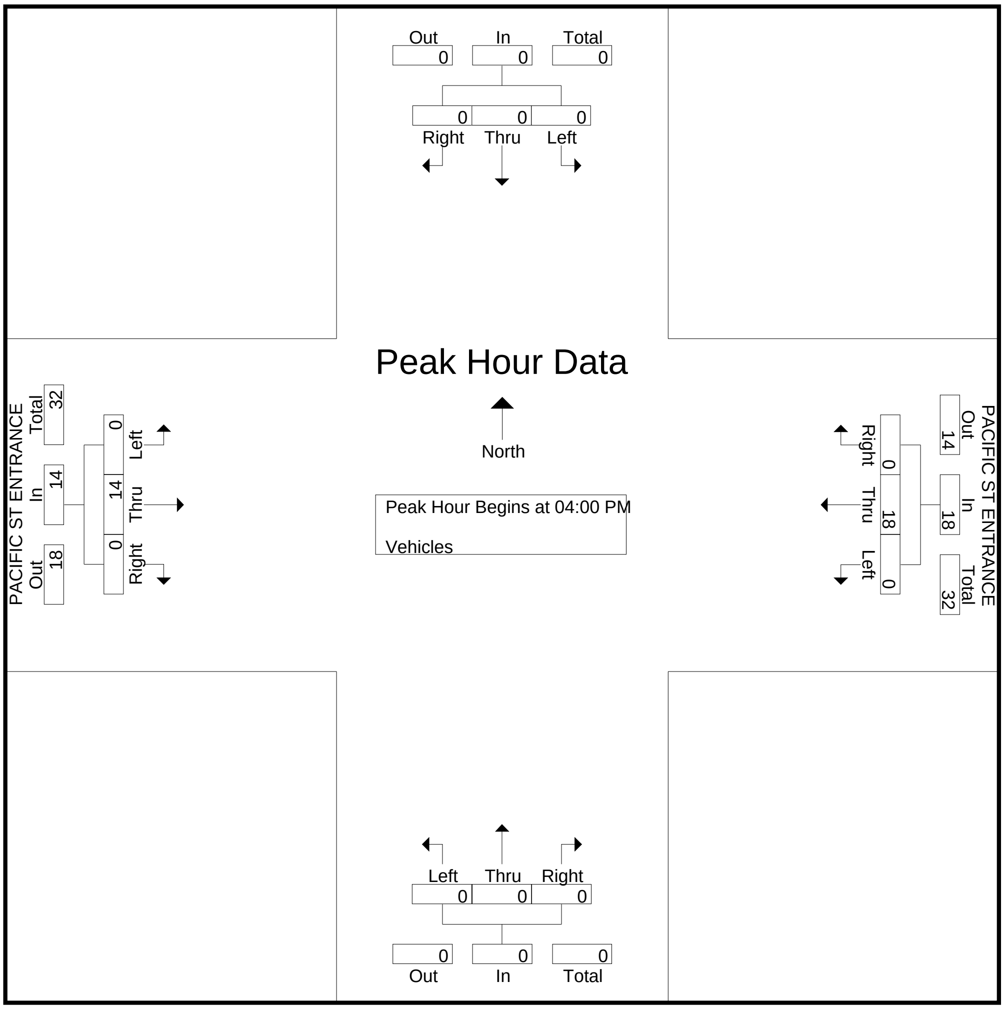

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1878 -- English (ENU)

Datasets:

Site: **[2] CENTRAL AVE BETWEEN ESCALONA DR AND CLIFF AVE**

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: North (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 22, 2013 - Total=413, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**1**	**1**	**0**	**2**	**6**	**16**	**29**	**17**	**28**	**27**	**33**	**29**	**20**	**36**	**25**	**33**	**18**	**25**	**22**	**14**	**13**	**11**	**4**	
0	1	0	0	0	1	3	5	3	5	6	9	**13**	8	6	**7**	13	7	10	7	5	2	3	1	0
0	0	0	0	2	1	2	9	4	6	7	4	**7**	4	**10**	4	6	3	7	8	3	5	2	2	0
2	0	0	0	0	3	4	6	3	7	3	**13**	6	7	**13**	5	6	4	4	4	3	1	2	0	0
1	0	1	0	0	1	7	9	7	10	11	**7**	3	1	**7**	9	8	4	4	3	3	5	4	1	0

AM Peak 1130 - 1230 (40), AM PHF=0.77 PM Peak 1415 - 1515 (37), PM PHF=0.71

* Friday, August 23, 2013 - Total=405, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**1**	**1**	**2**	**3**	**13**	**14**	**31**	**19**	**27**	**32**	**25**	**23**	**34**	**33**	**37**	**28**	**23**	**23**	**11**	**6**	**14**	**4**	
0	1	0	1	1	0	3	1	7	6	**4**	6	5	7	10	7	6	**7**	9	2	7	1	1	3	0
0	0	0	0	1	1	3	7	6	3	**10**	6	7	3	10	8	8	**9**	5	7	1	2	4	0	0
0	0	0	0	0	1	3	3	8	3	**11**	10	5	6	8	9	**12**	7	3	7	0	2	5	1	1
0	0	1	0	0	1	4	3	10	**7**	2	10	8	7	6	9	**11**	5	6	7	3	1	4	0	1

AM Peak 0945 - 1045 (32), AM PHF=0.73 PM Peak 1630 - 1730 (39), PM PHF=0.81

* Saturday, August 24, 2013 - Total=434, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**4**	**2**	**0**	**3**	**1**	**8**	**14**	**19**	**30**	**30**	**25**	**44**	**35**	**38**	**40**	**27**	**26**	**17**	**25**	**16**	**13**	**11**	**4**	
0	1	1	0	1	1	1	0	6	4	12	4	**8**	**9**	10	13	6	6	5	7	3	7	0	0	1
0	1	0	0	0	0	2	3	6	5	2	7	**20**	11	9	8	8	6	1	3	3	2	3	3	2
1	2	0	0	1	0	2	6	4	14	9	**8**	**8**	8	11	12	10	10	8	4	5	2	4	1	3
1	0	1	0	1	0	3	5	3	7	7	**6**	**8**	7	8	7	3	4	3	11	5	2	4	0	0

AM Peak 1130 - 1230 (42), AM PHF=0.53 PM Peak 1215 - 1315 (45), PM PHF=0.56

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1879 -- English (ENU)

Datasets:

Site: [2] CENTRAL AVE BETWEEN ESCALONA DR AND CLIFF AVE

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: South (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 22, 2013 - Total=440, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**4**	**2**	**0**	**1**	**0**	**7**	**9**	**10**	**28**	**27**	**32**	**30**	**29**	**37**	**37**	**29**	**41**	**35**	**29**	**15**	**20**	**9**	**8**	
1	2	1	0	1	0	0	2	1	5	6	**14**	4	8	10	9	8	6	**6**	8	5	7	2	3	3
0	2	0	0	0	0	1	2	5	5	**7**	6	8	6	12	8	5	10	**13**	8	3	3	3	5	0
0	0	0	0	0	0	1	1	1	9	**7**	4	8	11	6	7	8	**16**	7	6	3	5	2	0	0
0	0	1	0	0	0	5	4	3	9	**7**	8	10	4	9	13	8	**9**	9	7	4	5	2	0	2

AM Peak 1015 - 1115 (35), AM PHF=0.63 PM Peak 1730 - 1830 (44), PM PHF=0.69

* Friday, August 23, 2013 - Total=495, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**1**	**0**	**3**	**1**	**0**	**10**	**14**	**20**	**18**	**21**	**34**	**38**	**42**	**37**	**42**	**31**	**35**	**29**	**32**	**29**	**24**	**18**	**11**	
3	0	0	1	0	0	3	2	6	5	2	**11**	5	**10**	10	9	8	6	8	12	8	4	7	2	1
0	0	0	1	1	0	2	2	2	5	2	**5**	10	**12**	8	15	6	8	6	4	4	9	3	5	0
0	1	0	1	0	0	3	6	4	5	8	**10**	7	**11**	9	9	5	12	8	6	8	6	5	3	0
2	0	0	0	0	0	2	4	8	3	**9**	8	**16**	9	10	9	12	9	7	10	9	5	3	1	1

AM Peak 1045 - 1145 (35), AM PHF=0.80 PM Peak 1245 - 1345 (49), PM PHF=0.77

* Saturday, August 24, 2013 - Total=502, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**4**	**1**	**0**	**2**	**0**	**5**	**5**	**19**	**25**	**21**	**34**	**41**	**42**	**53**	**35**	**35**	**42**	**38**	**18**	**25**	**23**	**20**	**12**	
1	2	0	0	1	0	0	2	3	4	5	5	**14**	11	11	**12**	12	10	6	7	6	10	1	2	3
0	1	0	0	0	0	2	0	2	8	8	8	**10**	9	**19**	6	6	13	16	3	11	5	5	4	0
0	1	0	0	1	0	1	1	9	7	3	**9**	9	10	**10**	9	10	9	9	2	2	5	8	3	0
1	0	1	0	0	0	2	2	5	6	5	**12**	8	12	**13**	8	7	10	7	6	6	3	6	3	0

AM Peak 1130 - 1230 (45), AM PHF=0.80 PM Peak 1415 - 1515 (54), PM PHF=0.71

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1845 -- English (ENU)

Datasets:

Site: **[C] EL SALTO DR BETWEEN SACRAMENTO AVE AND LIVERMORE AVE**

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: East (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=119, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**2**	**0**	**5**	**5**	**4**	**5**	**11**	**14**	**7**	**3**	**13**	**10**	**8**	**12**	**10**	**3**	**3**	**2**	**1**	
0	0	0	0	0	1	0	2	1	2	3	4	**2**	2	1	1	**5**	1	6	3	1	1	1	0	0
0	0	0	0	0	0	0	0	1	1	1	1	**2**	3	0	**2**	1	1	2	2	1	0	1	1	1
0	0	0	0	0	0	0	1	2	0	0	2	**6**	1	0	**7**	3	2	2	1	0	1	0	0	1
0	0	0	1	0	1	0	2	1	1	1	**4**	4	1	2	**3**	1	4	2	4	1	1	0	0	0

AM Peak 1145 - 1245 (14), AM PHF=0.58 PM Peak 1515 - 1615 (17), PM PHF=0.61

* Friday, August 09, 2013 - Total=121, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**0**	**0**	**1**	**0**	**1**	**0**	**2**	**5**	**4**	**6**	**4**	**10**	**15**	**11**	**12**	**10**	**12**	**5**	**8**	**7**	**2**	**2**	**2**	
0	0	0	0	0	1	0	0	1	1	1	0	**2**	2	**3**	3	3	4	2	2	1	2	2	0	0
1	0	0	0	0	0	0	0	1	0	1	1	**2**	**2**	2	5	4	2	2	0	2	0	0	0	0
1	0	0	1	0	0	0	1	2	1	2	0	**2**	**3**	3	1	3	1	0	5	2	0	0	1	1
0	0	0	0	0	0	0	1	1	2	2	**3**	4	**8**	3	3	0	5	1	1	2	0	0	1	0

AM Peak 1145 - 1245 (9), AM PHF=0.75 PM Peak 1315 - 1415 (16), PM PHF=0.50

* Saturday, August 10, 2013 - Total=172, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**1**	**0**	**0**	**1**	**0**	**0**	**4**	**9**	**7**	**14**	**20**	**12**	**12**	**10**	**16**	**11**	**13**	**19**	**6**	**6**	**5**	**2**	**3**	
0	1	0	0	0	0	0	0	4	1	3	**4**	4	7	2	5	1	3	**3**	1	1	1	0	2	0
0	0	0	0	1	0	0	0	3	0	4	**4**	0	2	1	2	2	3	**6**	2	2	2	2	1	1
1	0	0	0	0	0	0	1	0	2	2	**6**	2	2	4	5	3	4	**5**	1	2	2	0	0	0
0	0	0	0	0	0	0	3	2	4	5	**6**	6	1	3	4	5	3	**5**	2	1	0	0	0	0

AM Peak 1100 - 1200 (20), AM PHF=0.83 PM Peak 1800 - 1900 (19), PM PHF=0.79

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1844 -- English (ENU)

Datasets:

Site: [C] EL SALTO DR BETWEEN SACRAMENTO AVE AND LIVERMORE AVE

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=125, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**2**	**3**	**5**	**8**	**9**	**8**	**13**	**15**	**8**	**3**	**9**	**9**	**10**	**10**	**6**	**3**	**2**	**0**	**1**	
0	0	0	0	0	0	1	1	1	1	4	**3**	1	**3**	0	3	3	6	2	1	1	2	0	0	0
0	0	0	0	0	2	0	1	1	3	2	**3**	4	**5**	1	2	3	2	1	2	2	0	0	1	1
0	0	0	0	0	0	1	1	2	2	1	**5**	**6**	0	2	1	2	1	1	3	0	0	0	0	0
0	0	0	1	0	0	1	2	4	3	1	**2**	**4**	0	0	3	1	1	6	0	0	0	0	0	0

AM Peak 1100 - 1200 (13), AM PHF=0.65 PM Peak 1230 - 1330 (18), PM PHF=0.75

* Friday, August 09, 2013 - Total=118, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**1**	**0**	**1**	**2**	**2**	**6**	**7**	**10**	**6**	**10**	**14**	**6**	**13**	**7**	**7**	**7**	**7**	**7**	**4**	**0**	**0**	
0	0	0	0	0	0	1	0	3	0	**3**	2	1	**6**	1	2	2	2	1	1	1	1	0	0	0
1	0	0	0	0	1	0	0	1	**4**	1	2	**2**	1	3	4	3	3	3	2	1	2	0	0	0
0	0	0	1	0	0	1	1	0	**1**	1	1	**6**	4	1	2	1	0	2	2	2	0	0	0	0
0	0	0	0	0	0	0	1	2	**2**	5	1	**1**	3	1	5	1	2	1	2	3	1	0	0	0

AM Peak 0915 - 1015 (10), AM PHF=0.63 PM Peak 1215 - 1315 (15), PM PHF=0.63

* Saturday, August 10, 2013 - Total=166, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**0**	**1**	**0**	**0**	**4**	**10**	**6**	**13**	**15**	**14**	**12**	**10**	**15**	**11**	**12**	**23**	**10**	**5**	**1**	**3**	**0**	
0	1	0	0	0	0	0	0	5	1	6	2	**4**	6	1	9	4	4	**7**	3	1	1	0	0	0
0	0	0	0	1	0	0	0	2	0	1	**4**	2	3	3	0	1	3	**9**	3	0	0	2	0	1
0	0	0	0	0	0	0	0	2	1	2	**6**	3	1	4	4	5	4	**4**	4	4	0	1	0	0
0	0	0	0	0	0	0	4	1	4	4	**3**	5	2	2	2	1	1	**3**	0	0	0	0	0	0

AM Peak 1115 - 1215 (17), AM PHF=0.71 PM Peak 1800 - 1900 (23), PM PHF=0.64

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1841 -- English (ENU)

Datasets:

Site: **[B] EL SALTO DR BETWEEN SAXON AVE AND OAKLAND AVE**

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: East (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=152, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	**8**	**10**	**15**	**16**	**6**	**5**	**13**	**12**	**16**	**18**	**7**	**6**	**3**	**3**	**2**	
1	0	0	0	0	0	0	2	6	3	4	7	**5**	1	1	2	3	6	**8**	1	4	1	1	0	0
0	0	0	0	0	0	0	0	0	2	3	3	**2**	0	2	2	1	3	**5**	1	2	1	2	2	1
0	0	0	0	0	0	0	1	0	2	1	2	**6**	2	0	5	3	**3**	2	2	0	0	0	0	0
0	0	0	0	0	0	0	1	1	1	2	**3**	3	3	2	4	5	**4**	3	3	0	1	0	0	1

AM Peak 1145 - 1245 (16), AM PHF=0.67 PM Peak 1730 - 1830 (20), PM PHF=0.63

* Friday, August 09, 2013 - Total=152, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**5**	**14**	**11**	**12**	**15**	**12**	**12**	**13**	**14**	**11**	**11**	**6**	**2**	**2**	**2**	
0	0	0	0	0	0	0	1	1	1	**2**	2	3	0	**2**	4	4	3	3	2	1	1	2	1	0
1	0	0	0	0	0	0	2	2	2	**3**	3	2	**6**	3	6	3	5	2	1	3	1	0	0	0
0	0	0	0	0	0	0	0	1	2	**5**	4	1	**3**	5	1	3	6	3	3	0	0	0	1	0
1	0	0	0	0	0	0	1	0	0	**4**	2	6	**6**	2	1	3	0	3	5	2	0	0	0	1

AM Peak 1000 - 1100 (14), AM PHF=0.70 PM Peak 1315 - 1415 (17), PM PHF=0.71

* Saturday, August 10, 2013 - Total=169, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**5**	**7**	**10**	**15**	**18**	**13**	**14**	**14**	**21**	**11**	**14**	**5**	**8**	**4**	**5**	**2**	
0	0	0	0	0	1	0	0	0	0	2	4	**2**	**7**	5	1	6	3	7	1	0	1	2	1	2
0	0	0	0	0	0	0	0	2	1	3	3	**6**	1	0	5	5	4	4	3	3	3	1	1	0
0	0	0	0	0	0	0	0	2	2	1	1	**5**	2	5	5	8	2	0	0	3	0	0	0	0
1	0	0	0	0	1	0	0	1	4	4	**7**	**5**	3	4	3	2	2	3	1	2	0	2	0	0

AM Peak 1145 - 1245 (20), AM PHF=0.71 PM Peak 1215 - 1315 (23), PM PHF=0.82

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1840 -- English (ENU)

Datasets:
Site: [B] EL SALTO DR BETWEEN SAXON AVE AND OAKLAND AVE

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=156, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**2**	**0**	**1**	**10**	**5**	**14**	**7**	**17**	**17**	**12**	**13**	**6**	**10**	**9**	**14**	**9**	**2**	**6**	**0**	**1**	
0	0	0	0	1	0	1	4	2	3	3	3	**7**	**3**	3	1	2	5	2	3	1	2	0	0	0
0	0	0	0	0	0	0	0	1	3	1	**3**	2	**7**	5	2	2	2	4	5	1	0	0	1	0
0	0	0	0	0	0	0	4	0	2	2	**4**	**5**	2	3	1	3	0	4	1	0	2	0	0	0
0	0	0	1	1	0	0	2	2	6	1	**7**	**3**	0	2	2	3	2	4	0	0	2	0	0	0

AM Peak 1115 - 1215 (21), AM PHF=0.75 PM Peak 1230 - 1330 (18), PM PHF=0.64

* Friday, August 09, 2013 - Total=148, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**1**	**1**	**2**	**5**	**3**	**12**	**16**	**12**	**13**	**18**	**9**	**16**	**10**	**10**	**6**	**4**	**4**	**4**	**0**	**1**	
0	0	0	0	1	0	0	2	1	1	2	**4**	4	3	**4**	3	3	5	0	1	1	2	0	1	0
0	0	0	0	0	1	0	1	2	5	**5**	1	2	**3**	2	4	2	1	3	0	0	1	0	0	0
0	0	0	0	0	0	0	0	0	2	**6**	3	4	**3**	2	3	2	3	1	2	2	0	0	0	0
0	0	0	1	0	0	2	2	0	4	**3**	4	3	**9**	1	6	3	1	2	1	1	1	0	0	0

AM Peak 1015 - 1115 (18), AM PHF=0.75 PM Peak 1315 - 1415 (19), PM PHF=0.53

* Saturday, August 10, 2013 - Total=147, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**2**	**1**	**0**	**2**	**5**	**7**	**8**	**20**	**15**	**9**	**16**	**7**	**12**	**15**	**15**	**5**	**5**	**2**	**0**	**1**	
0	0	0	0	0	0	0	0	2	1	2	**10**	0	2	2	3	4	2	**4**	1	2	0	0	1	0
0	0	0	0	0	0	0	0	0	2	3	**2**	4	1	4	1	2	4	**7**	3	0	1	0	0	1
0	0	0	0	1	0	0	1	3	4	1	**4**	8	5	5	1	5	**6**	2	1	2	0	0	0	0
0	0	0	0	1	1	0	1	0	0	2	**4**	3	1	5	2	1	**3**	2	0	1	1	0	0	0

AM Peak 1100 - 1200 (20), AM PHF=0.50 PM Peak 1730 - 1830 (20), PM PHF=0.71

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1847 -- English (ENU)

Datasets:
Site: **[D] EL SALTO DR JUST AFTER THE GATE ENTRANCE TO MONARCH COVE INN**

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: East (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=40, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**2**	**2**	**1**	**2**	**3**	**1**	**0**	**5**	**5**	**2**	**7**	**1**	**1**	**2**	**2**	**0**	
0	0	0	0	0	0	0	**1**	1	1	0	0	1	0	0	1	**4**	1	4	1	0	1	1	0	0
0	0	0	0	0	0	0	**0**	0	1	1	0	0	0	0	**1**	0	0	2	0	1	0	1	0	0
0	0	0	0	0	0	0	**1**	1	0	0	1	0	1	0	**1**	0	0	1	0	0	0	0	0	0
0	0	0	1	0	0	0	**1**	0	0	0	1	2	0	0	**2**	1	1	0	0	0	1	0	0	0

AM Peak 0700 - 0800 (3), AM PHF=0.75 PM Peak 1515 - 1615 (8), PM PHF=0.50

* Friday, August 09, 2013 - Total=50, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**5**	**3**	**2**	**2**	**4**	**4**	**8**	**4**	**4**	**5**	**1**	**1**	**2**	**1**	**1**	**0**	
0	0	0	0	0	0	0	0	**2**	1	0	0	0	0	**1**	0	1	1	1	0	0	1	1	0	0
0	0	0	0	0	0	0	0	**1**	0	0	0	0	1	**2**	3	1	2	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1	**2**	1	1	0	1	0	**2**	0	2	0	0	1	1	0	0	0	0
0	0	0	0	0	0	0	**1**	0	1	1	2	3	**3**	3	1	0	2	0	0	1	0	0	0	0

AM Peak 0745 - 0845 (6), AM PHF=0.75 PM Peak 1345 - 1445 (8), PM PHF=0.67

* Saturday, August 10, 2013 - Total=69, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**9**	**4**	**5**	**10**	**5**	**1**	**0**	**1**	**6**	**9**	**8**	**3**	**1**	**1**	**1**	**1**	
0	0	0	0	0	0	0	0	**4**	0	0	2	2	0	0	0	2	1	**2**	0	0	0	0	1	0
0	0	0	0	1	0	0	0	**3**	0	2	2	0	1	0	0	1	2	**4**	2	0	0	1	0	0
0	0	0	0	0	0	0	**1**	0	1	0	3	2	0	0	0	1	**5**	1	0	1	1	0	0	0
0	0	0	0	0	0	0	**2**	2	3	3	3	1	0	0	1	2	**1**	1	1	0	0	0	0	0

AM Peak 0730 - 0830 (10), AM PHF=0.63 PM Peak 1730 - 1830 (12), PM PHF=0.60

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1846 -- English (ENU)

Datasets:

Site: **[D] EL SALTO DR JUST AFTER THE GATE ENTRANCE TO MONARCH COVE INN**

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=48, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**3**	**4**	**1**	**4**	**2**	**2**	**4**	**5**	**6**	**6**	**2**	**3**	**1**	**0**	**0**	
0	0	0	0	0	0	0	1	0	0	**1**	1	1	0	0	2	2	**4**	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	**1**	1	0	0	2	1	0	**2**	1	1	1	2	0	0	0	0
0	0	0	0	0	0	0	1	0	**1**	1	0	3	0	1	1	**0**	0	1	0	0	0	0	0	0
0	0	0	1	0	0	0	1	1	**1**	1	0	0	0	0	1	**1**	1	4	0	0	0	0	0	0

AM Peak 0915 - 1015 (4), AM PHF=1.00 PM Peak 1615 - 1715 (7), PM PHF=0.44

* Friday, August 09, 2013 - Total=43, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**2**	**4**	**1**	**4**	**5**	**4**	**6**	**3**	**2**	**1**	**1**	**4**	**2**	**0**	**0**	
0	0	0	0	0	0	0	0	2	0	**1**	0	1	3	1	1	**2**	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	**1**	1	1	0	1	**2**	0	1	0	0	0	2	0	0	0
0	0	0	1	0	0	0	0	0	1	**0**	0	1	2	0	**0**	1	0	0	1	1	0	0	0	0
0	0	0	0	0	0	0	0	1	0	**2**	0	1	0	2	**3**	0	1	0	0	3	0	0	0	0

AM Peak 1000 - 1100 (4), AM PHF=0.50 PM Peak 1515 - 1615 (7), PM PHF=0.58

* Saturday, August 10, 2013 - Total=73, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**7**	**1**	**7**	**10**	**7**	**2**	**1**	**2**	**4**	**10**	**12**	**4**	**1**	**0**	**1**	**0**	
0	0	0	0	0	0	0	0	2	0	2	2	**5**	0	0	1	1	3	**4**	2	0	0	0	0	0
0	0	0	0	1	0	0	0	2	0	1	**3**	0	2	1	0	1	2	**3**	0	0	0	0	0	0
0	0	0	0	0	0	0	0	2	0	1	**2**	2	0	0	0	1	**4**	2	2	1	0	1	0	0
0	0	0	0	0	0	0	3	1	1	3	**3**	0	0	0	1	1	**1**	3	0	0	0	0	0	0

AM Peak 1115 - 1215 (13), AM PHF=0.65 PM Peak 1730 - 1830 (12), PM PHF=0.75

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1877 -- English (ENU)

Datasets:
Site: **[1] ESCALONA DR BETWEEN CENTRAL AVE AND SAXON AVE**

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: East (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 22, 2013 - Total=557, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**2**	**0**	**1**	**1**	**1**	**5**	**14**	**31**	**28**	**31**	**42**	**35**	**57**	**40**	**35**	**37**	**49**	**42**	**24**	**31**	**23**	**17**	**9**	
1	1	0	0	0	0	1	2	10	8	7	**13**	10	**17**	10	7	8	15	12	5	4	9	3	2	0
0	1	0	0	1	0	3	1	6	10	10	**12**	6	**16**	6	11	9	9	9	7	15	5	1	2	0
0	0	0	0	0	1	0	6	8	4	5	**12**	8	**16**	13	5	10	14	11	2	4	5	7	4	0
1	0	0	1	0	0	1	5	7	6	**9**	5	**11**	8	11	12	10	11	10	10	8	4	6	1	0

AM Peak 1045 - 1145 (46), AM PHF=0.88 PM Peak 1245 - 1345 (60), PM PHF=0.88

* Friday, August 23, 2013 - Total=579, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**1**	**0**	**0**	**1**	**0**	**7**	**19**	**33**	**28**	**30**	**35**	**40**	**38**	**43**	**52**	**50**	**41**	**55**	**32**	**27**	**17**	**20**	**10**	
0	0	0	0	1	0	1	4	6	4	2	9	**8**	5	9	12	11	8	**21**	12	8	5	6	1	1
0	0	0	0	0	0	2	2	5	8	12	9	**10**	9	9	11	9	11	**14**	6	9	2	4	2	4
0	0	0	0	0	0	1	4	12	5	7	8	**13**	14	13	13	13	8	**13**	8	5	7	6	1	0
0	1	0	0	0	0	3	9	10	11	9	**9**	9	10	12	16	17	**14**	7	6	5	3	4	6	0

AM Peak 1145 - 1245 (40), AM PHF=0.77 PM Peak 1745 - 1845 (62), PM PHF=0.74

* Saturday, August 24, 2013 - Total=606, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**6**	**0**	**0**	**3**	**2**	**5**	**8**	**23**	**26**	**40**	**48**	**61**	**56**	**55**	**47**	**52**	**36**	**30**	**20**	**29**	**22**	**22**	**10**	
1	1	0	0	1	0	0	1	5	6	6	12	**16**	**15**	16	11	10	7	10	5	6	7	6	0	2
4	0	0	0	1	0	2	1	8	5	16	18	**10**	**17**	12	7	13	8	8	6	8	6	12	4	3
0	2	0	0	1	1	0	4	4	10	10	6	**15**	8	9	15	18	9	9	4	8	5	1	4	0
0	3	0	0	0	1	3	2	6	5	8	**12**	**20**	16	18	14	11	12	3	5	7	4	3	2	1

AM Peak 1145 - 1245 (53), AM PHF=0.83 PM Peak 1230 - 1330 (67), PM PHF=0.84

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1876 -- English (ENU)

Datasets:
Site: **[1] ESCALONA DR BETWEEN CENTRAL AVE AND SAXON AVE**

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 22, 2013 - Total=602, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**1**	**1**	**0**	**3**	**4**	**16**	**37**	**43**	**50**	**31**	**51**	**42**	**54**	**51**	**42**	**45**	**35**	**28**	**26**	**16**	**12**	**9**	**4**	
0	0	1	0	2	0	4	4	8	**14**	9	12	6	11	**15**	7	9	11	6	8	3	3	2	2	0
1	1	0	0	0	3	0	12	11	**13**	9	11	13	**16**	10	11	12	9	7	6	4	6	1	1	0
0	0	0	0	0	0	6	14	7	**11**	7	17	12	**18**	15	12	10	6	7	7	5	1	3	0	0
0	0	0	0	1	1	6	7	**17**	12	6	11	11	**9**	11	12	14	9	8	5	4	2	3	1	0

AM Peak 0845 - 0945 (55), AM PHF=0.81 PM Peak 1315 - 1415 (58), PM PHF=0.81

* Friday, August 23, 2013 - Total=627, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**1**	**6**	**14**	**35**	**48**	**43**	**46**	**68**	**43**	**33**	**53**	**43**	**41**	**49**	**34**	**29**	**16**	**12**	**8**	**5**	
0	0	0	0	0	0	3	8	14	13	10	**15**	12	8	**9**	6	9	12	10	8	8	4	3	0	0
0	0	0	0	1	3	4	7	9	8	10	**18**	9	9	**12**	12	16	12	13	9	3	4	2	3	0
0	0	0	0	0	0	4	9	13	9	11	**25**	11	8	**12**	11	9	8	4	6	3	4	3	2	1
0	0	0	0	0	3	3	11	12	13	**15**	10	11	8	**20**	14	7	17	7	6	2	0	0	0	0

AM Peak 1045 - 1145 (73), AM PHF=0.73 PM Peak 1400 - 1500 (53), PM PHF=0.66

* Saturday, August 24, 2013 - Total=669, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**4**	**1**	**0**	**1**	**3**	**11**	**18**	**46**	**40**	**62**	**52**	**56**	**53**	**59**	**44**	**47**	**48**	**28**	**32**	**20**	**15**	**23**	**5**	
0	0	0	0	0	0	0	1	8	11	**20**	14	10	**7**	11	9	12	9	5	8	6	4	2	2	0
0	1	1	0	0	0	5	5	10	11	**16**	17	8	**23**	11	10	13	11	8	10	7	6	16	1	0
1	0	0	0	1	1	0	8	14	11	**9**	13	**15**	13	19	8	8	17	8	5	2	3	4	0	1
0	3	0	0	0	2	6	4	14	7	**17**	8	**23**	10	18	17	14	11	7	9	5	2	1	2	0

AM Peak 1000 - 1100 (62), AM PHF=0.78 PM Peak 1230 - 1330 (68), PM PHF=0.74

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1837 -- English (ENU)

Datasets:

Site: [A] ESCALONA DR BETWEEN SAXON AVE AND OAKLAND AVE

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

Speed range: 0 - 100 mph.

Direction: East (bound)

Scheme: Vehicle classification (Scheme F)

Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=449, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**0**	**1**	**3**	**1**	**2**	**3**	**13**	**23**	**15**	**18**	**31**	**36**	**31**	**39**	**26**	**41**	**36**	**37**	**33**	**18**	**17**	**14**	**6**	
3	0	1	0	0	1	0	1	2	5	5	5	**9**	10	9	7	15	10	**15**	6	2	2	2	0	0
2	0	0	0	0	0	0	1	7	2	3	10	**9**	7	12	4	10	4	**6**	7	7	6	5	3	1
0	0	0	2	0	0	1	4	8	2	3	4	**9**	10	9	10	8	**15**	8	9	5	4	2	2	0
0	0	0	1	1	1	2	7	6	6	7	**12**	9	4	9	5	8	**7**	8	11	4	5	5	1	0

AM Peak 1145 - 1245 (39), AM PHF=0.81 PM Peak 1730 - 1830 (43), PM PHF=0.72

* Friday, August 09, 2013 - Total=504, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**1**	**1**	**1**	**0**	**1**	**1**	**12**	**18**	**23**	**34**	**28**	**47**	**41**	**53**	**37**	**37**	**50**	**29**	**29**	**22**	**22**	**11**	**5**	
0	0	0	0	0	1	0	3	4	10	8	4	**7**	5	**16**	8	11	13	6	6	4	5	4	2	0
1	0	0	0	0	0	0	2	4	5	11	9	**12**	8	**16**	14	5	8	8	6	3	5	4	2	0
0	1	1	1	0	0	0	2	2	3	10	8	**14**	9	**13**	6	7	11	5	12	10	4	1	0	2
0	0	0	0	0	0	1	5	8	5	5	**7**	14	**19**	8	9	14	18	10	5	5	8	2	1	1

AM Peak 1145 - 1245 (40), AM PHF=0.71 PM Peak 1345 - 1445 (64), PM PHF=0.84

* Saturday, August 10, 2013 - Total=543, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**2**	**1**	**1**	**2**	**0**	**0**	**7**	**15**	**31**	**38**	**62**	**40**	**35**	**38**	**40**	**31**	**64**	**34**	**23**	**23**	**24**	**23**	**6**	
0	0	1	0	0	0	0	0	7	6	11	**14**	9	8	10	11	7	**16**	10	8	6	9	4	1	1
0	1	0	1	2	0	0	1	2	5	12	**13**	10	10	5	11	5	**17**	10	2	9	6	6	1	2
2	1	0	0	0	0	0	3	2	8	3	**17**	12	8	10	8	9	**18**	9	5	4	7	9	1	0
1	0	0	0	0	0	0	3	4	12	12	**18**	9	9	13	10	10	**13**	5	8	4	2	4	3	0

AM Peak 1100 - 1200 (62), AM PHF=0.86 PM Peak 1700 - 1800 (64), PM PHF=0.89

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1836 -- English (ENU)

Datasets:
Site: [A] ESCALONA DR BETWEEN SAXON AVE AND OAKLAND AVE

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Thursday, August 08, 2013 - Total=456, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**0**	**0**	**1**	**6**	**12**	**26**	**42**	**26**	**35**	**33**	**39**	**36**	**26**	**29**	**43**	**30**	**25**	**17**	**11**	**7**	**11**	**0**	
1	0	0	0	0	0	1	3	**10**	6	12	9	8	**12**	6	11	10	7	7	4	5	4	1	0	0
0	0	0	0	0	4	1	5	**4**	5	7	11	**12**	9	11	9	9	10	5	4	3	1	3	0	0
0	0	0	0	1	0	4	8	**14**	8	9	9	**8**	9	5	4	15	4	9	5	3	2	2	0	0
0	0	0	0	0	2	6	10	**14**	7	7	4	**11**	6	4	5	9	9	4	4	0	0	5	0	0

AM Peak 0800 - 0900 (42), AM PHF=0.75 PM Peak 1215 - 1315 (43), PM PHF=0.90

* Friday, August 09, 2013 - Total=498, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**4**	**7**	**23**	**33**	**30**	**39**	**42**	**34**	**49**	**42**	**28**	**36**	**40**	**26**	**24**	**25**	**10**	**3**	**3**	
0	0	0	0	0	0	1	5	14	9	4	**14**	7	**17**	9	5	5	12	7	5	8	2	2	1	0
0	0	0	0	0	2	1	4	6	7	**11**	9	8	**15**	8	10	9	13	4	9	8	4	1	0	0
0	0	0	0	0	1	3	9	5	8	**12**	9	**11**	10	16	8	8	7	11	8	5	1	0	1	0
0	0	0	0	0	1	2	5	8	6	**12**	10	**8**	7	9	5	14	8	4	2	4	3	0	1	0

AM Peak 1015 - 1115 (49), AM PHF=0.88 PM Peak 1230 - 1330 (51), PM PHF=0.75

* Saturday, August 10, 2013 - Total=536, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**2**	**1**	**1**	**0**	**1**	**4**	**17**	**30**	**38**	**40**	**53**	**34**	**48**	**39**	**34**	**32**	**40**	**35**	**28**	**28**	**15**	**11**	**5**	
0	1	0	1	0	0	1	6	4	7	14	8	**11**	**15**	13	9	10	12	8	8	4	5	2	1	0
0	0	0	0	0	0	0	2	5	7	5	**15**	6	**12**	5	8	9	12	15	5	2	3	2	2	1
0	1	1	0	0	0	2	2	12	5	10	**13**	10	**10**	10	9	8	12	8	9	8	3	3	1	0
0	0	0	0	0	1	1	7	9	19	11	**17**	7	**11**	11	8	5	4	4	6	14	4	4	1	1

AM Peak 1115 - 1215 (56), AM PHF=0.82 PM Peak 1300 - 1400 (48), PM PHF=0.80

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1975 -- English (ENU)

Datasets:

Site: [2] CENTRAL AVE BETWEEN ESCALONA DR AND CLIFF AVE

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: North (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Wednesday, September 11, 2013 - Total=256, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
3	**2**	**0**	**0**	**1**	**6**	**10**	**34**	**18**	**24**	**20**	**32**	**29**	**21**	**31**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
1	2	0	0	1	0	4	6	2	6	2	11	6	2	2	4	0	0	0	0	0	0	0	0	0
2	0	0	0	0	2	1	10	4	8	5	6	2	9	11	7	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	2	9	6	4	9	9	11	8	7	6	0	0	0	0	0	0	0	0	0
0	0	0	0	0	3	3	9	6	6	4	6	10	2	11	8	0	0	0	0	0	0	0	0	0

AM Peak 0700 - 0800 (34), AM PHF=0.85 PM Peak 1415 - 1515 (33), PM PHF=0.75

* Thursday, September 12, 2013 - Total=229, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**35**	**38**	**29**	**32**	**27**	**25**	**14**	**10**	**4**	**2**	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	6	7	10	9	7	4	6	0	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	10	6	5	2	5	7	0	2	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	9	7	7	8	3	1	3	2	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	13	6	13	9	10	8	10	2	1	0	0	1

AM Peak 0000 - 0100 (0), AM PHF=1.00 PM Peak 1345 - 1445 (42), PM PHF=0.75

* Friday, September 13, 2013 - Total=507, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**1**	**1**	**3**	**1**	**5**	**14**	**23**	**38**	**31**	**33**	**25**	**40**	**33**	**41**	**33**	**36**	**33**	**37**	**19**	**20**	**9**	**20**	**9**	
1	1	1	0	1	0	3	6	14	9	6	3	11	8	10	8	10	7	13	7	10	1	7	1	0
0	0	0	1	0	2	5	6	9	7	8	3	11	7	10	7	7	9	4	5	4	2	5	0	0
0	0	0	2	0	0	2	5	7	11	11	8	8	7	13	11	14	10	9	4	2	2	5	7	0
1	0	0	0	0	3	4	6	8	4	8	11	10	11	8	7	5	7	11	3	4	4	3	1	1

AM Peak 1130 - 1230 (41), AM PHF=0.93 PM Peak 1345 - 1445 (44), PM PHF=0.85

* Saturday, September 14, 2013 - Total=561, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**1**	**1**	**2**	**1**	**9**	**18**	**23**	**31**	**39**	**30**	**32**	**50**	**47**	**36**	**40**	**43**	**51**	**48**	**29**	**9**	**12**	**8**	
0	0	0	0	0	0	1	4	7	9	15	7	7	18	13	13	6	6	10	9	13	1	3	2	3
0	0	0	0	0	0	1	4	5	7	8	6	5	12	7	7	16	13	10	13	9	3	5	3	2
0	0	0	1	1	1	2	5	4	9	9	7	14	7	14	9	10	8	13	18	2	3	2	1	0
1	0	1	0	1	0	5	5	7	6	7	10	6	13	13	7	8	16	18	8	5	2	2	2	1

AM Peak 1000 - 1100 (39), AM PHF=0.65 PM Peak 1845 - 1945 (58), PM PHF=0.81

* Sunday, September 15, 2013 - Total=436, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
6	**2**	**0**	**0**	**1**	**1**	**8**	**9**	**19**	**24**	**23**	**24**	**38**	**30**	**33**	**35**	**41**	**38**	**40**	**23**	**20**	**12**	**5**	**4**	
3	0	0	0	1	0	1	2	4	4	9	8	11	8	13	3	8	9	13	3	6	3	0	1	1
2	1	0	0	0	1	3	2	2	5	5	3	12	10	6	11	12	10	7	7	5	1	2	1	0
0	0	0	0	0	0	2	1	4	7	6	7	9	5	9	13	12	9	9	6	4	1	1	1	0
1	1	0	0	0	0	2	4	9	8	3	6	6	7	5	8	9	10	11	7	5	7	2	1	1

AM Peak 1145 - 1245 (38), AM PHF=0.79 PM Peak 1615 - 1715 (42), PM PHF=0.88

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1976 -- English (ENU)

Datasets:
Site: **[2] CENTRAL AVE BETWEEN ESCALONA DR AND CLIFF AVE**

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: South (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Wednesday, September 11, 2013 - Total=233, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**1**	**0**	**1**	**0**	**0**	**2**	**11**	**20**	**22**	**22**	**29**	**25**	**32**	**29**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
0	1	0	0	0	0	0	4	5	8	7	12	6	10	7	12	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	1	3	6	6	5	9	8	6	8	9	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	6	5	3	3	7	5	5	10	0	0	0	0	0	0	0	0	0
1	0	0	1	0	0	1	3	3	3	7	5	4	11	9	6	0	0	0	0	0	0	0	0	0

AM Peak 1030 - 1130 (31), AM PHF=0.65 PM Peak 1445 - 1545 (40), PM PHF=0.83

* Thursday, September 12, 2013 - Total=292, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**40**	**35**	**42**	**43**	**40**	**28**	**21**	**20**	**3**	**3**	
0	0	0	0	0	0	0	0	0	0	0	0	1	0	8	14	8	11	5	6	7	7	1	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	6	12	12	11	7	10	2	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	6	6	7	11	7	2	6	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	16	9	9	16	13	13	8	2	5	1	0	0

AM Peak 1115 - 1215 (1), AM PHF=0.25 PM Peak 1345 - 1445 (47), PM PHF=0.73

* Friday, September 13, 2013 - Total=566, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**0**	**2**	**1**	**0**	**0**	**7**	**15**	**32**	**36**	**30**	**34**	**38**	**48**	**45**	**48**	**39**	**46**	**38**	**38**	**22**	**25**	**13**	**8**	
0	0	0	0	0	0	0	3	11	12	2	2	11	13	14	13	16	11	3	14	10	7	1	1	1
0	0	1	0	0	0	2	3	7	11	9	10	10	11	13	9	9	11	13	6	4	7	4	1	0
1	0	1	0	0	0	1	4	4	11	7	12	6	12	10	17	6	13	13	11	5	7	4	5	0
0	0	0	1	0	0	4	5	10	2	12	10	11	12	8	9	8	11	9	7	3	4	4	1	1

AM Peak 0845 - 0945 (44), AM PHF=0.92 PM Peak 1330 - 1430 (51), PM PHF=0.91

* Saturday, September 14, 2013 - Total=573, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**2**	**2**	**1**	**1**	**2**	**8**	**16**	**17**	**29**	**37**	**43**	**56**	**58**	**63**	**23**	**39**	**43**	**39**	**32**	**29**	**9**	**13**	**9**	
1	0	1	0	0	0	1	3	2	5	8	9	12	19	10	3	7	7	12	12	13	2	1	2	2
0	0	1	0	0	0	3	7	7	8	6	10	11	11	18	6	15	20	8	7	3	3	3	3	2
0	0	0	0	1	1	4	2	3	7	10	9	22	13	18	5	9	6	10	8	10	3	6	2	0
1	2	0	1	0	1	0	4	5	9	13	15	11	15	17	9	8	10	9	5	3	1	3	2	0

AM Peak 1145 - 1245 (60), AM PHF=0.68 PM Peak 1215 - 1315 (63), PM PHF=0.72

* Sunday, September 15, 2013 - Total=422, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**0**	**1**	**1**	**2**	**1**	**10**	**8**	**21**	**17**	**27**	**29**	**46**	**30**	**43**	**43**	**29**	**27**	**28**	**18**	**20**	**7**	**2**	**8**	
2	0	0	0	1	1	5	3	7	5	10	7	16	12	4	9	8	2	12	3	8	0	2	4	0
2	0	1	1	1	0	1	1	4	6	7	5	12	7	16	10	8	9	5	2	1	2	0	1	0
0	0	0	0	0	0	2	0	4	2	4	10	10	4	15	9	9	4	6	5	9	3	0	3	1
0	0	0	0	0	0	2	4	6	4	6	7	8	7	8	15	4	12	5	8	2	2	0	0	0

AM Peak 1130 - 1230 (45), AM PHF=0.70 PM Peak 1415 - 1515 (48), PM PHF=0.75

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1974 -- English (ENU)

Datasets:

Site: **[1] ESCALONA DR BETWEEN CENTRAL AVE AND SAXON AVE**

Profile:

Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: East (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Wednesday, September 11, 2013 - Total=568, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**0**	**1**	**1**	**1**	**1**	**3**	**20**	**33**	**26**	**33**	**43**	**46**	**45**	**43**	**47**	**43**	**50**	**31**	**35**	**23**	**24**	**11**	**6**	
1	0	0	0	0	0	0	2	10	10	4	8	**10**	**13**	16	13	10	11	11	9	6	10	6	2	1
0	0	1	0	0	0	0	5	11	5	11	11	**10**	**15**	12	11	11	10	6	9	10	7	3	2	2
0	0	0	1	1	0	1	5	6	7	11	8	**12**	11	8	16	12	9	8	10	5	4	1	2	0
1	0	0	0	0	1	2	8	6	4	7	**16**	**14**	6	7	7	10	20	6	7	2	3	1	0	1

AM Peak 1145 - 1245 (48), AM PHF=0.75 PM Peak 1230 - 1330 (54), PM PHF=0.90

* Thursday, September 12, 2013 - Total=590, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**0**	**1**	**2**	**0**	**1**	**3**	**13**	**35**	**39**	**24**	**41**	**35**	**37**	**39**	**50**	**45**	**51**	**52**	**41**	**40**	**15**	**11**	**11**	
1	0	1	1	0	0	0	1	13	10	7	**9**	8	6	5	10	9	10	**19**	13	13	6	5	2	1
2	0	0	0	0	0	1	4	8	12	4	**6**	7	12	12	11	14	12	**15**	10	6	5	1	1	1
0	0	0	1	0	0	0	2	9	7	7	**13**	9	9	14	9	14	**15**	11	9	11	0	2	4	2
1	0	0	0	0	1	2	6	5	10	6	**13**	11	10	8	20	8	**14**	7	9	10	4	3	4	0

AM Peak 1100 - 1200 (41), AM PHF=0.79 PM Peak 1730 - 1830 (63), PM PHF=0.83

* Friday, September 13, 2013 - Total=657, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**2**	**0**	**1**	**1**	**0**	**5**	**16**	**42**	**35**	**36**	**34**	**61**	**48**	**46**	**41**	**47**	**45**	**58**	**39**	**28**	**27**	**24**	**17**	
1	1	0	0	1	0	2	2	7	7	7	4	**16**	16	10	11	9	11	**17**	9	8	8	8	7	2
1	0	0	0	0	0	1	1	17	9	8	9	**17**	10	8	12	16	3	**13**	11	6	11	6	3	0
2	0	0	1	0	0	0	3	10	11	12	4	**15**	12	18	11	12	14	**15**	8	5	4	5	1	0
0	1	0	0	0	0	2	10	8	8	9	**17**	13	10	10	7	10	**17**	13	11	9	4	5	6	2

AM Peak 1145 - 1245 (65), AM PHF=0.96 PM Peak 1745 - 1845 (62), PM PHF=0.91

* Saturday, September 14, 2013 - Total=624, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
4	**2**	**0**	**1**	**2**	**1**	**6**	**7**	**32**	**34**	**42**	**53**	**77**	**65**	**62**	**42**	**56**	**29**	**0**	**25**	**32**	**15**	**25**	**12**	
2	1	0	1	1	0	1	0	7	6	12	8	**22**	20	17	11	11	8	0	0	8	2	11	5	2
0	0	0	0	1	1	1	1	4	12	5	15	**21**	9	18	13	18	12	0	3	8	5	5	2	2
0	1	0	0	0	0	2	3	13	6	13	15	**17**	13	17	6	9	9	0	11	8	4	5	3	0
2	0	0	0	0	0	2	3	8	10	12	**15**	**17**	23	10	12	18	0	0	11	8	4	4	2	1

AM Peak 1145 - 1245 (75), AM PHF=0.85 PM Peak 1200 - 1300 (77), PM PHF=0.88

* Sunday, September 15, 2013 - Total=505, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**3**	**0**	**0**	**3**	**0**	**4**	**5**	**13**	**34**	**43**	**42**	**46**	**39**	**50**	**37**	**35**	**37**	**32**	**28**	**28**	**14**	**1**	**6**	
2	3	0	0	1	0	0	0	3	7	13	11	**13**	**17**	17	10	6	12	10	6	4	6	0	1	1
2	0	0	0	0	0	1	0	4	11	10	9	**14**	7	10	4	10	9	9	8	9	3	1	2	1
0	0	0	0	0	0	2	3	2	12	14	8	**9**	9	12	15	8	8	9	7	5	2	0	2	0
1	0	0	0	2	0	1	2	4	4	6	**14**	**10**	6	11	8	11	8	4	7	10	3	0	1	1

AM Peak 1145 - 1245 (50), AM PHF=0.89 PM Peak 1215 - 1315 (50), PM PHF=0.74

Traffic Data Service -- Campbell, CA
Vehicle Counts

VehicleCount-1973 -- English (ENU)

Datasets:
Site: **[1] ESCALONA DR BETWEEN CENTRAL AVE AND SAXON AVE**

Profile:
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 0 - 100 mph.
Direction: West (bound)
Scheme: Vehicle classification (Scheme F)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)

* Wednesday, September 11, 2013 - Total=617, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**2**	**0**	**1**	**2**	**8**	**22**	**67**	**48**	**37**	**38**	**57**	**47**	**34**	**47**	**37**	**50**	**35**	**30**	**25**	**13**	**9**	**4**	**3**	
0	0	0	0	0	2	3	9	**14**	12	10	17	8	5	12	10	**12**	11	11	11	3	1	2	2	1
0	0	0	0	0	4	3	**18**	9	6	10	14	12	9	8	6	**11**	7	5	5	5	3	1	0	0
0	1	0	0	1	1	5	**21**	10	12	12	10	15	9	13	12	**15**	4	9	5	2	2	1	1	0
1	1	0	1	1	1	11	**19**	15	7	6	16	12	11	14	9	**12**	13	5	4	3	3	0	0	0

AM Peak 0715 - 0815 (72), AM PHF=0.86 PM Peak 1600 - 1700 (50), PM PHF=0.83

* Thursday, September 12, 2013 - Total=630, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**1**	**1**	**1**	**1**	**8**	**17**	**48**	**53**	**48**	**42**	**44**	**47**	**37**	**48**	**36**	**43**	**49**	**37**	**28**	**16**	**15**	**1**	**8**	
1	0	0	0	0	3	1	5	**17**	11	14	6	17	9	8	9	**10**	15	5	10	1	6	1	2	0
0	0	0	0	0	2	2	**15**	13	15	8	11	13	3	11	2	**13**	10	9	9	5	4	0	1	0
0	1	1	0	1	2	7	**12**	12	10	13	15	10	13	10	11	**13**	9	14	6	4	3	0	4	1
0	0	0	1	0	1	7	**16**	11	12	7	12	7	12	19	**14**	7	15	9	3	6	2	0	1	1

AM Peak 0715 - 0815 (60), AM PHF=0.88 PM Peak 1545 - 1645 (50), PM PHF=0.89

* Friday, September 13, 2013 - Total=675, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
2	**1**	**0**	**3**	**2**	**6**	**14**	**56**	**57**	**57**	**43**	**55**	**48**	**47**	**50**	**36**	**41**	**40**	**43**	**33**	**10**	**17**	**4**	**10**	
0	0	0	1	0	0	0	5	**15**	19	10	5	14	**14**	16	8	11	11	11	5	3	6	0	5	1
0	1	0	0	1	3	2	12	**13**	8	12	18	9	**12**	8	4	9	17	11	11	2	8	3	0	0
1	0	0	1	0	0	8	**20**	12	14	11	13	**12**	9	15	10	11	6	6	10	4	1	1	5	0
1	0	0	1	1	3	4	**19**	17	16	10	19	**13**	12	11	14	10	6	15	7	1	2	0	0	0

AM Peak 0730 - 0830 (67), AM PHF=0.84 PM Peak 1230 - 1330 (51), PM PHF=0.91

* Saturday, September 14, 2013 - Total=597, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	**3**	**1**	**1**	**1**	**2**	**8**	**25**	**41**	**41**	**58**	**48**	**49**	**33**	**43**	**48**	**63**	**34**	**0**	**32**	**28**	**20**	**9**	**8**	
1	1	1	1	0	1	1	7	6	11	**20**	15	11	10	16	12	**16**	10	0	0	6	8	2	3	2
0	1	0	0	0	0	2	5	17	7	**13**	10	12	7	11	13	**17**	13	0	3	8	5	1	1	2
0	0	0	0	1	1	2	5	8	12	**11**	11	13	5	9	10	**13**	10	0	21	8	3	2	4	1
0	1	0	0	0	0	3	8	10	11	**14**	12	13	11	7	13	**17**	1	0	8	6	4	4	0	0

AM Peak 1000 - 1100 (58), AM PHF=0.72 PM Peak 1600 - 1700 (63), PM PHF=0.93

* Sunday, September 15, 2013 - Total=564, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
5	**2**	**2**	**0**	**4**	**6**	**10**	**20**	**34**	**38**	**40**	**36**	**32**	**43**	**45**	**53**	**53**	**36**	**39**	**25**	**23**	**9**	**4**	**5**	
2	0	0	0	1	1	3	2	6	**13**	6	9	8	12	7	13	**11**	8	7	5	6	1	2	1	0
2	0	1	0	1	1	0	5	4	**11**	14	6	12	12	13	7	**16**	11	9	7	0	1	2	2	0
1	0	0	0	0	1	3	7	**8**	5	10	10	7	8	16	**17**	16	9	15	6	7	3	0	1	0
0	2	1	0	2	3	4	6	**16**	9	10	11	5	11	9	**16**	10	8	8	7	10	4	0	1	0

AM Peak 0830 - 0930 (48), AM PHF=0.75 PM Peak 1530 - 1630 (60), PM PHF=0.88

Appendix B

Volume Summary

1 101

Intersection Name: Monterey Avenue & Capitola Avenue
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	429	0	0	0	0	0	0	66	32	0	0	342	869
Project Trips	1	0	0	0	0	0	0	0	0	0	0	1	2
Existing Plus Project Conditions	430	0	0	0	0	0	0	66	32	0	0	343	871
2016 Cumulative No Project Conditions	442	0	0	0	0	0	0	68	33	0	0	352	895
2016 Cumulative With Project Conditions	443	0	0	0	0	0	0	68	33	0	0	353	897

2 102

Intersection Name: Monterey Avenue & Escalona Drive
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	8	418	38	64	2	17	13	398	0	2	0	0	960
Project Trips	0	0	7	7	0	1	1	0	0	0	0	0	16
Existing Plus Project Conditions	8	418	45	71	2	18	14	398	0	2	0	0	976
2016 Cumulative No Project Conditions	8	431	39	66	2	18	13	410	0	2	0	0	989
2016 Cumulative With Project Conditions	8	431	46	73	2	19	14	410	0	2	0	0	1,005

3 103

Intersection Name: Monterey Avenue & Park Avenue
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	3	85	40	97	6	376	333	124	1	1	4	7	1,077
Project Trips	0	6	0	0	0	2	2	6	0	0	0	0	16
Existing Plus Project Conditions	3	91	40	97	6	378	335	130	1	1	4	7	1,093
2016 Cumulative No Project Conditions	3	88	41	100	6	387	343	128	1	1	4	7	1,109
2016 Cumulative With Project Conditions	3	94	41	100	6	389	345	134	1	1	4	7	1,125

4 104

Intersection Name: Monterey Avenue & Bay Avenue
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	279	48	0	0	0	0	0	62	168	79	0	201	837
Project Trips	0	1	0	0	0	0	0	1	5	5	0	0	12
Existing Plus Project Conditions	279	49	0	0	0	0	0	63	173	84	0	201	849
2016 Cumulative No Project Conditions	287	49	0	0	0	0	0	64	173	81	0	207	862
2016 Cumulative With Project Conditions	287	50	0	0	0	0	0	65	178	86	0	207	874

5 105

Intersection Name: Capitola Avenue & Bay Avenue
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	52	90	73	42	326	25	13	66	85	123	186	64	1,145
Project Trips	0	0	0	0	5	0	0	0	0	0	5	0	10
Existing Plus Project Conditions	52	90	73	42	331	25	13	66	85	123	191	64	1,155
2016 Cumulative No Project Conditions	54	93	75	43	336	26	13	68	88	127	192	66	1,179
2016 Cumulative With Project Conditions	54	93	75	43	341	26	13	68	88	127	197	66	1,189

6 106

Intersection Name: Bay Avenue & Hill Street
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 5/23/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	36	374	59	138	30	7	7	483	68	33	8	66	1,309
Project Trips	0	5	0	0	0	0	0	5	0	0	0	0	10
Existing Plus Project Conditions	36	379	59	138	30	7	7	488	68	33	8	66	1,319
2016 Cumulative No Project Conditions	37	385	61	142	31	7	7	497	70	34	8	68	1,348
2016 Cumulative With Project Conditions	37	390	61	142	31	7	7	502	70	34	8	68	1,358

7 107

Intersection Name: Bay Avenue & Highway 1 SB Ramps
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 5/23/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	0	295	232	0	0	0	135	704	0	254	2	332	1,954
Project Trips	0	0	0	0	0	0	0	5	0	4	0	0	9
Existing Plus Project Conditions	0	295	232	0	0	0	135	709	0	258	2	332	1,963
2016 Cumulative No Project Conditions	0	304	239	0	0	0	139	725	0	262	2	342	2,013
2016 Cumulative With Project Conditions	0	304	239	0	0	0	139	730	0	266	2	342	2,022

8 108

Intersection Name: Porter Street & Highway 1 NB Ramps
Peak Hour: AM
Date of Analysis: 10/18/13
Scenario:
Count Date: 5/23/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	477	455	0	169	15	67	0	652	374	0	0	0	2,209
Project Trips	0	0	0	0	0	0	0	0	4	0	0	0	4
Existing Plus Project Conditions	477	455	0	169	15	67	0	652	378	0	0	0	2,213
2016 Cumulative No Project Conditions	491	469	0	174	15	69	0	672	385	0	0	0	2,275
2016 Cumulative With Project Conditions	491	469	0	174	15	69	0	672	389	0	0	0	2,279

9 109

Intersection Name: Park Avenue & Highway 1 NB Ramps
Peak Hour: AM Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	290	339	0	175	23	143	0	939	172	0	0	0	2,081
Project Trips	0	0	0	0	0	2	0	0	0	0	0	0	2
Existing Plus Project Conditions	290	339	0	175	23	145	0	939	172	0	0	0	2,083
2016 Cumulative No Project Conditions	299	349	0	180	24	147	0	967	177	0	0	0	2,143
2016 Cumulative With Project Conditions	299	349	0	180	24	149	0	967	177	0	0	0	2,145

10 110

Intersection Name: Park Avenue & Highway 1 SB Ramps
Peak Hour: AM Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	0	329	140	0	0	0	164	459	0	97	3	664	1,856
Project Trips	0	2	0	0	0	0	2	0	0	0	0	0	4
Existing Plus Project Conditions	0	331	140	0	0	0	166	459	0	97	3	664	1,860
2016 Cumulative No Project Conditions	0	339	144	0	0	0	169	473	0	100	3	684	1,912
2016 Cumulative With Project Conditions	0	341	144	0	0	0	171	473	0	100	3	684	1,916

1 101

Intersection Name: Monterey Avenue & Capitola Avenue
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 9/12/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	295	0	0	0	0	0	0	114	59	0	0	528	996
Project Trips	1	0	0	0	0	0	0	0	0	0	0	1	2
Existing Plus Project Conditions	296	0	0	0	0	0	0	114	59	0	0	529	998
2016 Cumulative No Project Conditions	304	0	0	0	0	0	0	117	61	0	0	544	1,026
2016 Cumulative With Project Conditions	305	0	0	0	0	0	0	117	61	0	0	545	1,028

2 102

Intersection Name: Monterey Avenue & Escalona Drive
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 9/12/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	3	278	56	57	1	23	29	627	3	1	1	7	1,086
Project Trips	0	0	13	13	0	1	1	0	0	0	0	0	28
Existing Plus Project Conditions	3	278	69	70	1	24	30	627	3	1	1	7	1,114
2016 Cumulative No Project Conditions	3	286	58	59	1	24	30	646	3	1	1	7	1,119
2016 Cumulative With Project Conditions	3	286	71	72	1	25	31	646	3	1	1	7	1,147

3 103

Intersection Name: Monterey Avenue & Park Avenue
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 9/12/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	3	118	110	49	0	214	516	152	2	7	4	6	1,181
Project Trips	0	10	0	0	0	3	3	10	0	0	0	0	26
Existing Plus Project Conditions	3	128	110	49	0	217	519	162	2	7	4	6	1,207
2016 Cumulative No Project Conditions	3	122	113	50	0	220	531	157	2	7	4	6	1,216
2016 Cumulative With Project Conditions	3	132	113	50	0	223	534	167	2	7	4	6	1,242

4 104

Intersection Name: Monterey Avenue & Bay Avenue
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 9/12/13

Scenario:	North Approach RT	North Approach TH	North Approach LT	East Approach RT	East Approach TH	East Approach LT	South Approach RT	South Approach TH	South Approach LT	West Approach RT	West Approach TH	West Approach LT	Int. Total
Existing Conditions	97	40	0	0	0	0	0	41	174	187	0	176	715
Project Trips	0	1	0	0	0	0	0	1	8	8	0	0	18
Existing Plus Project Conditions	97	41	0	0	0	0	0	42	182	195	0	176	733
2016 Cumulative No Project Conditions	100	41	0	0	0	0	0	42	179	193	0	181	736
2016 Cumulative With Project Conditions	100	42	0	0	0	0	0	43	187	201	0	181	754

5 105

Intersection Name: Capitola Avenue & Bay Avenue
Peak Hour: PM
Scenario:
Date of Analysis: 10/18/13
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	49	73	54	41	230	31	28	75	116	118	281	76	1,172
Project Trips	0	0	0	0	8	0	0	0	0	0	8	0	16
Existing Plus Project Conditions	49	73	54	41	238	31	28	75	116	118	289	76	1,188
2016 Cumulative No Project Conditions	50	75	56	42	237	32	29	77	119	122	289	78	1,207
2016 Cumulative With Project Conditions	50	75	56	42	245	32	29	77	119	122	297	78	1,223

6 106

Intersection Name: Bay Avenue & Hill Street
Peak Hour: PM
Scenario:
Date of Analysis: 10/18/13
Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	61	459	185	113	35	24	20	316	94	75	52	129	1,563
Project Trips	0	8	0	0	0	0	0	8	0	0	0	0	16
Existing Plus Project Conditions	61	467	185	113	35	24	20	324	94	75	52	129	1,579
2016 Cumulative No Project Conditions	63	473	191	116	36	25	21	325	97	77	54	133	1,610
2016 Cumulative With Project Conditions	63	481	191	116	36	25	21	333	97	77	54	133	1,626

7 107

Intersection Name: Bay Avenue & Highway 1 SB Ramps
Peak Hour: PM
Scenario:
Date of Analysis: 10/18/13
Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	0	543	366	0	0	0	185	550	0	333	21	219	2,217
Project Trips	0	1	0	0	0	0	0	8	0	8	0	0	17
Existing Plus Project Conditions	0	544	366	0	0	0	185	558	0	341	21	219	2,234
2016 Cumulative No Project Conditions	0	559	377	0	0	0	191	567	0	343	22	226	2,284
2016 Cumulative With Project Conditions	0	560	377	0	0	0	191	575	0	351	22	226	2,301

8 108

Intersection Name: Porter Street & Highway 1 NB Ramps
Peak Hour: PM
Scenario:
Date of Analysis: 10/18/13
Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	284	764	0	276	3	146	0	482	272	0	0	0	2,227
Project Trips	0	1	0	0	0	0	0	1	8	0	0	0	10
Existing Plus Project Conditions	284	765	0	276	3	146	0	483	280	0	0	0	2,237
2016 Cumulative No Project Conditions	293	787	0	284	3	150	0	496	280	0	0	0	2,294
2016 Cumulative With Project Conditions	293	788	0	284	3	150	0	497	288	0	0	0	2,304

9 109

Intersection Name: Park Avenue & Highway 1 NB Ramps
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	392	464	0	251	6	238	0	405	98	0	0	0	1,854
Project Trips	0	1	0	0	0	4	0	1	0	0	0	0	6
Existing Plus Project Conditions	392	465	0	251	6	242	0	406	98	0	0	0	1,860
2016 Cumulative No Project Conditions	404	478	0	259	6	245	0	417	101	0	0	0	1,910
2016 Cumulative With Project Conditions	404	479	0	259	6	249	0	418	101	0	0	0	1,916

10 110

Intersection Name: Park Avenue & Highway 1 SB Ramps
Peak Hour: PM Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	0	416	283	0	0	0	278	273	0	102	3	235	1,590
Project Trips	0	4	0	0	0	0	4	1	0	0	0	0	9
Existing Plus Project Conditions	0	420	283	0	0	0	282	274	0	102	3	235	1,599
2016 Cumulative No Project Conditions	0	428	291	0	0	0	286	281	0	105	3	242	1,638
2016 Cumulative With Project Conditions	0	432	291	0	0	0	290	282	0	105	3	242	1,647

1 101

Intersection Name: Monterey Avenue & Capitola Avenue
Peak Hour: SAT
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	271	0	0	0	0	0	0	182	112	0	0	256	821
Project Trips	2	0	0	0	0	0	0	0	0	0	0	1	3
Existing Plus Project Conditions	273	0	0	0	0	0	0	182	112	0	0	257	824
2016 Cumulative No Project Conditions	279	0	0	0	0	0	0	187	115	0	0	264	846
2016 Cumulative With Project Conditions	281	0	0	0	0	0	0	187	115	0	0	265	849

2 102

Intersection Name: Monterey Avenue & Escalona Drive
Peak Hour: SAT
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	15	287	72	56	6	23	28	338	10	1	0	12	848
Project Trips	0	0	13	17	0	2	1	0	0	0	0	0	33
Existing Plus Project Conditions	15	287	85	73	6	25	29	338	10	1	0	12	881
2016 Cumulative No Project Conditions	15	296	74	58	6	24	29	348	10	1	0	12	873
2016 Cumulative With Project Conditions	15	296	87	75	6	26	30	348	10	1	0	12	906

3 103

Intersection Name: Monterey Avenue & Park Avenue
Peak Hour: SAT
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	16	120	84	61	16	158	245	169	32	28	22	25	976
Project Trips	0	10	0	0	0	3	4	13	0	0	0	0	30
Existing Plus Project Conditions	16	130	84	61	16	161	249	182	32	28	22	25	1,006
2016 Cumulative No Project Conditions	16	124	87	63	16	163	252	174	33	29	23	26	1,005
2016 Cumulative With Project Conditions	16	134	87	63	16	166	256	187	33	29	23	26	1,035

4 104

Intersection Name: Monterey Avenue & Bay Avenue
Peak Hour: SAT
Date of Analysis: 10/18/13
Scenario:
Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	119	31	0	0	0	0	0	38	217	190	0	98	693
Project Trips	0	1	0	0	0	0	0	2	11	8	0	0	22
Existing Plus Project Conditions	119	32	0	0	0	0	0	40	228	198	0	98	715
2016 Cumulative No Project Conditions	123	32	0	0	0	0	0	39	224	196	0	101	714
2016 Cumulative With Project Conditions	123	33	0	0	0	0	0	41	235	204	0	101	736

5 105

Intersection Name: Capitola Avenue & Bay Avenue
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 9/12/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	75	72	43	47	290	75	32	74	123	178	207	97	1,313
Project Trips	0	0	0	0	11	0	0	0	0	0	8	0	19
Existing Plus Project Conditions	75	72	43	47	301	75	32	74	123	178	215	97	1,332
2016 Cumulative No Project Conditions	77	74	44	48	299	77	33	76	127	183	213	100	1,352
2016 Cumulative With Project Conditions	77	74	44	48	310	77	33	76	127	183	221	100	1,371

6 106

Intersection Name: Bay Avenue & Hill Street
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	68	470	110	93	39	17	21	456	62	64	39	108	1,547
Project Trips	0	8	0	0	0	0	0	11	0	0	0	0	19
Existing Plus Project Conditions	68	478	110	93	39	17	21	467	62	64	39	108	1,566
2016 Cumulative No Project Conditions	70	484	113	96	40	18	22	470	64	66	40	111	1,593
2016 Cumulative With Project Conditions	70	492	113	96	40	18	22	481	64	66	40	111	1,612

7 107

Intersection Name: Bay Avenue & Highway 1 SB Ramps
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	0	447	243	0	0	0	194	600	0	393	3	258	2,138
Project Trips	0	1	0	0	0	0	0	11	0	8	0	0	20
Existing Plus Project Conditions	0	448	243	0	0	0	194	611	0	401	3	258	2,158
2016 Cumulative No Project Conditions	0	460	250	0	0	0	200	618	0	405	3	266	2,202
2016 Cumulative With Project Conditions	0	461	250	0	0	0	200	629	0	413	3	266	2,222

8 108

Intersection Name: Porter Street & Highway 1 NB Ramps
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	354	552	0	213	1	138	0	493	360	0	0	0	2,111
Project Trips	0	1	0	0	0	0	0	1	10	0	0	0	12
Existing Plus Project Conditions	354	553	0	213	1	138	0	494	370	0	0	0	2,123
2016 Cumulative No Project Conditions	365	569	0	219	1	142	0	508	371	0	0	0	2,174
2016 Cumulative With Project Conditions	365	570	0	219	1	142	0	509	381	0	0	0	2,186

9 109

Intersection Name: Park Avenue & Highway 1 NB Ramps
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	296	283	0	231	8	194	0	396	127	0	0	0	1,535
Project Trips	0	1	0	0	0	4	0	1	0	0	0	0	6
Existing Plus Project Conditions	296	284	0	231	8	198	0	397	127	0	0	0	1,541
2016 Cumulative No Project Conditions	305	291	0	238	8	200	0	408	131	0	0	0	1,581
2016 Cumulative With Project Conditions	305	292	0	238	8	204	0	409	131	0	0	0	1,587

10 110

Intersection Name: Park Avenue & Highway 1 SB Ramps
Peak Hour: SAT Date of Analysis: 10/18/13
Scenario: Count Date: 5/23/13

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	0	313	162	0	0	0	149	228	0	129	3	291	1,275
Project Trips	0	4	0	0	0	0	5	1	0	0	0	0	10
Existing Plus Project Conditions	0	317	162	0	0	0	154	229	0	129	3	291	1,285
2016 Cumulative No Project Conditions	0	322	167	0	0	0	153	235	0	133	3	300	1,313
2016 Cumulative With Project Conditions	0	326	167	0	0	0	158	236	0	133	3	300	1,323

Appendix C

Level of Service Calculations

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	342	0	32	66	0	429
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	372	0	35	72	0	466
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.7	9.9	14
HCM LOS	C	A	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	100%	0%
Vol Thru, %	67%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	98	342	429
LT Vol	66	0	0
Through Vol	0	0	429
RT Vol	32	342	0
Lane Flow Rate	107	372	466
Geometry Grp	1	1	1
Degree of Util (X)	0.17	0.572	0.586
Departure Headway (Hd)	5.729	5.539	4.638
Convergence, Y/N	Yes	Yes	Yes
Cap	626	654	783
Service Time	3.76	3.545	2.638
HCM Lane V/C Ratio	0.171	0.569	0.595
HCM Control Delay	9.9	15.7	14
HCM Lane LOS	A	C	B
HCM 95th-tile Q	0.6	3.6	3.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	4	1	376	6	97	1	124	333	40	85	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	1	409	7	105	1	135	362	43	92	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.1	29.3	14.8	12.4
HCM LOS	B	D	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	58%	78%	32%	0%
Vol Thru, %	99%	0%	33%	1%	68%	0%
Vol Right, %	0%	100%	8%	20%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	333	12	479	125	3
LT Vol	124	0	4	6	85	0
Through Vol	0	333	1	97	0	3
RT Vol	1	0	7	376	40	0
Lane Flow Rate	136	362	13	521	136	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.243	0.576	0.025	0.819	0.269	0.006
Departure Headway (Hd)	6.451	5.733	6.898	5.66	7.121	6.238
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	626	522	640	501	569
Service Time	4.22	3.501	4.898	3.713	4.906	4.022
HCM Lane V/C Ratio	0.245	0.578	0.025	0.814	0.271	0.005
HCM Control Delay	11.3	16.1	10.1	29.3	12.5	9.1
HCM Lane LOS	B	C	B	D	B	A
HCM 95th-tile Q	0.9	3.7	0.1	8.5	1.1	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	201	79	168	62	48	279
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	218	86	183	67	52	303
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.9	11.7	11.5
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	73%	72%	0%
Vol Thru, %	27%	0%	15%
Vol Right, %	0%	28%	85%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	230	280	327
LT Vol	62	0	48
Through Vol	0	79	279
RT Vol	168	201	0
Lane Flow Rate	250	304	355
Geometry Grp	1	1	1
Degree of Util (X)	0.377	0.456	0.452
Departure Headway (Hd)	5.424	5.398	4.702
Convergence, Y/N	Yes	Yes	Yes
Cap	665	670	771
Service Time	3.446	3.411	2.702
HCM Lane V/C Ratio	0.376	0.454	0.46
HCM Control Delay	11.7	12.9	11.5
HCM Lane LOS	B	B	B
HCM 95th-tile Q	1.8	2.4	2.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	64	186	123	25	326	42	85	66	13	73	90	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	202	134	27	354	46	92	72	14	79	98	57
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	15.8	27.2	15.1	17.8
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	56%	0%	26%	0%	100%	0%	34%
Vol Thru, %	44%	0%	74%	0%	0%	89%	42%
Vol Right, %	0%	100%	0%	100%	0%	11%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	13	250	123	25	368	215
LT Vol	66	0	186	0	0	326	90
Through Vol	0	13	0	123	0	42	52
RT Vol	85	0	64	0	25	0	73
Lane Flow Rate	164	14	272	134	27	400	234
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.367	0.028	0.541	0.235	0.056	0.761	0.491
Departure Headway (Hd)	8.051	7.042	7.165	6.316	7.439	6.845	7.57
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	446	506	503	567	481	528	474
Service Time	5.823	4.813	4.928	4.078	5.196	4.602	5.641
HCM Lane V/C Ratio	0.368	0.028	0.541	0.236	0.056	0.758	0.494
HCM Control Delay	15.5	10	18.1	11	10.6	28.3	17.8
HCM Lane LOS	C	A	C	B	B	D	C
HCM 95th-tile Q	1.7	0.1	3.2	0.9	0.2	6.7	2.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	66	8	33	7	30	138	68	483	7	59	374	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	9	36	8	33	150	74	525	8	64	407	39
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	13.5	16.2	21.2	17.1
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	89%	0%	4%	100%	0%	0%
Vol Thru, %	0%	100%	96%	11%	0%	17%	0%	100%	78%
Vol Right, %	0%	0%	4%	0%	100%	79%	0%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	322	168	74	33	175	59	249	161
LT Vol	0	322	161	8	0	30	0	249	125
Through Vol	0	0	7	0	33	138	0	0	36
RT Vol	68	0	0	66	0	7	59	0	0
Lane Flow Rate	74	350	183	80	36	190	64	271	175
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.162	0.716	0.372	0.206	0.08	0.417	0.144	0.57	0.359
Departure Headway (Hd)	7.878	7.366	7.337	9.231	8.061	7.883	8.08	7.568	7.407
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	490	489	388	442	455	442	474	484
Service Time	5.644	5.132	5.102	7.021	5.85	5.659	5.849	5.337	5.176
HCM Lane V/C Ratio	0.163	0.714	0.374	0.206	0.081	0.418	0.145	0.572	0.362
HCM Control Delay	12.2	26.7	14.4	14.4	11.6	16.2	12.2	20	14.3
HCM Lane LOS	B	D	B	B	B	C	B	C	B
HCM 95th-tile Q	0.6	5.7	1.7	0.8	0.3	2	0.5	3.5	1.6

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	332	2	254	0	0	0	0	704	135	232	295	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	2	0	1				0	2	0	1	2	0
Cap, veh/h	578	0	258				0	1592	306	290	2746	0
Arrive On Green	0.16	0.00	0.16				0.00	0.52	0.52	0.33	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3039	584	1774	3725	0
Grp Volume(v), veh/h	448	0	185				0	469	443	252	321	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1760	1774	1863	0
Q Serve(g_s), s	9.7	0.0	8.9				0.0	12.8	12.8	10.7	0.0	0.0
Cycle Q Clear(g_c), s	9.7	0.0	8.9				0.0	12.8	12.8	10.7	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	578	0	258				0	976	922	290	2746	0
V/C Ratio(X)	0.78	0.00	0.72				0.00	0.48	0.48	0.87	0.12	0.00
Avail Cap(c_a), veh/h	798	0	356				0	976	922	443	2746	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.81	0.81	0.00
Uniform Delay (d), s/veh	32.1	0.0	31.8				0.0	12.1	12.1	26.1	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	4.2				0.0	1.7	1.8	9.3	0.1	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
%ile Back of Q (50%), veh/ln	4.5	0.0	3.7				0.0	5.9	5.6	4.5	0.0	0.0
Lane Grp Delay (d), s/veh	35.3	0.0	36.0				0.0	13.8	13.9	35.5	0.1	0.0
Lane Grp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		633						912			573	
Approach Delay, s/veh		35.5						13.9			15.6	
Approach LOS		D						B			B	

Timer	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		17.0						45.9		17.1	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						35.0		20.0	59.0	
Max Q Clear Time (g_c+I1), s		11.7						14.8		12.7	2.0	
Green Ext Time (p_c), s		1.4						8.3		0.4	11.1	

Intersection Summary		
HCM 2010 Ctrl Delay		20.8
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	67	15	169	374	652	0	0	455	477
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				167	12	139	453	3024	0	0	949	806
Arrive On Green				0.09	0.09	0.09	0.26	0.81	0.00	0.00	0.51	0.51
Sat Flow, veh/h				1774	128	1474	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				73	0	200	407	709	0	0	495	518
Grp Sat Flow(s),veh/h/ln				1774	0	1603	1774	1863	0	0	1863	1583
Q Serve(g_s), s				3.3	0.0	8.0	18.8	3.8	0.0	0.0	15.1	20.3
Cycle Q Clear(g_c), s				3.3	0.0	8.0	18.8	3.8	0.0	0.0	15.1	20.3
Prop In Lane				1.00		0.92	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				167	0	151	453	3024	0	0	949	806
V/C Ratio(X)				0.44	0.00	1.33	0.90	0.23	0.00	0.00	0.52	0.64
Avail Cap(c_a), veh/h				167	0	151	605	3024	0	0	949	806
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.79	0.79	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.4	0.0	38.5	30.6	1.9	0.0	0.0	13.9	15.2
Incr Delay (d2), s/veh				1.8	0.0	185.2	10.9	0.1	0.0	0.0	2.1	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				1.6	0.0	11.0	9.6	1.1	0.0	0.0	7.0	8.4
Lane Grp Delay (d), s/veh				38.2	0.0	223.7	41.5	2.0	0.0	0.0	16.0	19.1
Lane Grp LOS				D		F	D	A			B	B
Approach Vol, veh/h					273			1116			1013	
Approach Delay, s/veh					174.1			16.4			17.6	
Approach LOS					F			B			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					12.0		25.7	73.0			47.3	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					8.0		29.0	69.0			36.0	
Max Q Clear Time (g_c+I1), s					10.0		20.8	5.8			22.3	
Green Ext Time (p_c), s					0.0		0.9	20.2			9.3	

Intersection Summary		
HCM 2010 Ctrl Delay		34.8
HCM 2010 LOS		C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	143	23	175	172	939	0	0	339	290
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				307	32	247	238	2556	0	0	897	762
Arrive On Green				0.17	0.17	0.17	0.09	0.46	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	187	1424	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				155	0	215	187	1021	0	0	368	315
Grp Sat Flow(s),veh/h/ln				1774	0	1611	1774	1863	0	0	1863	1583
Q Serve(g_s), s				4.5	0.0	7.2	5.9	10.3	0.0	0.0	7.3	7.3
Cycle Q Clear(g_c), s				4.5	0.0	7.2	5.9	10.3	0.0	0.0	7.3	7.3
Prop In Lane				1.00		0.88	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				307	0	279	238	2556	0	0	897	762
V/C Ratio(X)				0.50	0.00	0.77	0.79	0.40	0.00	0.00	0.41	0.41
Avail Cap(c_a), veh/h				406	0	368	374	2556	0	0	897	762
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.3	0.0	22.4	25.1	7.6	0.0	0.0	9.5	9.5
Incr Delay (d2), s/veh				1.3	0.0	7.0	4.8	0.4	0.0	0.0	1.4	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.0	0.0	3.3	2.9	4.6	0.0	0.0	3.2	2.8
Lane Grp Delay (d), s/veh				22.6	0.0	29.4	29.9	8.0	0.0	0.0	10.9	11.2
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					370			1208			683	
Approach Delay, s/veh					26.6			11.4			11.0	
Approach LOS					C			B			B	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					13.8		11.6	43.0			31.4	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					13.0		12.0	39.0			23.0	
Max Q Clear Time (g_c+I1), s					9.2		7.9	12.3			9.3	
Green Ext Time (p_c), s					0.6		0.2	13.0			8.7	
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
110: Park Ave & Highway 1 SB Ramps

10/9/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	664	3	97	0	0	0	0	459	164	140	329	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	965	0	431				0	1444	614	196	1070	0
Arrive On Green	0.27	0.00	0.27				0.00	0.39	0.39	0.07	0.39	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	724	0	105				0	499	178	152	358	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	9.7	0.0	2.7				0.0	4.9	4.1	4.4	7.1	0.0
Cycle Q Clear(g_c), s	9.7	0.0	2.7				0.0	4.9	4.1	4.4	7.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	965	0	431				0	1444	614	196	1070	0
V/C Ratio(X)	0.75	0.00	0.24				0.00	0.35	0.29	0.78	0.33	0.00
Avail Cap(c_a), veh/h	1495	0	667				0	1444	614	306	1070	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	17.4	0.0	14.8				0.0	11.3	11.0	23.5	9.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.3				0.0	0.7	1.2	5.7	0.7	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
%ile Back of Q (50%), veh/ln	4.0	0.0	1.0				0.0	2.1	1.6	2.2	3.4	0.0
Lane Grp Delay (d), s/veh	18.6	0.0	15.1				0.0	12.0	12.2	29.3	9.8	0.0
Lane Grp LOS	B		B					B	B	C	A	
Approach Vol, veh/h		829						677			510	
Approach Delay, s/veh		18.1						12.0			15.6	
Approach LOS		B						B			B	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		18.2						24.2		9.8	34.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		22.0						17.0		9.0	30.0	
Max Q Clear Time (g_c+I1), s		11.7						6.9		6.4	9.1	
Green Ext Time (p_c), s		2.5						4.4		0.1	6.4	
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	17	2	64	0	398	13	38	418	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	18	2	70	0	433	14	41	454	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	982	988	459	982	986	440	463	0	0	447	0	0
Stage 1	541	541	-	440	440	-	-	-	-	-	-	-
Stage 2	441	447	-	542	546	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	228	247	602	228	248	617	1098	-	-	1113	-	-
Stage 1	525	521	-	596	578	-	-	-	-	-	-	-
Stage 2	595	573	-	525	518	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	195	238	602	221	239	617	1098	-	-	1113	-	-
Mov Capacity-2 Maneuver	195	238	-	221	239	-	-	-	-	-	-	-
Stage 1	525	502	-	596	578	-	-	-	-	-	-	-
Stage 2	526	573	-	504	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	14.2	0	0.7
HCM LOS	B	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	602	336	617	1113	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.13	0.075	0.037	-	-
HCM Control Delay (s)	0	-	-	11	17.3	11.3	8.359	-	-
HCM Lane LOS	A			B	C	B	A		
HCM 95th %tile Q(veh)	0	-	-	0.011	0.445	0.243	0.116	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	25.7
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	528	0	59	114	0	295
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	574	0	64	124	0	321
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	36.9	12.4	13.4
HCM LOS	E	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	34%	100%	0%
Vol Thru, %	66%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	173	528	295
LT Vol	114	0	0
Through Vol	0	0	295
RT Vol	59	528	0
Lane Flow Rate	188	574	321
Geometry Grp	1	1	1
Degree of Util (X)	0.327	0.887	0.481
Departure Headway (Hd)	6.256	5.562	5.395
Convergence, Y/N	Yes	Yes	Yes
Cap	572	649	664
Service Time	4.337	3.608	3.467
HCM Lane V/C Ratio	0.329	0.884	0.483
HCM Control Delay	12.4	36.9	13.4
HCM Lane LOS	B	E	B
HCM 95th-tile Q	1.4	10.8	2.6

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	19.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	4	7	214	0	49	2	152	516	110	118	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	4	8	233	0	53	2	165	561	120	128	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.2	15.5	23.6	15.1
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	81%	48%	0%
Vol Thru, %	99%	0%	24%	0%	52%	0%
Vol Right, %	0%	100%	41%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	516	17	263	228	3
LT Vol	152	0	4	0	118	0
Through Vol	0	516	7	49	0	3
RT Vol	2	0	6	214	110	0
Lane Flow Rate	167	561	18	286	248	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.278	0.819	0.036	0.5	0.463	0.005
Departure Headway (Hd)	5.973	5.255	6.974	6.295	6.725	5.765
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	599	684	516	572	533	617
Service Time	3.729	3.011	4.974	4.356	4.498	3.537
HCM Lane V/C Ratio	0.279	0.82	0.035	0.5	0.465	0.005
HCM Control Delay	11	27.4	10.2	15.5	15.2	8.6
HCM Lane LOS	B	D	B	C	C	A
HCM 95th-tile Q	1.1	8.7	0.1	2.8	2.4	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	176	187	174	41	40	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	203	189	45	43	105
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.6	11	9.1
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	81%	48%	0%
Vol Thru, %	19%	0%	29%
Vol Right, %	0%	52%	71%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	215	363	137
LT Vol	41	0	40
Through Vol	0	187	97
RT Vol	174	176	0
Lane Flow Rate	234	395	149
Geometry Grp	1	1	1
Degree of Util (X)	0.34	0.511	0.198
Departure Headway (Hd)	5.232	4.659	4.78
Convergence, Y/N	Yes	Yes	Yes
Cap	680	769	742
Service Time	3.314	2.725	2.869
HCM Lane V/C Ratio	0.344	0.514	0.201
HCM Control Delay	11	12.6	9.1
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.5	2.9	0.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	76	281	118	31	230	41	116	75	28	54	73	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	305	128	34	250	45	126	82	30	59	79	53
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	24	18.5	16.5	16.2
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	61%	0%	21%	0%	100%	0%	31%
Vol Thru, %	39%	0%	79%	0%	0%	85%	41%
Vol Right, %	0%	100%	0%	100%	0%	15%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	191	28	357	118	31	271	176
LT Vol	75	0	281	0	0	230	73
Through Vol	0	28	0	118	0	41	49
RT Vol	116	0	76	0	31	0	54
Lane Flow Rate	208	30	388	128	34	295	191
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.459	0.059	0.755	0.22	0.072	0.58	0.411
Departure Headway (Hd)	7.964	6.933	7.009	6.184	7.715	7.092	7.743
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	515	516	578	463	507	463
Service Time	5.727	4.696	4.766	3.939	5.476	4.853	5.813
HCM Lane V/C Ratio	0.459	0.058	0.752	0.221	0.073	0.582	0.413
HCM Control Delay	17.4	10.1	28.4	10.7	11.1	19.3	16.2
HCM Lane LOS	C	B	D	B	B	C	C
HCM 95th-tile Q	2.4	0.2	6.5	0.8	0.2	3.6	2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	24.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	129	52	75	24	35	113	94	316	20	185	459	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	140	57	82	26	38	123	102	343	22	201	499	66
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	21.7	21.7	20.3	27.8
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	71%	0%	14%	100%	0%	0%
Vol Thru, %	0%	100%	84%	29%	0%	20%	0%	100%	71%
Vol Right, %	0%	0%	16%	0%	100%	66%	0%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	211	125	181	75	172	185	306	214
LT Vol	0	211	105	52	0	35	0	306	153
Through Vol	0	0	20	0	75	113	0	0	61
RT Vol	94	0	0	129	0	24	185	0	0
Lane Flow Rate	102	229	136	197	82	187	201	333	233
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.276	0.585	0.344	0.553	0.205	0.499	0.508	0.792	0.54
Departure Headway (Hd)	9.725	9.204	9.088	10.117	9.032	9.601	9.086	8.567	8.36
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	369	392	395	356	396	374	396	422	430
Service Time	7.508	6.987	6.87	7.905	6.819	7.39	6.859	6.339	6.132
HCM Lane V/C Ratio	0.276	0.584	0.344	0.553	0.207	0.5	0.508	0.789	0.542
HCM Control Delay	16.2	24.3	16.6	24.8	14.2	21.7	20.9	37.1	20.6
HCM Lane LOS	C	C	C	C	B	C	C	E	C
HCM 95th-tile Q	1.1	3.6	1.5	3.2	0.8	2.7	2.8	7	3.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	219	21	333	0	0	0	0	550	185	366	543	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	313	0	559				0	854	286	632	2702	0
Arrive On Green	0.18	0.00	0.18				0.00	0.32	0.32	0.71	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2671	896	1774	3725	0
Grp Volume(v), veh/h	166	0	454				0	417	382	398	590	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1705	1774	1863	0
Q Serve(g_s), s	6.9	0.0	11.2				0.0	16.0	16.0	9.5	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	11.2				0.0	16.0	16.0	9.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	313	0	559				0	595	545	632	2702	0
V/C Ratio(X)	0.53	0.00	0.81				0.00	0.70	0.70	0.63	0.22	0.00
Avail Cap(c_a), veh/h	392	0	701				0	595	545	632	2702	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.71	0.71	0.00
Uniform Delay (d), s/veh	30.4	0.0	32.2				0.0	24.3	24.3	8.9	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	5.8				0.0	6.7	7.4	1.4	0.1	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
%ile Back of Q (50%), veh/ln	3.2	0.0	4.9				0.0	8.4	7.8	2.8	0.0	0.0
Lane Grp Delay (d), s/veh	31.8	0.0	38.0				0.0	31.0	31.7	10.3	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		620						799			988	
Approach Delay, s/veh		36.4						31.3			4.2	
Approach LOS		D						C			A	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		18.4						30.0		33.0	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						26.0		29.0	59.0	
Max Q Clear Time (g_c+I1), s		13.2						18.0		11.5	2.0	
Green Ext Time (p_c), s		1.1						3.2		5.1	6.2	
Intersection Summary												
HCM 2010 Ctrl Delay			21.5									
HCM 2010 LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	146	3	276	272	482	0	0	764	284
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				313	3	277	335	2717	0	0	1279	475
Arrive On Green				0.18	0.18	0.18	0.25	0.97	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1774	16	1570	1774	3725	0	0	2592	963
Grp Volume(v), veh/h				159	0	303	296	524	0	0	596	543
Grp Sat Flow(s),veh/h/ln				1774	0	1586	1774	1863	0	0	1863	1693
Q Serve(g_s), s				6.9	0.0	15.0	13.6	0.4	0.0	0.0	20.3	20.3
Cycle Q Clear(g_c), s				6.9	0.0	15.0	13.6	0.4	0.0	0.0	20.3	20.3
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				313	0	280	335	2717	0	0	919	835
V/C Ratio(X)				0.51	0.00	1.08	0.88	0.19	0.00	0.00	0.65	0.65
Avail Cap(c_a), veh/h				313	0	280	438	2717	0	0	919	835
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.67	0.67	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.7	0.0	35.0	30.9	0.4	0.0	0.0	16.0	16.1
Incr Delay (d2), s/veh				1.3	0.0	77.6	11.1	0.1	0.0	0.0	3.5	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.2	0.0	11.9	6.7	0.2	0.0	0.0	9.8	9.1
Lane Grp Delay (d), s/veh				33.0	0.0	112.6	42.0	0.5	0.0	0.0	19.6	20.0
Lane Grp LOS				C		F	D	A			B	B
Approach Vol, veh/h					462			820			1139	
Approach Delay, s/veh					85.2			15.4			19.8	
Approach LOS					F			B			B	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					19.0		20.1	66.0			45.9	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		21.0	62.0			37.0	
Max Q Clear Time (g_c+I1), s					17.0		15.6	2.4			22.3	
Green Ext Time (p_c), s					0.0		0.4	18.6			9.4	

Intersection Summary	
HCM 2010 Ctrl Delay	30.8
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	238	6	251	98	405	0	0	464	392
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				386	9	337	136	2396	0	0	926	787
Arrive On Green				0.22	0.22	0.22	0.15	1.00	0.00	0.00	0.50	0.50
Sat Flow, veh/h				1774	40	1550	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				259	0	280	107	440	0	0	504	426
Grp Sat Flow(s),veh/h/ln				1774	0	1589	1774	1863	0	0	1863	1583
Q Serve(g_s), s				7.7	0.0	9.6	3.3	0.0	0.0	0.0	10.7	10.7
Cycle Q Clear(g_c), s				7.7	0.0	9.6	3.3	0.0	0.0	0.0	10.7	10.7
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				386	0	346	136	2396	0	0	926	787
V/C Ratio(X)				0.67	0.00	0.81	0.79	0.18	0.00	0.00	0.54	0.54
Avail Cap(c_a), veh/h				463	0	414	247	2396	0	0	926	787
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.6	0.0	21.4	23.9	0.0	0.0	0.0	10.0	10.0
Incr Delay (d2), s/veh				2.9	0.0	9.8	9.2	0.2	0.0	0.0	2.3	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.5	0.0	4.6	1.7	0.1	0.0	0.0	4.8	4.1
Lane Grp Delay (d), s/veh				23.5	0.0	31.1	33.1	0.2	0.0	0.0	12.3	12.6
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					539			547			930	
Approach Delay, s/veh					27.5			6.6			12.4	
Approach LOS					C			A			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					16.5		8.4	41.0			32.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		8.0	37.0			25.0	
Max Q Clear Time (g_c+I1), s					11.6		5.3	2.0			12.7	
Green Ext Time (p_c), s					0.9		0.1	9.8			6.2	

Intersection Summary			
HCM 2010 Ctrl Delay			14.9
HCM 2010 LOS			B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	235	3	102	0	0	0	0	273	278	283	416	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	403	0	180				0	1719	730	377	1387	0
Arrive On Green	0.11	0.00	0.11				0.00	0.46	0.46	0.14	0.50	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	257	0	111				0	297	302	308	452	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	3.9	0.0	3.8				0.0	2.6	7.2	9.5	8.2	0.0
Cycle Q Clear(g_c), s	3.9	0.0	3.8				0.0	2.6	7.2	9.5	8.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	403	0	180				0	1719	730	377	1387	0
V/C Ratio(X)	0.64	0.00	0.62				0.00	0.17	0.41	0.82	0.33	0.00
Avail Cap(c_a), veh/h	629	0	281				0	1719	730	598	1387	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	23.9	0.0	23.8				0.0	8.9	10.1	23.1	5.7	0.0
Incr Delay (d2), s/veh	1.7	0.0	3.4				0.0	0.2	1.7	3.8	0.5	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
%ile Back of Q (50%), veh/ln	1.8	0.0	1.6				0.0	1.1	2.8	4.6	3.9	0.0
Lane Grp Delay (d), s/veh	25.6	0.0	27.3				0.0	9.1	11.8	26.9	6.1	0.0
Lane Grp LOS	C		C					A	B	C	A	
Approach Vol, veh/h		368						599			760	
Approach Delay, s/veh		26.1						10.5			14.6	
Approach LOS		C						B			B	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		10.4						30.0		16.0	46.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		10.0						19.0		19.0	42.0	
Max Q Clear Time (g_c+I1), s		5.9						9.2		11.5	10.2	
Green Ext Time (p_c), s		0.5						4.2		0.6	6.8	

Intersection Summary			
HCM 2010 Ctrl Delay			15.6
HCM 2010 LOS			B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	1	1	23	1	57	3	627	29	56	278	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	1	25	1	62	3	682	32	61	302	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1130	1146	304	1131	1131	697	305	0	0	713	0	0
Stage 1	426	426	-	704	704	-	-	-	-	-	-	-
Stage 2	704	720	-	427	427	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	181	199	736	181	203	441	1256	-	-	887	-	-
Stage 1	606	586	-	428	440	-	-	-	-	-	-	-
Stage 2	428	432	-	606	585	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	146	185	736	170	188	441	1256	-	-	887	-	-
Mov Capacity-2 Maneuver	146	185	-	170	188	-	-	-	-	-	-	-
Stage 1	604	546	-	426	438	-	-	-	-	-	-	-
Stage 2	365	430	-	562	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.2	19.4	0	1.6
HCM LOS	D	C		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	165	234	441	887	-	-
HCM Lane V/C Ratio	0.003	-	-	0.059	0.2	0.094	0.069	-	-
HCM Control Delay (s)	7.874	0	-	28.2	24.2	14	9.357	-	-
HCM Lane LOS	A	A		D	C	B	A		
HCM 95th %tile Q(veh)	0.008	-	-	0.187	0.726	0.308	0.221	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	256	0	112	182	0	271
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	0	122	198	0	295
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.9	12.6	10.4
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	38%	100%	0%
Vol Thru, %	62%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	294	256	271
LT Vol	182	0	0
Through Vol	0	0	271
RT Vol	112	256	0
Lane Flow Rate	320	278	295
Geometry Grp	1	1	1
Degree of Util (X)	0.455	0.436	0.371
Departure Headway (Hd)	5.249	5.635	4.65
Convergence, Y/N	Yes	Yes	Yes
Cap	690	643	778
Service Time	3.249	3.635	2.65
HCM Lane V/C Ratio	0.464	0.432	0.379
HCM Control Delay	12.6	12.9	10.4
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2.4	2.2	1.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	22	28	158	16	61	32	169	245	84	120	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	24	30	172	17	66	35	184	266	91	130	17
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.2	13.1	11.7	13
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	16%	0%	33%	67%	41%	0%
Vol Thru, %	84%	0%	29%	7%	59%	0%
Vol Right, %	0%	100%	37%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	245	75	235	204	16
LT Vol	169	0	22	16	120	0
Through Vol	0	245	28	61	0	16
RT Vol	32	0	25	158	84	0
Lane Flow Rate	218	266	82	255	222	17
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.366	0.388	0.139	0.417	0.396	0.027
Departure Headway (Hd)	6.031	5.239	6.151	5.877	6.432	5.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	684	580	610	559	647
Service Time	3.779	2.987	4.222	3.931	4.189	3.267
HCM Lane V/C Ratio	0.366	0.389	0.141	0.418	0.397	0.026
HCM Control Delay	12.2	11.3	10.2	13.1	13.4	8.4
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	1.7	1.8	0.5	2.1	1.9	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	98	190	217	38	31	119
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	207	236	41	34	129
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	10.9	11.3	8.8
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	85%	34%	0%
Vol Thru, %	15%	0%	21%
Vol Right, %	0%	66%	79%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	255	288	150
LT Vol	38	0	31
Through Vol	0	190	119
RT Vol	217	98	0
Lane Flow Rate	277	313	163
Geometry Grp	1	1	1
Degree of Util (X)	0.388	0.404	0.207
Departure Headway (Hd)	5.042	4.651	4.565
Convergence, Y/N	Yes	Yes	Yes
Cap	710	770	778
Service Time	3.111	2.711	2.639
HCM Lane V/C Ratio	0.39	0.406	0.21
HCM Control Delay	11.3	10.9	8.8
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.8	2	0.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	21.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	207	178	75	290	47	123	74	32	43	72	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	225	193	82	315	51	134	80	35	47	78	82
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	21	25.8	18.1	18
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	62%	0%	32%	0%	100%	0%	23%
Vol Thru, %	38%	0%	68%	0%	0%	86%	38%
Vol Right, %	0%	100%	0%	100%	0%	14%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	32	304	178	75	337	190
LT Vol	74	0	207	0	0	290	72
Through Vol	0	32	0	178	0	47	75
RT Vol	123	0	97	0	75	0	43
Lane Flow Rate	214	35	330	193	82	366	207
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.499	0.071	0.69	0.357	0.18	0.745	0.463
Departure Headway (Hd)	8.391	7.347	7.521	6.637	7.935	7.32	8.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	428	485	479	538	450	491	444
Service Time	6.177	5.132	5.304	4.419	5.715	5.099	6.167
HCM Lane V/C Ratio	0.5	0.072	0.689	0.359	0.182	0.745	0.466
HCM Control Delay	19.3	10.7	25.6	13.1	12.5	28.7	18
HCM Lane LOS	C	B	D	B	B	D	C
HCM 95th-tile Q	2.7	0.2	5.2	1.6	0.6	6.2	2.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	26
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	108	39	64	17	39	93	62	456	21	110	470	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	42	70	18	42	101	67	496	23	120	511	74
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	18.7	19.2	28.5	27.8
HCM LOS	C	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	73%	0%	11%	100%	0%	0%
Vol Thru, %	0%	100%	88%	27%	0%	26%	0%	100%	70%
Vol Right, %	0%	0%	12%	0%	100%	62%	0%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	304	173	147	64	149	110	313	225
LT Vol	0	304	152	39	0	39	0	313	157
Through Vol	0	0	21	0	64	93	0	0	68
RT Vol	62	0	0	108	0	17	110	0	0
Lane Flow Rate	67	330	188	160	70	162	120	341	244
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.171	0.793	0.447	0.448	0.174	0.427	0.297	0.797	0.557
Departure Headway (Hd)	9.159	8.641	8.553	10.094	8.997	9.496	8.945	8.427	8.208
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	392	420	421	356	398	379	402	429	440
Service Time	6.918	6.4	6.312	7.867	6.77	7.269	6.703	6.185	5.966
HCM Lane V/C Ratio	0.171	0.786	0.447	0.449	0.176	0.427	0.299	0.795	0.555
HCM Control Delay	13.8	37.4	18.1	20.9	13.7	19.2	15.5	37.1	20.9
HCM Lane LOS	B	E	C	C	B	C	C	E	C
HCM 95th-tile Q	0.6	7	2.2	2.2	0.6	2.1	1.2	7.1	3.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	258	3	393	0	0	0	0	600	194	243	447	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	362	0	647				0	1040	336	463	2594	0
Arrive On Green	0.20	0.00	0.20				0.00	0.39	0.39	0.52	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2699	873	1774	3725	0
Grp Volume(v), veh/h	188	0	528				0	450	413	264	486	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1709	1774	1863	0
Q Serve(g_s), s	7.6	0.0	12.8				0.0	15.7	15.8	8.1	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	12.8				0.0	15.7	15.8	8.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.51	1.00		0.00
Lane Grp Cap(c), veh/h	362	0	647				0	718	659	463	2594	0
V/C Ratio(X)	0.52	0.00	0.82				0.00	0.63	0.63	0.57	0.19	0.00
Avail Cap(c_a), veh/h	463	0	827				0	718	659	463	2594	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	28.5	0.0	30.6				0.0	20.0	20.0	16.1	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	5.1				0.0	4.1	4.5	1.2	0.1	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
%ile Back of Q (50%), veh/ln	3.4	0.0	5.4				0.0	7.8	7.2	2.9	0.0	0.0
Lane Grp Delay (d), s/veh	29.6	0.0	35.6				0.0	24.1	24.5	17.4	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		716						863			750	
Approach Delay, s/veh		34.0						24.3			6.2	
Approach LOS		C						C			A	

Timer	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		20.4						35.0		25.0	60.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		21.0						31.0		21.0	56.0	
Max Q Clear Time (g_c+I1), s		14.8						17.8		10.1	2.0	
Green Ext Time (p_c), s		1.6						4.7		3.1	4.6	

Intersection Summary		
HCM 2010 Ctrl Delay		21.5
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	138	1	213	360	493	0	0	552	354
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				292	1	260	425	2761	0	0	965	619
Arrive On Green				0.16	0.16	0.16	0.48	1.00	0.00	0.00	0.45	0.45
Sat Flow, veh/h				1774	7	1578	1774	3725	0	0	2123	1362
Grp Volume(v), veh/h				150	0	233	391	536	0	0	526	459
Grp Sat Flow(s),veh/h/ln				1774	0	1584	1774	1863	0	0	1863	1622
Q Serve(g_s), s				6.6	0.0	12.2	17.5	0.0	0.0	0.0	18.3	18.3
Cycle Q Clear(g_c), s				6.6	0.0	12.2	17.5	0.0	0.0	0.0	18.3	18.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.84
Lane Grp Cap(c), veh/h				292	0	261	425	2761	0	0	847	738
V/C Ratio(X)				0.51	0.00	0.89	0.92	0.19	0.00	0.00	0.62	0.62
Avail Cap(c_a), veh/h				292	0	261	605	2761	0	0	847	738
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.73	0.73	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.4	0.0	34.8	21.4	0.0	0.0	0.0	17.6	17.6
Incr Delay (d2), s/veh				1.5	0.0	29.6	12.0	0.1	0.0	0.0	3.4	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.0	0.0	7.0	7.3	0.0	0.0	0.0	8.8	7.8
Lane Grp Delay (d), s/veh				33.9	0.0	64.4	33.4	0.1	0.0	0.0	21.0	21.5
Lane Grp LOS				C		E	C	A			C	C
Approach Vol, veh/h					383			927			985	
Approach Delay, s/veh					52.5			14.2			21.3	
Approach LOS					D			B			C	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					18.0		24.4	67.0			42.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					14.0		29.0	63.0			30.0	
Max Q Clear Time (g_c+I1), s					14.2		19.5	2.0			20.3	
Green Ext Time (p_c), s					0.0		0.9	16.0			6.5	
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	194	8	231	127	396	0	0	283	296
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				373	12	323	176	2407	0	0	886	753
Arrive On Green				0.21	0.21	0.21	0.20	1.00	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	55	1537	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				211	0	260	138	430	0	0	308	322
Grp Sat Flow(s),veh/h/ln				1774	0	1592	1774	1863	0	0	1863	1583
Q Serve(g_s), s				5.9	0.0	8.6	4.1	0.0	0.0	0.0	5.8	7.5
Cycle Q Clear(g_c), s				5.9	0.0	8.6	4.1	0.0	0.0	0.0	5.8	7.5
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				373	0	335	176	2407	0	0	886	753
V/C Ratio(X)				0.57	0.00	0.78	0.79	0.18	0.00	0.00	0.35	0.43
Avail Cap(c_a), veh/h				509	0	457	350	2407	0	0	886	753
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	20.8	21.8	0.0	0.0	0.0	9.2	9.6
Incr Delay (d2), s/veh				1.3	0.0	5.7	7.3	0.2	0.0	0.0	1.1	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.5	0.0	3.7	2.0	0.1	0.0	0.0	2.6	2.9
Lane Grp Delay (d), s/veh				21.1	0.0	26.5	29.1	0.2	0.0	0.0	10.3	11.4
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					471			568			630	
Approach Delay, s/veh					24.1			7.2			10.8	
Approach LOS					C			A			B	

Timer	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					15.7		9.5	40.0			30.5	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					16.0		11.0	36.0			21.0	
Max Q Clear Time (g_c+I1), s					10.6		6.1	2.0			9.5	
Green Ext Time (p_c), s					1.1		0.1	6.9			4.6	

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	291	3	129	0	0	0	0	228	149	162	313	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	500	0	223				0	1391	591	464	1322	0
Arrive On Green	0.14	0.00	0.14				0.00	0.37	0.37	0.52	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	318	0	140				0	248	162	176	340	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	4.5	0.0	4.5				0.0	2.4	3.8	3.2	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	4.5				0.0	2.4	3.8	3.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	500	0	223				0	1391	591	464	1322	0
V/C Ratio(X)	0.64	0.00	0.63				0.00	0.18	0.27	0.38	0.26	0.00
Avail Cap(c_a), veh/h	928	0	414				0	1391	591	464	1322	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	21.7	0.0	21.7				0.0	11.3	11.7	10.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	2.9				0.0	0.3	1.1	0.5	0.4	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
%ile Back of Q (50%), veh/ln	1.9	0.0	1.8				0.0	1.0	1.5	1.2	0.2	0.0
Lane Grp Delay (d), s/veh	23.0	0.0	24.6				0.0	11.5	12.9	10.6	0.4	0.0
Lane Grp LOS	C		C					B	B	B	A	
Approach Vol, veh/h		458						410			516	
Approach Delay, s/veh		23.5						12.1			3.9	
Approach LOS		C						B			A	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		11.5						24.0		18.0	42.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		14.0						20.0		14.0	38.0	
Max Q Clear Time (g_c+I1), s		6.5						5.8		5.2	2.0	
Green Ext Time (p_c), s		1.0						1.8		1.7	2.7	

Intersection Summary			
HCM 2010 Ctrl Delay			12.8
HCM 2010 LOS			B

Notes
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	0	1	23	6	56	10	338	28	72	287	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	1	25	7	61	11	367	30	78	312	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	885	897	320	881	889	383	328	0	0	398	0	0
Stage 1	477	477	-	404	404	-	-	-	-	-	-	-
Stage 2	408	420	-	477	485	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	266	279	721	267	282	664	1232	-	-	1161	-	-
Stage 1	569	556	-	623	599	-	-	-	-	-	-	-
Stage 2	620	589	-	569	552	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	223	257	721	251	260	664	1232	-	-	1161	-	-
Mov Capacity-2 Maneuver	223	257	-	251	260	-	-	-	-	-	-	-
Stage 1	562	519	-	616	592	-	-	-	-	-	-	-
Stage 2	550	582	-	530	515	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.2	14.7	0.2	1.6
HCM LOS	C	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1232	-	-	236	334	664	1161	-	-
HCM Lane V/C Ratio	0.009	-	-	0.06	0.155	0.061	0.067	-	-
HCM Control Delay (s)	7.948	0	-	21.2	17.7	10.8	8.325	-	-
HCM Lane LOS	A	A		C	C	B	A		
HCM 95th %tile Q(veh)	0.027	-	-	0.19	0.542	0.195	0.216	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	343	0	32	66	0	430
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	373	0	35	72	0	467
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.8	9.9	14
HCM LOS	C	A	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	100%	0%
Vol Thru, %	67%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	98	343	430
LT Vol	66	0	0
Through Vol	0	0	430
RT Vol	32	343	0
Lane Flow Rate	107	373	467
Geometry Grp	1	1	1
Degree of Util (X)	0.17	0.574	0.588
Departure Headway (Hd)	5.736	5.543	4.642
Convergence, Y/N	Yes	Yes	Yes
Cap	626	656	781
Service Time	3.767	3.549	2.642
HCM Lane V/C Ratio	0.171	0.569	0.598
HCM Control Delay	9.9	15.8	14
HCM Lane LOS	A	C	B
HCM 95th-tile Q	0.6	3.7	3.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	21.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	4	1	378	6	97	1	130	335	40	91	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	1	411	7	105	1	141	364	43	99	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.1	30.4	15	12.7
HCM LOS	B	D	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	58%	79%	31%	0%
Vol Thru, %	99%	0%	33%	1%	69%	0%
Vol Right, %	0%	100%	8%	20%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	335	12	481	131	3
LT Vol	130	0	4	6	91	0
Through Vol	0	335	1	97	0	3
RT Vol	1	0	7	378	40	0
Lane Flow Rate	142	364	13	523	142	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.257	0.583	0.025	0.828	0.283	0.006
Departure Headway (Hd)	6.486	5.768	6.971	5.701	7.148	6.273
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	551	623	517	633	500	566
Service Time	4.256	3.537	4.971	3.754	4.936	4.06
HCM Lane V/C Ratio	0.258	0.584	0.025	0.826	0.284	0.005
HCM Control Delay	11.5	16.4	10.1	30.4	12.8	9.1
HCM Lane LOS	B	C	B	D	B	A
HCM 95th-tile Q	1	3.8	0.1	8.8	1.2	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	201	84	173	63	49	279
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	218	91	188	68	53	303
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.1	11.9	11.6
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	73%	71%	0%
Vol Thru, %	27%	0%	15%
Vol Right, %	0%	29%	85%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	236	285	328
LT Vol	63	0	49
Through Vol	0	84	279
RT Vol	173	201	0
Lane Flow Rate	257	310	357
Geometry Grp	1	1	1
Degree of Util (X)	0.388	0.466	0.456
Departure Headway (Hd)	5.449	5.413	4.737
Convergence, Y/N	Yes	Yes	Yes
Cap	662	669	767
Service Time	3.473	3.426	2.737
HCM Lane V/C Ratio	0.388	0.463	0.465
HCM Control Delay	11.9	13.1	11.6
HCM Lane LOS	B	B	B
HCM 95th-tile Q	1.8	2.5	2.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	64	191	123	25	331	42	85	66	13	73	90	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	208	134	27	360	46	92	72	14	79	98	57
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	16.2	28.2	15.2	18
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	56%	0%	25%	0%	100%	0%	34%
Vol Thru, %	44%	0%	75%	0%	0%	89%	42%
Vol Right, %	0%	100%	0%	100%	0%	11%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	13	255	123	25	373	215
LT Vol	66	0	191	0	0	331	90
Through Vol	0	13	0	123	0	42	52
RT Vol	85	0	64	0	25	0	73
Lane Flow Rate	164	14	277	134	27	405	234
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.369	0.028	0.553	0.235	0.056	0.773	0.494
Departure Headway (Hd)	8.096	7.086	7.187	6.34	7.46	6.867	7.615
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	503	502	564	479	527	472
Service Time	5.867	4.857	4.951	4.103	5.219	4.626	5.684
HCM Lane V/C Ratio	0.37	0.028	0.552	0.238	0.056	0.769	0.496
HCM Control Delay	15.6	10.1	18.6	11.1	10.7	29.4	18
HCM Lane LOS	C	B	C	B	B	D	C
HCM 95th-tile Q	1.7	0.1	3.3	0.9	0.2	6.9	2.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	66	8	33	7	30	138	68	488	7	59	379	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	9	36	8	33	150	74	530	8	64	412	39
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	13.6	16.3	21.8	17.3
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	89%	0%	4%	100%	0%	0%
Vol Thru, %	0%	100%	96%	11%	0%	17%	0%	100%	78%
Vol Right, %	0%	0%	4%	0%	100%	79%	0%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	325	170	74	33	175	59	253	162
LT Vol	0	325	163	8	0	30	0	253	126
Through Vol	0	0	7	0	33	138	0	0	36
RT Vol	68	0	0	66	0	7	59	0	0
Lane Flow Rate	74	354	184	80	36	190	64	275	176
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.162	0.726	0.377	0.207	0.081	0.419	0.144	0.579	0.364
Departure Headway (Hd)	7.901	7.389	7.36	9.275	8.104	7.922	8.104	7.592	7.433
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	453	488	487	385	440	453	441	475	482
Service Time	5.668	5.156	5.127	7.064	5.892	5.699	5.874	5.362	5.203
HCM Lane V/C Ratio	0.163	0.725	0.378	0.208	0.082	0.419	0.145	0.579	0.365
HCM Control Delay	12.2	27.5	14.6	14.5	11.6	16.3	12.2	20.4	14.4
HCM Lane LOS	B	D	B	B	B	C	B	C	B
HCM 95th-tile Q	0.6	5.9	1.7	0.8	0.3	2	0.5	3.6	1.6

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	332	2	258	0	0	0	0	709	135	232	295	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	2	0	1				0	2	0	1	2	0
Cap, veh/h	579	0	258				0	1593	304	290	2745	0
Arrive On Green	0.16	0.00	0.16				0.00	0.52	0.52	0.33	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3043	580	1774	3725	0
Grp Volume(v), veh/h	449	0	187				0	472	446	252	321	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1760	1774	1863	0
Q Serve(g_s), s	9.7	0.0	9.0				0.0	12.9	12.9	10.7	0.0	0.0
Cycle Q Clear(g_c), s	9.7	0.0	9.0				0.0	12.9	12.9	10.7	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	579	0	258				0	975	922	290	2745	0
V/C Ratio(X)	0.78	0.00	0.72				0.00	0.48	0.48	0.87	0.12	0.00
Avail Cap(c_a), veh/h	798	0	356				0	975	922	443	2745	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.81	0.81	0.00
Uniform Delay (d), s/veh	32.1	0.0	31.8				0.0	12.2	12.2	26.2	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	4.5				0.0	1.7	1.8	9.3	0.1	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
%ile Back of Q (50%), veh/ln	4.5	0.0	3.9				0.0	6.0	5.7	4.5	0.0	0.0
Lane Grp Delay (d), s/veh	35.4	0.0	36.3				0.0	13.9	14.0	35.5	0.1	0.0
Lane Grp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		636						918			573	
Approach Delay, s/veh		35.6						13.9			15.6	
Approach LOS		D						B			B	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		17.1						45.9		17.1	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						35.0		20.0	59.0	
Max Q Clear Time (g_c+I1), s		11.7						14.9		12.7	2.0	
Green Ext Time (p_c), s		1.4						8.4		0.4	11.2	
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	67	15	169	378	652	0	0	455	477
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				167	12	139	457	3024	0	0	945	803
Arrive On Green				0.09	0.09	0.09	0.26	0.81	0.00	0.00	0.51	0.51
Sat Flow, veh/h				1774	128	1474	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				73	0	200	411	709	0	0	495	518
Grp Sat Flow(s),veh/h/ln				1774	0	1603	1774	1863	0	0	1863	1583
Q Serve(g_s), s				3.3	0.0	8.0	19.0	3.8	0.0	0.0	15.2	20.4
Cycle Q Clear(g_c), s				3.3	0.0	8.0	19.0	3.8	0.0	0.0	15.2	20.4
Prop In Lane				1.00		0.92	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				167	0	151	457	3024	0	0	945	803
V/C Ratio(X)				0.44	0.00	1.33	0.90	0.23	0.00	0.00	0.52	0.65
Avail Cap(c_a), veh/h				167	0	151	605	3024	0	0	945	803
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.79	0.79	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.4	0.0	38.5	30.5	1.9	0.0	0.0	14.1	15.3
Incr Delay (d2), s/veh				1.8	0.0	185.2	11.1	0.1	0.0	0.0	2.1	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				1.6	0.0	11.0	9.9	1.1	0.0	0.0	7.0	8.4
Lane Grp Delay (d), s/veh				38.2	0.0	223.7	41.5	2.0	0.0	0.0	16.1	19.3
Lane Grp LOS				D		F	D	A			B	B
Approach Vol, veh/h					273			1120			1013	
Approach Delay, s/veh					174.1			16.5			17.8	
Approach LOS					F			B			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					12.0		25.9	73.0			47.1	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					8.0		29.0	69.0			36.0	
Max Q Clear Time (g_c+I1), s					10.0		21.0	5.8			22.4	
Green Ext Time (p_c), s					0.0		0.9	20.2			9.2	

Intersection Summary				
HCM 2010 Ctrl Delay			34.9	
HCM 2010 LOS			C	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	145	23	175	172	939	0	0	339	290
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				308	32	247	238	2556	0	0	897	762
Arrive On Green				0.17	0.17	0.17	0.09	0.46	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	187	1424	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				158	0	215	187	1021	0	0	368	315
Grp Sat Flow(s),veh/h/ln				1774	0	1611	1774	1863	0	0	1863	1583
Q Serve(g_s), s				4.6	0.0	7.2	5.9	10.3	0.0	0.0	7.3	7.3
Cycle Q Clear(g_c), s				4.6	0.0	7.2	5.9	10.3	0.0	0.0	7.3	7.3
Prop In Lane				1.00		0.88	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				308	0	279	238	2556	0	0	897	762
V/C Ratio(X)				0.51	0.00	0.77	0.79	0.40	0.00	0.00	0.41	0.41
Avail Cap(c_a), veh/h				406	0	368	374	2556	0	0	897	762
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.85	0.85	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.3	0.0	22.4	25.1	7.6	0.0	0.0	9.5	9.5
Incr Delay (d2), s/veh				1.3	0.0	7.0	4.8	0.4	0.0	0.0	1.4	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.0	0.0	3.3	2.9	4.6	0.0	0.0	3.2	2.8
Lane Grp Delay (d), s/veh				22.7	0.0	29.4	29.9	8.0	0.0	0.0	10.9	11.2
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					373			1208			683	
Approach Delay, s/veh					26.6			11.4			11.0	
Approach LOS					C			B			B	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					13.9		11.6	43.0			31.4	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					13.0		12.0	39.0			23.0	
Max Q Clear Time (g_c+I1), s					9.2		7.9	12.3			9.3	
Green Ext Time (p_c), s					0.6		0.2	13.0			8.7	
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	664	3	97	0	0	0	0	459	166	140	331	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	965	0	431				0	1444	614	196	1070	0
Arrive On Green	0.27	0.00	0.27				0.00	0.39	0.39	0.07	0.39	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	724	0	105				0	499	180	152	360	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	9.7	0.0	2.7				0.0	4.9	4.1	4.4	7.1	0.0
Cycle Q Clear(g_c), s	9.7	0.0	2.7				0.0	4.9	4.1	4.4	7.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	965	0	431				0	1444	614	196	1070	0
V/C Ratio(X)	0.75	0.00	0.24				0.00	0.35	0.29	0.78	0.34	0.00
Avail Cap(c_a), veh/h	1495	0	667				0	1444	614	306	1070	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	17.4	0.0	14.8				0.0	11.3	11.0	23.5	9.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.3				0.0	0.7	1.2	5.7	0.8	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
%ile Back of Q (50%), veh/ln	4.0	0.0	1.0				0.0	2.1	1.6	2.2	3.4	0.0
Lane Grp Delay (d), s/veh	18.6	0.0	15.1				0.0	12.0	12.3	29.3	9.8	0.0
Lane Grp LOS	B		B					B	B	C	A	
Approach Vol, veh/h		829						679			512	
Approach Delay, s/veh		18.1						12.0			15.6	
Approach LOS		B						B			B	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		18.2						24.2		9.8	34.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		22.0						17.0		9.0	30.0	
Max Q Clear Time (g_c+I1), s		11.7						6.9		6.4	9.1	
Green Ext Time (p_c), s		2.5						4.4		0.1	6.4	

Intersection Summary		
HCM 2010 Ctrl Delay		15.4
HCM 2010 LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	18	2	71	0	398	14	45	418	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	20	2	77	0	433	15	49	454	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	998	1005	459	998	1001	440	463	0	0	448	0	0
Stage 1	557	557	-	440	440	-	-	-	-	-	-	-
Stage 2	441	448	-	558	561	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	223	241	602	223	243	617	1098	-	-	1112	-	-
Stage 1	515	512	-	596	578	-	-	-	-	-	-	-
Stage 2	595	573	-	514	510	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	187	230	602	215	232	617	1098	-	-	1112	-	-
Mov Capacity-2 Maneuver	187	230	-	215	232	-	-	-	-	-	-	-
Stage 1	515	489	-	596	578	-	-	-	-	-	-	-
Stage 2	519	573	-	490	488	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	14.4	0	0.8
HCM LOS	B	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	602	334	617	1112	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.142	0.083	0.044	-	-
HCM Control Delay (s)	0	-	-	11	17.6	11.4	8.386	-	-
HCM Lane LOS	A			B	C	B	A		
HCM 95th %tile Q(veh)	0	-	-	0.011	0.49	0.272	0.138	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	25.9
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	529	0	59	114	0	296
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	575	0	64	124	0	322
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	37.2	12.4	13.5
HCM LOS	E	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	34%	100%	0%
Vol Thru, %	66%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	173	529	296
LT Vol	114	0	0
Through Vol	0	0	296
RT Vol	59	529	0
Lane Flow Rate	188	575	322
Geometry Grp	1	1	1
Degree of Util (X)	0.327	0.889	0.483
Departure Headway (Hd)	6.263	5.565	5.4
Convergence, Y/N	Yes	Yes	Yes
Cap	570	650	663
Service Time	4.343	3.611	3.472
HCM Lane V/C Ratio	0.33	0.885	0.486
HCM Control Delay	12.4	37.2	13.5
HCM Lane LOS	B	E	B
HCM 95th-tile Q	1.4	10.8	2.6

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	4	7	217	0	49	2	162	519	110	128	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	4	8	236	0	53	2	176	564	120	139	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.3	15.9	24.5	15.7
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	82%	46%	0%
Vol Thru, %	99%	0%	24%	0%	54%	0%
Vol Right, %	0%	100%	41%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	519	17	266	238	3
LT Vol	162	0	4	0	128	0
Through Vol	0	519	7	49	0	3
RT Vol	2	0	6	217	110	0
Lane Flow Rate	178	564	18	289	259	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.298	0.83	0.036	0.51	0.486	0.005
Departure Headway (Hd)	6.014	5.296	7.063	6.346	6.759	5.809
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	595	683	510	567	530	612
Service Time	3.773	3.055	5.063	4.41	4.535	3.584
HCM Lane V/C Ratio	0.299	0.826	0.035	0.51	0.489	0.005
HCM Control Delay	11.3	28.7	10.3	15.9	15.8	8.6
HCM Lane LOS	B	D	B	C	C	A
HCM 95th-tile Q	1.2	9	0.1	2.9	2.6	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	176	195	182	42	41	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	191	212	198	46	45	105
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.9	11.3	9.2
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	81%	47%	0%
Vol Thru, %	19%	0%	30%
Vol Right, %	0%	53%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	224	371	138
LT Vol	42	0	41
Through Vol	0	195	97
RT Vol	182	176	0
Lane Flow Rate	243	403	150
Geometry Grp	1	1	1
Degree of Util (X)	0.356	0.525	0.201
Departure Headway (Hd)	5.258	4.683	4.821
Convergence, Y/N	Yes	Yes	Yes
Cap	677	762	735
Service Time	3.347	2.751	2.918
HCM Lane V/C Ratio	0.359	0.529	0.204
HCM Control Delay	11.3	12.9	9.2
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.6	3.1	0.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	76	289	118	31	238	41	116	75	28	54	73	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	314	128	34	259	45	126	82	30	59	79	53
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	25.5	19.3	16.7	16.4
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	61%	0%	21%	0%	100%	0%	31%
Vol Thru, %	39%	0%	79%	0%	0%	85%	41%
Vol Right, %	0%	100%	0%	100%	0%	15%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	191	28	365	118	31	279	176
LT Vol	75	0	289	0	0	238	73
Through Vol	0	28	0	118	0	41	49
RT Vol	116	0	76	0	31	0	54
Lane Flow Rate	208	30	397	128	34	303	191
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.463	0.059	0.776	0.222	0.073	0.601	0.415
Departure Headway (Hd)	8.031	7	7.044	6.221	7.75	7.131	7.818
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	510	512	575	461	503	459
Service Time	5.802	4.77	4.806	3.981	5.518	4.898	5.895
HCM Lane V/C Ratio	0.464	0.059	0.775	0.223	0.074	0.602	0.416
HCM Control Delay	17.6	10.2	30.3	10.8	11.1	20.2	16.4
HCM Lane LOS	C	B	D	B	B	C	C
HCM 95th-tile Q	2.4	0.2	7	0.8	0.2	3.9	2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	129	52	75	24	35	113	94	324	20	185	467	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	140	57	82	26	38	123	102	352	22	201	508	66
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	22	22	20.9	29
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	71%	0%	14%	100%	0%	0%
Vol Thru, %	0%	100%	84%	29%	0%	20%	0%	100%	72%
Vol Right, %	0%	0%	16%	0%	100%	66%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	216	128	181	75	172	185	311	217
LT Vol	0	216	108	52	0	35	0	311	156
Through Vol	0	0	20	0	75	113	0	0	61
RT Vol	94	0	0	129	0	24	185	0	0
Lane Flow Rate	102	235	139	197	82	187	201	338	236
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.277	0.604	0.353	0.557	0.206	0.503	0.51	0.81	0.55
Departure Headway (Hd)	9.775	9.254	9.14	10.201	9.115	9.683	9.139	8.619	8.414
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	367	390	392	352	392	372	394	420	429
Service Time	7.555	7.034	6.92	7.989	6.902	7.472	6.911	6.391	6.186
HCM Lane V/C Ratio	0.278	0.603	0.355	0.56	0.209	0.503	0.51	0.805	0.55
HCM Control Delay	16.3	25.3	16.9	25.2	14.3	22	21.1	39.3	21.1
HCM Lane LOS	C	D	C	D	B	C	C	E	C
HCM 95th-tile Q	1.1	3.8	1.6	3.2	0.8	2.7	2.8	7.3	3.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	219	21	341	0	0	0	0	558	185	366	544	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	317	0	566				0	855	283	631	2694	0
Arrive On Green	0.18	0.00	0.18				0.00	0.32	0.32	0.71	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2682	887	1774	3725	0
Grp Volume(v), veh/h	166	0	463				0	421	387	398	591	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1706	1774	1863	0
Q Serve(g_s), s	6.9	0.0	11.5				0.0	16.2	16.3	9.6	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	11.5				0.0	16.2	16.3	9.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.52	1.00		0.00
Lane Grp Cap(c), veh/h	317	0	566				0	594	544	631	2694	0
V/C Ratio(X)	0.52	0.00	0.82				0.00	0.71	0.71	0.63	0.22	0.00
Avail Cap(c_a), veh/h	391	0	699				0	594	544	631	2694	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.71	0.71	0.00
Uniform Delay (d), s/veh	30.3	0.0	32.2				0.0	24.5	24.5	9.0	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	6.2				0.0	7.0	7.7	1.4	0.1	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
%ile Back of Q (50%), veh/ln	3.2	0.0	5.0				0.0	8.5	7.9	2.8	0.0	0.0
Lane Grp Delay (d), s/veh	31.7	0.0	38.5				0.0	31.5	32.2	10.4	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		629						808			989	
Approach Delay, s/veh		36.7						31.8			4.3	
Approach LOS		D						C			A	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		18.6						30.0		33.0	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						26.0		29.0	59.0	
Max Q Clear Time (g_c+I1), s		13.5						18.3		11.6	2.0	
Green Ext Time (p_c), s		1.1						3.1		5.1	6.2	
Intersection Summary												
HCM 2010 Ctrl Delay			21.9									
HCM 2010 LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	146	3	276	280	483	0	0	765	284
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				313	3	277	343	2717	0	0	1269	470
Arrive On Green				0.18	0.18	0.18	0.26	0.97	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1774	16	1570	1774	3725	0	0	2594	962
Grp Volume(v), veh/h				159	0	303	304	525	0	0	597	544
Grp Sat Flow(s),veh/h/ln				1774	0	1586	1774	1863	0	0	1863	1693
Q Serve(g_s), s				6.9	0.0	15.0	14.0	0.4	0.0	0.0	20.5	20.6
Cycle Q Clear(g_c), s				6.9	0.0	15.0	14.0	0.4	0.0	0.0	20.5	20.6
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				313	0	280	343	2717	0	0	911	828
V/C Ratio(X)				0.51	0.00	1.08	0.89	0.19	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				313	0	280	438	2717	0	0	911	828
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.67	0.67	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.7	0.0	35.0	30.7	0.4	0.0	0.0	16.3	16.3
Incr Delay (d2), s/veh				1.3	0.0	77.6	11.6	0.1	0.0	0.0	3.7	4.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.2	0.0	11.9	7.0	0.2	0.0	0.0	9.9	9.1
Lane Grp Delay (d), s/veh				33.0	0.0	112.6	42.3	0.5	0.0	0.0	20.0	20.4
Lane Grp LOS				C		F	D	A			B	C
Approach Vol, veh/h					462			829			1141	
Approach Delay, s/veh					85.2			15.8			20.2	
Approach LOS					F			B			C	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					19.0		20.4	66.0			45.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		21.0	62.0			37.0	
Max Q Clear Time (g_c+I1), s					17.0		16.0	2.4			22.6	
Green Ext Time (p_c), s					0.0		0.4	18.7			9.4	
Intersection Summary												
HCM 2010 Ctrl Delay			31.0									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	242	6	251	98	406	0	0	465	392
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				386	9	337	136	2396	0	0	926	787
Arrive On Green				0.22	0.22	0.22	0.15	1.00	0.00	0.00	0.50	0.50
Sat Flow, veh/h				1774	40	1550	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				263	0	280	107	441	0	0	505	426
Grp Sat Flow(s),veh/h/ln				1774	0	1589	1774	1863	0	0	1863	1583
Q Serve(g_s), s				7.8	0.0	9.6	3.3	0.0	0.0	0.0	10.8	10.7
Cycle Q Clear(g_c), s				7.8	0.0	9.6	3.3	0.0	0.0	0.0	10.8	10.7
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				386	0	346	136	2396	0	0	926	787
V/C Ratio(X)				0.68	0.00	0.81	0.79	0.18	0.00	0.00	0.55	0.54
Avail Cap(c_a), veh/h				463	0	414	247	2396	0	0	926	787
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.97	0.97	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.7	0.0	21.4	23.9	0.0	0.0	0.0	10.0	10.0
Incr Delay (d2), s/veh				3.1	0.0	9.7	9.2	0.2	0.0	0.0	2.3	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.6	0.0	4.5	1.7	0.1	0.0	0.0	4.8	4.1
Lane Grp Delay (d), s/veh				23.8	0.0	31.1	33.1	0.2	0.0	0.0	12.3	12.6
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					543			548			931	
Approach Delay, s/veh					27.6			6.6			12.4	
Approach LOS					C			A			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					16.5		8.4	41.0			32.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		8.0	37.0			25.0	
Max Q Clear Time (g_c+I1), s					11.6		5.3	2.0			12.8	
Green Ext Time (p_c), s					0.9		0.1	9.8			6.2	

Intersection Summary			
HCM 2010 Ctrl Delay			14.9
HCM 2010 LOS			B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	235	3	102	0	0	0	0	274	282	283	420	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	403	0	180				0	1719	730	377	1387	0
Arrive On Green	0.11	0.00	0.11				0.00	0.46	0.46	0.14	0.50	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	257	0	111				0	298	307	308	457	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	3.9	0.0	3.8				0.0	2.6	7.3	9.5	8.3	0.0
Cycle Q Clear(g_c), s	3.9	0.0	3.8				0.0	2.6	7.3	9.5	8.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	403	0	180				0	1719	730	377	1387	0
V/C Ratio(X)	0.64	0.00	0.62				0.00	0.17	0.42	0.82	0.33	0.00
Avail Cap(c_a), veh/h	629	0	281				0	1719	730	598	1387	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	23.9	0.0	23.8				0.0	8.9	10.2	23.1	5.7	0.0
Incr Delay (d2), s/veh	1.7	0.0	3.4				0.0	0.2	1.8	3.8	0.5	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
%ile Back of Q (50%), veh/ln	1.8	0.0	1.6				0.0	1.1	2.8	4.6	3.9	0.0
Lane Grp Delay (d), s/veh	25.6	0.0	27.3				0.0	9.1	11.9	26.9	6.2	0.0
Lane Grp LOS	C		C					A	B	C	A	
Approach Vol, veh/h		368						605			765	
Approach Delay, s/veh		26.1						10.5			14.5	
Approach LOS		C						B			B	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		10.4						30.0		16.0	46.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		10.0						19.0		19.0	42.0	
Max Q Clear Time (g_c+I1), s		5.9						9.3		11.5	10.3	
Green Ext Time (p_c), s		0.5						4.2		0.6	6.9	
Intersection Summary												
HCM 2010 Ctrl Delay			15.6									
HCM 2010 LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	1	1	24	1	70	3	627	30	69	278	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	1	26	1	76	3	682	33	75	302	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1159	1175	304	1159	1159	698	305	0	0	714	0	0
Stage 1	454	454	-	704	704	-	-	-	-	-	-	-
Stage 2	705	721	-	455	455	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	173	192	736	173	196	440	1256	-	-	886	-	-
Stage 1	586	569	-	428	440	-	-	-	-	-	-	-
Stage 2	427	432	-	585	569	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	133	175	736	160	179	440	1256	-	-	886	-	-
Mov Capacity-2 Maneuver	133	175	-	160	179	-	-	-	-	-	-	-
Stage 1	584	521	-	426	438	-	-	-	-	-	-	-
Stage 2	351	430	-	534	521	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.5	19.7	0	1.9
HCM LOS	D	C		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	151	232	440	886	-	-
HCM Lane V/C Ratio	0.003	-	-	0.065	0.226	0.115	0.085	-	-
HCM Control Delay (s)	7.874	0	-	30.5	25	14.2	9.439	-	-
HCM Lane LOS	A	A		D	D	B	A		
HCM 95th %tile Q(veh)	0.008	-	-	0.205	0.846	0.388	0.277	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	257	0	112	182	0	273
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	279	0	122	198	0	297
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13	12.6	10.4
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	38%	100%	0%
Vol Thru, %	62%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	294	257	273
LT Vol	182	0	0
Through Vol	0	0	273
RT Vol	112	257	0
Lane Flow Rate	320	279	297
Geometry Grp	1	1	1
Degree of Util (X)	0.456	0.438	0.374
Departure Headway (Hd)	5.257	5.642	4.655
Convergence, Y/N	Yes	Yes	Yes
Cap	690	643	777
Service Time	3.257	3.642	2.655
HCM Lane V/C Ratio	0.464	0.434	0.382
HCM Control Delay	12.6	13	10.4
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2.4	2.2	1.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	22	28	161	16	61	32	182	249	84	130	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	24	30	175	17	66	35	198	271	91	141	17
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.4	13.4	12.1	13.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	15%	0%	33%	68%	39%	0%
Vol Thru, %	85%	0%	29%	7%	61%	0%
Vol Right, %	0%	100%	37%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	214	249	75	238	214	16
LT Vol	182	0	22	16	130	0
Through Vol	0	249	28	61	0	16
RT Vol	32	0	25	161	84	0
Lane Flow Rate	233	271	82	259	233	17
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.392	0.397	0.142	0.428	0.419	0.027
Departure Headway (Hd)	6.072	5.285	6.249	5.955	6.478	5.566
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	679	570	603	554	640
Service Time	3.827	3.039	4.327	4.014	4.24	3.327
HCM Lane V/C Ratio	0.394	0.399	0.144	0.43	0.421	0.027
HCM Control Delay	12.7	11.5	10.4	13.4	13.9	8.5
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	1.9	1.9	0.5	2.1	2.1	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	98	198	228	40	32	119
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	215	248	43	35	129
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.1	11.7	8.9
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	85%	33%	0%
Vol Thru, %	15%	0%	21%
Vol Right, %	0%	67%	79%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	268	296	151
LT Vol	40	0	32
Through Vol	0	198	119
RT Vol	228	98	0
Lane Flow Rate	291	322	164
Geometry Grp	1	1	1
Degree of Util (X)	0.41	0.419	0.21
Departure Headway (Hd)	5.07	4.685	4.614
Convergence, Y/N	Yes	Yes	Yes
Cap	705	763	768
Service Time	3.145	2.748	2.697
HCM Lane V/C Ratio	0.413	0.422	0.214
HCM Control Delay	11.7	11.1	8.9
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2	2.1	0.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	22.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	215	178	75	301	47	123	74	32	43	72	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	105	234	193	82	327	51	134	80	35	47	78	82
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	22.1	28	18.4	18.3
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	62%	0%	31%	0%	100%	0%	23%
Vol Thru, %	38%	0%	69%	0%	0%	86%	38%
Vol Right, %	0%	100%	0%	100%	0%	14%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	32	312	178	75	348	190
LT Vol	74	0	215	0	0	301	72
Through Vol	0	32	0	178	0	47	75
RT Vol	123	0	97	0	75	0	43
Lane Flow Rate	214	35	339	193	82	378	207
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.504	0.072	0.713	0.36	0.181	0.774	0.468
Departure Headway (Hd)	8.471	7.427	7.57	6.69	7.978	7.366	8.162
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	424	480	475	534	448	488	440
Service Time	6.26	5.215	5.357	4.475	5.762	5.15	6.261
HCM Lane V/C Ratio	0.505	0.073	0.714	0.361	0.183	0.775	0.47
HCM Control Delay	19.6	10.8	27.2	13.2	12.5	31.3	18.3
HCM Lane LOS	C	B	D	B	B	D	C
HCM 95th-tile Q	2.8	0.2	5.6	1.6	0.7	6.8	2.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	27.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	108	39	64	17	39	93	62	467	21	110	478	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	42	70	18	42	101	67	508	23	120	520	74
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	19	19.5	30.3	29.2
HCM LOS	C	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	73%	0%	11%	100%	0%	0%
Vol Thru, %	0%	100%	88%	27%	0%	26%	0%	100%	70%
Vol Right, %	0%	0%	12%	0%	100%	62%	0%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	311	177	147	64	149	110	319	227
LT Vol	0	311	156	39	0	39	0	319	159
Through Vol	0	0	21	0	64	93	0	0	68
RT Vol	62	0	0	108	0	17	110	0	0
Lane Flow Rate	67	338	192	160	70	162	120	346	247
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.172	0.816	0.459	0.452	0.176	0.431	0.299	0.816	0.567
Departure Headway (Hd)	9.202	8.685	8.598	10.183	9.085	9.583	8.999	8.481	8.264
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	390	416	419	353	394	376	399	426	435
Service Time	6.969	6.451	6.365	7.961	6.862	7.362	6.762	6.244	6.027
HCM Lane V/C Ratio	0.172	0.813	0.458	0.453	0.178	0.431	0.301	0.812	0.568
HCM Control Delay	13.9	40.2	18.5	21.2	13.8	19.5	15.6	39.5	21.4
HCM Lane LOS	B	E	C	C	B	C	C	E	C
HCM 95th-tile Q	0.6	7.4	2.3	2.3	0.6	2.1	1.2	7.5	3.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	258	3	401	0	0	0	0	611	194	243	448	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	366	0	654				0	1042	331	462	2586	0
Arrive On Green	0.21	0.00	0.21				0.00	0.38	0.38	0.52	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2712	861	1774	3725	0
Grp Volume(v), veh/h	188	0	537				0	456	419	264	487	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1711	1774	1863	0
Q Serve(g_s), s	7.6	0.0	13.1				0.0	16.1	16.1	8.2	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	13.1				0.0	16.1	16.1	8.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	366	0	654				0	716	657	462	2586	0
V/C Ratio(X)	0.51	0.00	0.82				0.00	0.64	0.64	0.57	0.19	0.00
Avail Cap(c_a), veh/h	462	0	824				0	716	657	462	2586	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	28.4	0.0	30.6				0.0	20.2	20.2	16.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	5.4				0.0	4.3	4.7	1.3	0.1	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
%ile Back of Q (50%), veh/ln	3.4	0.0	5.6				0.0	7.9	7.4	2.9	0.0	0.0
Lane Grp Delay (d), s/veh	29.5	0.0	35.9				0.0	24.5	24.9	17.5	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		725						875			751	
Approach Delay, s/veh		34.3						24.7			6.2	
Approach LOS		C						C			A	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		20.7						35.0		25.0	60.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		21.0						31.0		21.0	56.0	
Max Q Clear Time (g_c+I1), s		15.1						18.1		10.2	2.0	
Green Ext Time (p_c), s		1.6						4.7		3.1	4.6	
Intersection Summary												
HCM 2010 Ctrl Delay			21.8									
HCM 2010 LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	138	1	213	370	494	0	0	553	354
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				292	1	260	435	2761	0	0	954	611
Arrive On Green				0.16	0.16	0.16	0.49	1.00	0.00	0.00	0.45	0.45
Sat Flow, veh/h				1774	7	1578	1774	3725	0	0	2124	1361
Grp Volume(v), veh/h				150	0	233	402	537	0	0	527	459
Grp Sat Flow(s),veh/h/ln				1774	0	1584	1774	1863	0	0	1863	1623
Q Serve(g_s), s				6.6	0.0	12.2	17.9	0.0	0.0	0.0	18.5	18.5
Cycle Q Clear(g_c), s				6.6	0.0	12.2	17.9	0.0	0.0	0.0	18.5	18.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.84
Lane Grp Cap(c), veh/h				292	0	261	435	2761	0	0	836	728
V/C Ratio(X)				0.51	0.00	0.89	0.92	0.19	0.00	0.00	0.63	0.63
Avail Cap(c_a), veh/h				292	0	261	605	2761	0	0	836	728
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.72	0.72	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.4	0.0	34.8	20.9	0.0	0.0	0.0	18.0	18.0
Incr Delay (d2), s/veh				1.5	0.0	29.6	12.6	0.1	0.0	0.0	3.6	4.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.0	0.0	7.0	7.5	0.0	0.0	0.0	8.9	7.8
Lane Grp Delay (d), s/veh				33.9	0.0	64.4	33.5	0.1	0.0	0.0	21.6	22.1
Lane Grp LOS				C		E	C	A			C	C
Approach Vol, veh/h					383			939			986	
Approach Delay, s/veh					52.5			14.4			21.8	
Approach LOS					D			B			C	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					18.0		24.8	67.0			42.2	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					14.0		29.0	63.0			30.0	
Max Q Clear Time (g_c+I1), s					14.2		19.9	2.0			20.5	
Green Ext Time (p_c), s					0.0		0.9	16.1			6.4	

Intersection Summary				
HCM 2010 Ctrl Delay			23.9	
HCM 2010 LOS			C	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	198	8	231	127	397	0	0	284	296
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				373	12	323	176	2407	0	0	885	753
Arrive On Green				0.21	0.21	0.21	0.20	1.00	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	55	1537	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				215	0	260	138	432	0	0	309	322
Grp Sat Flow(s),veh/h/ln				1774	0	1592	1774	1863	0	0	1863	1583
Q Serve(g_s), s				6.1	0.0	8.6	4.1	0.0	0.0	0.0	5.8	7.5
Cycle Q Clear(g_c), s				6.1	0.0	8.6	4.1	0.0	0.0	0.0	5.8	7.5
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				373	0	335	176	2407	0	0	885	753
V/C Ratio(X)				0.58	0.00	0.78	0.79	0.18	0.00	0.00	0.35	0.43
Avail Cap(c_a), veh/h				509	0	457	350	2407	0	0	885	753
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.8	0.0	20.8	21.8	0.0	0.0	0.0	9.2	9.6
Incr Delay (d2), s/veh				1.4	0.0	5.7	7.3	0.2	0.0	0.0	1.1	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.7	0.0	3.7	2.0	0.1	0.0	0.0	2.6	2.9
Lane Grp Delay (d), s/veh				21.2	0.0	26.5	29.1	0.2	0.0	0.0	10.3	11.4
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					475			570			631	
Approach Delay, s/veh					24.1			7.2			10.9	
Approach LOS					C			A			B	

Timer	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					15.7		9.5	40.0			30.5	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					16.0		11.0	36.0			21.0	
Max Q Clear Time (g_c+I1), s					10.6		6.1	2.0			9.5	
Green Ext Time (p_c), s					1.1		0.1	6.9			4.6	

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	291	3	129	0	0	0	0	229	154	162	317	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	500	0	223				0	1391	591	464	1322	0
Arrive On Green	0.14	0.00	0.14				0.00	0.37	0.37	0.52	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	318	0	140				0	249	167	176	345	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	4.5	0.0	4.5				0.0	2.4	4.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	4.5				0.0	2.4	4.0	3.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	500	0	223				0	1391	591	464	1322	0
V/C Ratio(X)	0.64	0.00	0.63				0.00	0.18	0.28	0.38	0.26	0.00
Avail Cap(c_a), veh/h	928	0	414				0	1391	591	464	1322	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	21.7	0.0	21.7				0.0	11.3	11.7	10.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	2.9				0.0	0.3	1.2	0.5	0.4	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
%ile Back of Q (50%), veh/ln	1.9	0.0	1.8				0.0	1.0	1.6	1.2	0.2	0.0
Lane Grp Delay (d), s/veh	23.0	0.0	24.6				0.0	11.5	12.9	10.6	0.4	0.0
Lane Grp LOS	C		C					B	B	B	A	
Approach Vol, veh/h		458						416			521	
Approach Delay, s/veh		23.5						12.1			3.9	
Approach LOS		C						B			A	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		11.5						24.0		18.0	42.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		14.0						20.0		14.0	38.0	
Max Q Clear Time (g_c+I1), s		6.5						6.0		5.2	2.0	
Green Ext Time (p_c), s		1.0						1.8		1.8	2.8	

Intersection Summary			
HCM 2010 Ctrl Delay			12.8
HCM 2010 LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	0	1	25	6	73	10	338	29	85	287	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	1	27	7	79	11	367	32	92	312	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	913	926	320	910	918	383	328	0	0	399	0	0
Stage 1	505	505	-	405	405	-	-	-	-	-	-	-
Stage 2	408	421	-	505	513	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	254	269	721	255	272	664	1232	-	-	1160	-	-
Stage 1	549	540	-	622	598	-	-	-	-	-	-	-
Stage 2	620	589	-	549	536	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	204	245	721	237	247	664	1232	-	-	1160	-	-
Mov Capacity-2 Maneuver	204	245	-	237	247	-	-	-	-	-	-	-
Stage 1	542	497	-	615	591	-	-	-	-	-	-	-
Stage 2	533	582	-	505	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.8	14.8	0.2	1.8
HCM LOS	C	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1232	-	-	216	332	664	1160	-	-
HCM Lane V/C Ratio	0.009	-	-	0.065	0.181	0.08	0.08	-	-
HCM Control Delay (s)	7.948	0	-	22.8	18.2	10.9	8.372	-	-
HCM Lane LOS	A	A		C	C	B	A		
HCM 95th %tile Q(veh)	0.027	-	-	0.208	0.651	0.259	0.259	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	353	0	33	68	0	443
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	384	0	36	74	0	482
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.5	10.1	14.8
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	100%	0%
Vol Thru, %	67%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	101	353	443
LT Vol	68	0	0
Through Vol	0	0	443
RT Vol	33	353	0
Lane Flow Rate	110	384	482
Geometry Grp	1	1	1
Degree of Util (X)	0.177	0.596	0.611
Departure Headway (Hd)	5.807	5.596	4.694
Convergence, Y/N	Yes	Yes	Yes
Cap	618	648	775
Service Time	3.841	3.602	2.694
HCM Lane V/C Ratio	0.178	0.593	0.622
HCM Control Delay	10.1	16.5	14.8
HCM Lane LOS	B	C	B
HCM 95th-tile Q	0.6	3.9	4.2

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	23.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	4	1	389	6	100	1	134	345	41	94	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	1	423	7	109	1	146	375	45	102	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.3	34.3	15.8	13
HCM LOS	B	D	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	58%	79%	30%	0%
Vol Thru, %	99%	0%	33%	1%	70%	0%
Vol Right, %	0%	100%	8%	20%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	345	12	495	135	3
LT Vol	134	0	4	6	94	0
Through Vol	0	345	1	100	0	3
RT Vol	1	0	7	389	41	0
Lane Flow Rate	147	375	13	538	147	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.268	0.609	0.026	0.86	0.295	0.006
Departure Headway (Hd)	6.565	5.846	7.103	5.756	7.247	6.372
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	544	615	507	630	493	557
Service Time	4.342	3.622	5.103	3.815	5.045	4.169
HCM Lane V/C Ratio	0.27	0.61	0.026	0.854	0.298	0.005
HCM Control Delay	11.8	17.4	10.3	34.3	13.1	9.2
HCM Lane LOS	B	C	B	D	B	A
HCM 95th-tile Q	1.1	4.1	0.1	9.7	1.2	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	207	86	178	65	50	287
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	225	93	193	71	54	312
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.5	12.2	12.2
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	73%	71%	0%
Vol Thru, %	27%	0%	15%
Vol Right, %	0%	29%	85%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	243	293	337
LT Vol	65	0	50
Through Vol	0	86	287
RT Vol	178	207	0
Lane Flow Rate	264	318	366
Geometry Grp	1	1	1
Degree of Util (X)	0.404	0.484	0.484
Departure Headway (Hd)	5.503	5.467	4.756
Convergence, Y/N	Yes	Yes	Yes
Cap	652	659	758
Service Time	3.541	3.5	2.791
HCM Lane V/C Ratio	0.405	0.483	0.483
HCM Control Delay	12.2	13.5	12.2
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2	2.6	2.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	22.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	66	197	127	26	341	43	88	68	13	75	93	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	214	138	28	371	47	96	74	14	82	101	59
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	17.1	32.1	15.7	19
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	56%	0%	25%	0%	100%	0%	34%
Vol Thru, %	44%	0%	75%	0%	0%	89%	42%
Vol Right, %	0%	100%	0%	100%	0%	11%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	13	263	127	26	384	222
LT Vol	68	0	197	0	0	341	93
Through Vol	0	13	0	127	0	43	54
RT Vol	88	0	66	0	26	0	75
Lane Flow Rate	170	14	286	138	28	417	241
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.389	0.028	0.582	0.248	0.06	0.811	0.52
Departure Headway (Hd)	8.252	7.24	7.328	6.479	7.588	6.995	7.763
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	434	492	492	551	471	518	463
Service Time	6.038	5.025	5.104	4.255	5.359	4.765	5.846
HCM Lane V/C Ratio	0.392	0.028	0.581	0.25	0.059	0.805	0.521
HCM Control Delay	16.2	10.2	19.9	11.4	10.8	33.5	19
HCM Lane LOS	C	B	C	B	B	D	C
HCM 95th-tile Q	1.8	0.1	3.7	1	0.2	7.8	2.9

Notes

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Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	68	8	34	7	31	142	70	502	7	61	390	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	9	37	8	34	154	76	546	8	66	424	40
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	14	17.1	23.6	18.3
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	89%	0%	4%	100%	0%	0%
Vol Thru, %	0%	100%	96%	11%	0%	17%	0%	100%	78%
Vol Right, %	0%	0%	4%	0%	100%	79%	0%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	335	174	76	34	180	61	260	167
LT Vol	0	335	167	8	0	31	0	260	130
Through Vol	0	0	7	0	34	142	0	0	37
RT Vol	70	0	0	68	0	7	61	0	0
Lane Flow Rate	76	364	189	83	37	196	66	283	182
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.17	0.759	0.394	0.219	0.086	0.438	0.152	0.606	0.381
Departure Headway (Hd)	8.02	7.507	7.479	9.546	8.371	8.065	8.227	7.714	7.555
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	445	480	479	378	431	444	434	466	474
Service Time	5.802	5.29	5.261	7.246	6.071	5.861	6.013	5.5	5.341
HCM Lane V/C Ratio	0.171	0.758	0.395	0.22	0.086	0.441	0.152	0.607	0.384
HCM Control Delay	12.5	30.4	15.1	14.9	11.9	17.1	12.5	21.8	15
HCM Lane LOS	B	D	C	B	B	C	B	C	B
HCM 95th-tile Q	0.6	6.5	1.9	0.8	0.3	2.2	0.5	3.9	1.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	342	2	266	0	0	0	0	730	139	239	304	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	2	0	1				0	2	0	1	2	0
Cap, veh/h	592	0	264				0	1572	299	297	2733	0
Arrive On Green	0.17	0.00	0.17				0.00	0.52	0.52	0.34	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3044	580	1774	3725	0
Grp Volume(v), veh/h	463	0	193				0	485	459	260	330	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1760	1774	1863	0
Q Serve(g_s), s	10.1	0.0	9.3				0.0	13.7	13.7	11.1	0.0	0.0
Cycle Q Clear(g_c), s	10.1	0.0	9.3				0.0	13.7	13.7	11.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.33	1.00		0.00
Lane Grp Cap(c), veh/h	592	0	264				0	962	909	297	2733	0
V/C Ratio(X)	0.78	0.00	0.73				0.00	0.50	0.50	0.87	0.12	0.00
Avail Cap(c_a), veh/h	794	0	354				0	962	909	441	2733	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	32.1	0.0	31.8				0.0	12.7	12.7	25.9	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	5.1				0.0	1.9	2.0	10.0	0.1	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
%ile Back of Q (50%), veh/ln	4.7	0.0	4.0				0.0	6.3	6.0	4.8	0.0	0.0
Lane Grp Delay (d), s/veh	35.7	0.0	36.9				0.0	14.6	14.7	35.9	0.1	0.0
Lane Grp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		656						944			590	
Approach Delay, s/veh		36.1						14.7			15.9	
Approach LOS		D						B			B	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		17.4						45.5		17.5	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						35.0		20.0	59.0	
Max Q Clear Time (g_c+I1), s		12.1						15.7		13.1	2.0	
Green Ext Time (p_c), s		1.4						8.5		0.4	11.7	
Intersection Summary												
HCM 2010 Ctrl Delay			21.4									
HCM 2010 LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	69	15	174	389	672	0	0	469	491
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				167	12	139	468	3024	0	0	933	793
Arrive On Green				0.09	0.09	0.09	0.26	0.81	0.00	0.00	0.50	0.50
Sat Flow, veh/h				1774	125	1477	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				75	0	205	423	730	0	0	510	534
Grp Sat Flow(s),veh/h/ln				1774	0	1602	1774	1863	0	0	1863	1583
Q Serve(g_s), s				3.4	0.0	8.0	19.6	3.9	0.0	0.0	16.0	21.6
Cycle Q Clear(g_c), s				3.4	0.0	8.0	19.6	3.9	0.0	0.0	16.0	21.6
Prop In Lane				1.00		0.92	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				167	0	151	468	3024	0	0	933	793
V/C Ratio(X)				0.45	0.00	1.36	0.90	0.24	0.00	0.00	0.55	0.67
Avail Cap(c_a), veh/h				167	0	151	605	3024	0	0	933	793
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.77	0.77	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.4	0.0	38.5	30.2	1.9	0.0	0.0	14.6	16.0
Incr Delay (d2), s/veh				1.9	0.0	198.6	11.4	0.1	0.0	0.0	2.3	4.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				1.6	0.0	11.5	10.1	1.2	0.0	0.0	7.5	9.0
Lane Grp Delay (d), s/veh				38.3	0.0	237.1	41.7	2.0	0.0	0.0	16.9	20.5
Lane Grp LOS				D		F	D	A			B	C
Approach Vol, veh/h					280			1153			1044	
Approach Delay, s/veh					183.8			16.6			18.8	
Approach LOS					F			B			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					12.0		26.4	73.0			46.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					8.0		29.0	69.0			36.0	
Max Q Clear Time (g_c+I1), s					10.0		21.6	5.9			23.6	
Green Ext Time (p_c), s					0.0		0.9	21.3			8.8	

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	149	24	180	177	967	0	0	349	299
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				314	33	252	244	2544	0	0	886	753
Arrive On Green				0.18	0.18	0.18	0.09	0.46	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	189	1423	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				162	0	222	192	1051	0	0	379	325
Grp Sat Flow(s),veh/h/ln				1774	0	1612	1774	1863	0	0	1863	1583
Q Serve(g_s), s				4.7	0.0	7.5	6.1	10.8	0.0	0.0	7.7	7.7
Cycle Q Clear(g_c), s				4.7	0.0	7.5	6.1	10.8	0.0	0.0	7.7	7.7
Prop In Lane				1.00		0.88	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				314	0	285	244	2544	0	0	886	753
V/C Ratio(X)				0.52	0.00	0.78	0.79	0.41	0.00	0.00	0.43	0.43
Avail Cap(c_a), veh/h				404	0	367	373	2544	0	0	886	753
HCM Platoon Ratio				1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.3	0.0	22.4	25.1	7.8	0.0	0.0	9.9	9.9
Incr Delay (d2), s/veh				1.3	0.0	7.8	5.3	0.4	0.0	0.0	1.5	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.1	0.0	3.5	3.1	5.1	0.0	0.0	3.3	2.9
Lane Grp Delay (d), s/veh				22.6	0.0	30.2	30.4	8.3	0.0	0.0	11.4	11.7
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					384			1243			704	
Approach Delay, s/veh					27.0			11.7			11.5	
Approach LOS					C			B			B	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					14.1		11.8	43.0			31.2	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					13.0		12.0	39.0			23.0	
Max Q Clear Time (g_c+I1), s					9.5		8.1	12.8			9.7	
Green Ext Time (p_c), s					0.6		0.2	13.4			8.7	
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	684	3	100	0	0	0	0	473	171	144	341	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	985	0	440				0	1417	602	202	1062	0
Arrive On Green	0.28	0.00	0.28				0.00	0.38	0.38	0.08	0.38	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	745	0	109				0	514	186	157	371	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	10.1	0.0	2.8				0.0	5.2	4.3	4.6	7.5	0.0
Cycle Q Clear(g_c), s	10.1	0.0	2.8				0.0	5.2	4.3	4.6	7.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	985	0	440				0	1417	602	202	1062	0
V/C Ratio(X)	0.76	0.00	0.25				0.00	0.36	0.31	0.78	0.35	0.00
Avail Cap(c_a), veh/h	1484	0	662				0	1417	602	304	1062	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.88	0.88	0.00
Uniform Delay (d), s/veh	17.4	0.0	14.7				0.0	11.7	11.4	23.6	9.3	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.3				0.0	0.7	1.3	6.2	0.8	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
%ile Back of Q (50%), veh/ln	4.2	0.0	1.0				0.0	2.3	1.7	2.4	3.5	0.0
Lane Grp Delay (d), s/veh	18.6	0.0	15.0				0.0	12.4	12.8	29.9	10.1	0.0
Lane Grp LOS	B		B					B	B	C	B	
Approach Vol, veh/h		854						700			528	
Approach Delay, s/veh		18.1						12.5			16.0	
Approach LOS		B						B			B	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		18.6						24.0		10.0	34.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		22.0						17.0		9.0	30.0	
Max Q Clear Time (g_c+I1), s		12.1						7.2		6.6	9.5	
Green Ext Time (p_c), s		2.5						4.5		0.1	6.6	

Intersection Summary			
HCM 2010 Ctrl Delay			15.7
HCM 2010 LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	19	2	73	0	410	14	46	431	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	21	2	79	0	446	15	50	468	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1027	1034	473	1027	1030	453	477	0	0	461	0	0
Stage 1	573	573	-	453	453	-	-	-	-	-	-	-
Stage 2	454	461	-	574	577	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	213	232	591	213	233	607	1085	-	-	1100	-	-
Stage 1	505	504	-	586	570	-	-	-	-	-	-	-
Stage 2	586	565	-	504	502	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	177	221	591	205	222	607	1085	-	-	1100	-	-
Mov Capacity-2 Maneuver	177	221	-	205	222	-	-	-	-	-	-	-
Stage 1	505	481	-	586	570	-	-	-	-	-	-	-
Stage 2	507	565	-	479	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	14.8	0	0.8
HCM LOS	B	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1085	-	-	591	320	607	1100	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.154	0.087	0.045	-	-
HCM Control Delay (s)	0	-	-	11.1	18.3	11.5	8.429	-	-
HCM Lane LOS	A			B	C	B	A		
HCM 95th %tile Q(veh)	0	-	-	0.011	0.538	0.285	0.143	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	29.3
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	545	0	61	117	0	305
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	592	0	66	127	0	332
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	43.2	12.8	14.1
HCM LOS	E	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	34%	100%	0%
Vol Thru, %	66%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	178	545	305
LT Vol	117	0	0
Through Vol	0	0	305
RT Vol	61	545	0
Lane Flow Rate	193	592	332
Geometry Grp	1	1	1
Degree of Util (X)	0.342	0.925	0.505
Departure Headway (Hd)	6.359	5.621	5.484
Convergence, Y/N	Yes	Yes	Yes
Cap	561	646	653
Service Time	4.449	3.673	3.565
HCM Lane V/C Ratio	0.344	0.916	0.508
HCM Control Delay	12.8	43.2	14.1
HCM Lane LOS	B	E	B
HCM 95th-tile Q	1.5	12.2	2.9

Notes

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Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	4	7	223	0	50	2	167	534	113	132	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	4	8	242	0	54	2	182	580	123	143	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.5	16.5	27.6	16.4
HCM LOS	B	C	D	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	82%	46%	0%
Vol Thru, %	99%	0%	24%	0%	54%	0%
Vol Right, %	0%	100%	41%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	534	17	273	245	3
LT Vol	167	0	4	0	132	0
Through Vol	0	534	7	50	0	3
RT Vol	2	0	6	223	113	0
Lane Flow Rate	184	580	18	297	266	3
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.31	0.863	0.037	0.529	0.506	0.005
Departure Headway (Hd)	6.072	5.354	7.191	6.412	6.837	5.886
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	590	673	501	561	525	603
Service Time	3.838	3.12	5.191	4.481	4.62	3.668
HCM Lane V/C Ratio	0.312	0.862	0.036	0.529	0.507	0.005
HCM Control Delay	11.6	32.6	10.5	16.5	16.5	8.7
HCM Lane LOS	B	D	B	C	C	A
HCM 95th-tile Q	1.3	10	0.1	3.1	2.8	0

Notes

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Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	181	201	187	43	42	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	197	218	203	47	46	109
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.4	11.5	9.3
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	81%	47%	0%
Vol Thru, %	19%	0%	30%
Vol Right, %	0%	53%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	230	382	142
LT Vol	43	0	42
Through Vol	0	201	100
RT Vol	187	181	0
Lane Flow Rate	250	415	154
Geometry Grp	1	1	1
Degree of Util (X)	0.368	0.544	0.213
Departure Headway (Hd)	5.299	4.713	4.97
Convergence, Y/N	Yes	Yes	Yes
Cap	670	756	727
Service Time	3.399	2.793	2.97
HCM Lane V/C Ratio	0.373	0.549	0.212
HCM Control Delay	11.5	13.4	9.3
HCM Lane LOS	B	B	A
HCM 95th-tile Q	1.7	3.3	0.8

Notes

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Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	78	297	122	32	245	42	119	77	29	56	75	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	85	323	133	35	266	46	129	84	32	61	82	54
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	28.4	20.7	17.4	17.1
HCM LOS	D	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	61%	0%	21%	0%	100%	0%	31%
Vol Thru, %	39%	0%	79%	0%	0%	85%	41%
Vol Right, %	0%	100%	0%	100%	0%	15%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	29	375	122	32	287	181
LT Vol	77	0	297	0	0	245	75
Through Vol	0	29	0	122	0	42	50
RT Vol	119	0	78	0	32	0	56
Lane Flow Rate	213	32	408	133	35	312	197
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.483	0.062	0.811	0.233	0.076	0.629	0.435
Departure Headway (Hd)	8.164	7.131	7.161	6.337	7.879	7.259	7.966
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	500	505	564	453	496	451
Service Time	5.944	4.91	4.93	4.104	5.654	5.034	6.054
HCM Lane V/C Ratio	0.485	0.064	0.808	0.236	0.077	0.629	0.437
HCM Control Delay	18.4	10.4	34.1	11	11.3	21.7	17.1
HCM Lane LOS	C	B	D	B	B	C	C
HCM 95th-tile Q	2.6	0.2	7.8	0.9	0.2	4.3	2.2

Notes

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Intersection	
Intersection Delay, s/veh	27.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	133	54	77	25	36	116	97	333	21	191	481	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	145	59	84	27	39	126	105	362	23	208	523	68
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	23.9	23.8	22.5	32.9
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	71%	0%	14%	100%	0%	0%
Vol Thru, %	0%	100%	84%	29%	0%	20%	0%	100%	72%
Vol Right, %	0%	0%	16%	0%	100%	66%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	222	132	187	77	177	191	321	223
LT Vol	0	222	111	54	0	36	0	321	160
Through Vol	0	0	21	0	77	116	0	0	63
RT Vol	97	0	0	133	0	25	191	0	0
Lane Flow Rate	105	241	143	203	84	192	208	349	243
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.293	0.636	0.373	0.596	0.22	0.537	0.539	0.854	0.581
Departure Headway (Hd)	10.129	9.607	9.49	10.556	9.468	10.049	9.457	8.936	8.73
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	357	379	382	344	381	360	384	408	415
Service Time	7.829	7.307	7.19	8.269	7.18	7.761	7.157	6.636	6.43
HCM Lane V/C Ratio	0.294	0.636	0.374	0.59	0.22	0.533	0.542	0.855	0.586
HCM Control Delay	17	27.7	17.7	27.7	14.8	23.8	22.7	46	22.8
HCM Lane LOS	C	D	C	D	B	C	C	E	C
HCM 95th-tile Q	1.2	4.2	1.7	3.7	0.8	3	3.1	8.3	3.6

Notes

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	22	351	0	0	0	0	575	191	377	560	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	324	0	578				0	850	282	628	2682	0
Arrive On Green	0.18	0.00	0.18				0.00	0.32	0.32	0.71	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2678	890	1774	3725	0
Grp Volume(v), veh/h	172	0	477				0	434	399	410	609	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1706	1774	1863	0
Q Serve(g_s), s	7.2	0.0	11.9				0.0	17.0	17.1	10.3	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	11.9				0.0	17.0	17.1	10.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.52	1.00		0.00
Lane Grp Cap(c), veh/h	324	0	578				0	591	541	628	2682	0
V/C Ratio(X)	0.53	0.00	0.83				0.00	0.74	0.74	0.65	0.23	0.00
Avail Cap(c_a), veh/h	390	0	695				0	591	541	628	2682	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.68	0.68	0.00
Uniform Delay (d), s/veh	30.3	0.0	32.2				0.0	24.9	24.9	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	6.9				0.0	7.9	8.7	1.6	0.1	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
%ile Back of Q (50%), veh/ln	3.3	0.0	5.2				0.0	8.9	8.3	2.9	0.0	0.0
Lane Grp Delay (d), s/veh	31.7	0.0	39.1				0.0	32.9	33.6	10.9	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		649						833			1019	
Approach Delay, s/veh		37.1						33.2			4.5	
Approach LOS		D						C			A	

Timer	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		19.0						30.0		33.0	63.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		18.0						26.0		29.0	59.0	
Max Q Clear Time (g_c+I1), s		13.9						19.1		12.3	2.0	
Green Ext Time (p_c), s		1.1						3.0		5.1	6.5	

Intersection Summary			
HCM 2010 Ctrl Delay			22.5
HCM 2010 LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	150	3	284	288	497	0	0	788	293
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				313	3	277	351	2717	0	0	1257	465
Arrive On Green				0.18	0.18	0.18	0.26	0.97	0.00	0.00	0.48	0.48
Sat Flow, veh/h				1774	15	1570	1774	3725	0	0	2596	960
Grp Volume(v), veh/h				163	0	312	313	540	0	0	614	561
Grp Sat Flow(s),veh/h/ln				1774	0	1586	1774	1863	0	0	1863	1693
Q Serve(g_s), s				7.1	0.0	15.0	14.4	0.5	0.0	0.0	21.6	21.7
Cycle Q Clear(g_c), s				7.1	0.0	15.0	14.4	0.5	0.0	0.0	21.6	21.7
Prop In Lane				1.00		0.99	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h				313	0	280	351	2717	0	0	902	820
V/C Ratio(X)				0.52	0.00	1.12	0.89	0.20	0.00	0.00	0.68	0.68
Avail Cap(c_a), veh/h				313	0	280	438	2717	0	0	902	820
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.7	0.0	35.0	30.4	0.4	0.0	0.0	16.9	16.9
Incr Delay (d2), s/veh				1.5	0.0	88.3	11.8	0.1	0.0	0.0	4.1	4.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.3	0.0	12.8	7.2	0.2	0.0	0.0	10.4	9.6
Lane Grp Delay (d), s/veh				33.3	0.0	123.3	42.2	0.5	0.0	0.0	21.0	21.5
Lane Grp LOS				C		F	D	A			C	C
Approach Vol, veh/h					475			853			1175	
Approach Delay, s/veh					92.4			15.8			21.2	
Approach LOS					F			B			C	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					19.0		20.8	66.0			45.2	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		21.0	62.0			37.0	
Max Q Clear Time (g_c+I1), s					17.0		16.4	2.5			23.7	
Green Ext Time (p_c), s					0.0		0.4	19.7			9.0	
Intersection Summary												
HCM 2010 Ctrl Delay			32.9									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	249	6	259	101	418	0	0	479	404
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				394	9	344	140	2383	0	0	916	778
Arrive On Green				0.22	0.22	0.22	0.16	1.00	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1774	38	1551	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				271	0	289	110	454	0	0	521	439
Grp Sat Flow(s),veh/h/ln				1774	0	1589	1774	1863	0	0	1863	1583
Q Serve(g_s), s				8.1	0.0	10.0	3.4	0.0	0.0	0.0	11.4	11.3
Cycle Q Clear(g_c), s				8.1	0.0	10.0	3.4	0.0	0.0	0.0	11.4	11.3
Prop In Lane				1.00		0.98	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				394	0	353	140	2383	0	0	916	778
V/C Ratio(X)				0.69	0.00	0.82	0.79	0.19	0.00	0.00	0.57	0.56
Avail Cap(c_a), veh/h				460	0	412	245	2383	0	0	916	778
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.7	0.0	21.4	23.9	0.0	0.0	0.0	10.4	10.3
Incr Delay (d2), s/veh				3.5	0.0	10.8	9.0	0.2	0.0	0.0	2.6	2.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.7	0.0	4.8	1.7	0.1	0.0	0.0	5.1	4.4
Lane Grp Delay (d), s/veh				24.2	0.0	32.2	32.8	0.2	0.0	0.0	12.9	13.3
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					560			564			960	
Approach Delay, s/veh					28.3			6.5			13.1	
Approach LOS					C			A			B	

Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					16.8		8.6	41.0			32.4	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					15.0		8.0	37.0			25.0	
Max Q Clear Time (g_c+I1), s					12.0		5.4	2.0			13.4	
Green Ext Time (p_c), s					0.8		0.1	10.3			6.2	

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	242	3	105	0	0	0	0	282	290	291	432	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	411	0	183				0	1696	721	385	1384	0
Arrive On Green	0.12	0.00	0.12				0.00	0.46	0.46	0.15	0.50	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	265	0	114				0	307	315	316	470	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	4.0	0.0	3.9				0.0	2.8	7.7	9.8	8.6	0.0
Cycle Q Clear(g_c), s	4.0	0.0	3.9				0.0	2.8	7.7	9.8	8.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	411	0	183				0	1696	721	385	1384	0
V/C Ratio(X)	0.65	0.00	0.62				0.00	0.18	0.44	0.82	0.34	0.00
Avail Cap(c_a), veh/h	627	0	280				0	1696	721	596	1384	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.75	0.75	0.00
Uniform Delay (d), s/veh	23.9	0.0	23.8				0.0	9.1	10.5	23.1	5.8	0.0
Incr Delay (d2), s/veh	1.7	0.0	3.4				0.0	0.2	1.9	4.0	0.5	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
%ile Back of Q (50%), veh/ln	1.8	0.0	1.6				0.0	1.2	2.9	4.8	4.0	0.0
Lane Grp Delay (d), s/veh	25.6	0.0	27.2				0.0	9.4	12.4	27.1	6.3	0.0
Lane Grp LOS	C		C					A	B	C	A	
Approach Vol, veh/h		379						622			786	
Approach Delay, s/veh		26.1						10.9			14.7	
Approach LOS		C						B			B	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		10.5						29.7		16.3	46.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		10.0						19.0		19.0	42.0	
Max Q Clear Time (g_c+I1), s		6.0						9.7		11.8	10.6	
Green Ext Time (p_c), s		0.5						4.2		0.6	7.2	
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	7	1	1	25	1	72	3	646	31	71	286	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1	1	27	1	78	3	702	34	77	311	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1193	1209	313	1194	1194	719	314	0	0	736	0	0
Stage 1	467	467	-	726	726	-	-	-	-	-	-	-
Stage 2	726	742	-	468	468	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	164	183	727	163	187	428	1246	-	-	870	-	-
Stage 1	576	562	-	416	430	-	-	-	-	-	-	-
Stage 2	416	422	-	575	561	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	124	166	727	151	170	428	1246	-	-	870	-	-
Mov Capacity-2 Maneuver	124	166	-	151	170	-	-	-	-	-	-	-
Stage 1	574	512	-	414	428	-	-	-	-	-	-	-
Stage 2	338	420	-	522	511	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.4	20.8	0	1.9
HCM LOS	D	C		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1246	-	-	141	220	428	870	-	-
HCM Lane V/C Ratio	0.003	-	-	0.069	0.247	0.122	0.089	-	-
HCM Control Delay (s)	7.897	0	-	32.4	26.7	14.6	9.54	-	-
HCM Lane LOS	A	A		D	D	B	A		
HCM 95th %tile Q(veh)	0.008	-	-	0.221	0.941	0.413	0.291	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	265	0	115	187	0	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	288	0	125	203	0	305
Number of Lanes	1	0	0	1	0	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.4	13.2	10.8
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	38%	100%	0%
Vol Thru, %	62%	0%	0%
Vol Right, %	0%	0%	100%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	302	265	281
LT Vol	187	0	0
Through Vol	0	0	281
RT Vol	115	265	0
Lane Flow Rate	328	288	305
Geometry Grp	1	1	1
Degree of Util (X)	0.482	0.456	0.398
Departure Headway (Hd)	5.287	5.695	4.687
Convergence, Y/N	Yes	Yes	Yes
Cap	683	634	767
Service Time	3.32	3.725	2.72
HCM Lane V/C Ratio	0.48	0.454	0.398
HCM Control Delay	13.2	13.4	10.8
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2.6	2.4	1.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	26	23	29	166	16	63	33	187	256	87	134	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	25	32	180	17	68	36	203	278	95	146	17
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.6	13.9	12.5	14
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	15%	0%	33%	68%	39%	0%
Vol Thru, %	85%	0%	29%	7%	61%	0%
Vol Right, %	0%	100%	37%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	220	256	78	245	221	16
LT Vol	187	0	23	16	134	0
Through Vol	0	256	29	63	0	16
RT Vol	33	0	26	166	87	0
Lane Flow Rate	239	278	85	266	240	17
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.408	0.414	0.149	0.446	0.437	0.027
Departure Headway (Hd)	6.141	5.353	6.347	6.026	6.556	5.643
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	583	671	561	597	548	631
Service Time	3.899	3.11	4.431	4.089	4.324	3.41
HCM Lane V/C Ratio	0.41	0.414	0.152	0.446	0.438	0.027
HCM Control Delay	13.1	11.9	10.6	13.9	14.4	8.6
HCM Lane LOS	B	B	B	B	B	A
HCM 95th-tile Q	2	2	0.5	2.3	2.2	0.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	101	204	235	41	33	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	222	255	45	36	134
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.4	12	9.1
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	85%	33%	0%
Vol Thru, %	15%	0%	21%
Vol Right, %	0%	67%	79%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	276	305	156
LT Vol	41	0	33
Through Vol	0	204	123
RT Vol	235	101	0
Lane Flow Rate	300	332	170
Geometry Grp	1	1	1
Degree of Util (X)	0.426	0.435	0.219
Departure Headway (Hd)	5.106	4.722	4.657
Convergence, Y/N	Yes	Yes	Yes
Cap	699	756	761
Service Time	3.187	2.792	2.747
HCM Lane V/C Ratio	0.429	0.439	0.223
HCM Control Delay	12	11.4	9.1
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2.1	2.2	0.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	25
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	100	221	183	77	310	48	127	76	33	44	74	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	240	199	84	337	52	138	83	36	48	80	84
Number of Lanes	0	1	1	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	24.2	31.5	19.4	19.5
HCM LOS	C	D	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	63%	0%	31%	0%	100%	0%	23%
Vol Thru, %	37%	0%	69%	0%	0%	87%	38%
Vol Right, %	0%	100%	0%	100%	0%	13%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	33	321	183	77	358	195
LT Vol	76	0	221	0	0	310	74
Through Vol	0	33	0	183	0	48	77
RT Vol	127	0	100	0	77	0	44
Lane Flow Rate	221	36	349	199	84	389	212
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.528	0.075	0.747	0.377	0.189	0.811	0.497
Departure Headway (Hd)	8.726	7.678	7.824	6.94	8.223	7.61	8.435
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	415	470	464	521	439	479	430
Service Time	6.426	5.378	5.524	4.64	5.923	5.31	6.435
HCM Lane V/C Ratio	0.533	0.077	0.752	0.382	0.191	0.812	0.493
HCM Control Delay	20.8	11	30.2	13.8	12.8	35.5	19.5
HCM Lane LOS	C	B	D	B	B	E	C
HCM 95th-tile Q	3	0.2	6.2	1.7	0.7	7.6	2.7

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	30.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	111	40	66	18	40	96	64	481	22	113	492	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	43	72	20	43	104	70	523	24	123	535	76
Number of Lanes	0	1	1	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	2
HCM Control Delay	19.9	20.7	34.4	33.1
HCM LOS	C	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	74%	0%	12%	100%	0%	0%
Vol Thru, %	0%	100%	88%	26%	0%	26%	0%	100%	70%
Vol Right, %	0%	0%	12%	0%	100%	62%	0%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	321	182	151	66	154	113	328	234
LT Vol	0	321	160	40	0	40	0	328	164
Through Vol	0	0	22	0	66	96	0	0	70
RT Vol	64	0	0	111	0	18	113	0	0
Lane Flow Rate	70	349	198	164	72	167	123	357	254
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.182	0.86	0.484	0.476	0.186	0.457	0.314	0.859	0.598
Departure Headway (Hd)	9.403	8.884	8.796	10.433	9.333	9.83	9.195	8.677	8.46
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	381	408	408	345	383	365	391	417	425
Service Time	7.178	6.659	6.571	8.224	7.123	7.621	6.967	6.448	6.231
HCM Lane V/C Ratio	0.184	0.855	0.485	0.475	0.188	0.458	0.315	0.856	0.598
HCM Control Delay	14.3	46.9	19.6	22.4	14.3	20.7	16.2	46	23.1
HCM Lane LOS	B	E	C	C	B	C	C	E	C
HCM 95th-tile Q	0.7	8.4	2.6	2.5	0.7	2.3	1.3	8.4	3.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	266	3	413	0	0	0	0	629	200	250	461	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	186.3	186.3	0.0
Lanes	1	0	2				0	2	0	1	2	0
Cap, veh/h	374	0	668				0	1037	329	459	2573	0
Arrive On Green	0.21	0.00	0.21				0.00	0.38	0.38	0.52	1.00	0.00
Sat Flow, veh/h	1774	0	3167				0	2713	860	1774	3725	0
Grp Volume(v), veh/h	194	0	553				0	470	431	272	501	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1711	1774	1863	0
Q Serve(g_s), s	7.9	0.0	13.5				0.0	16.9	16.9	8.6	0.0	0.0
Cycle Q Clear(g_c), s	7.9	0.0	13.5				0.0	16.9	16.9	8.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	374	0	668				0	712	654	459	2573	0
V/C Ratio(X)	0.52	0.00	0.83				0.00	0.66	0.66	0.59	0.19	0.00
Avail Cap(c_a), veh/h	459	0	820				0	712	654	459	2573	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.71	0.71	0.00
Uniform Delay (d), s/veh	28.4	0.0	30.6				0.0	20.7	20.7	16.6	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	5.9				0.0	4.7	5.2	1.4	0.1	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
%ile Back of Q (50%), veh/ln	3.5	0.0	5.8				0.0	8.5	7.9	3.1	0.0	0.0
Lane Grp Delay (d), s/veh	29.5	0.0	36.5				0.0	25.4	25.9	18.0	0.1	0.0
Lane Grp LOS	C		D					C	C	B	A	
Approach Vol, veh/h		747						901			773	
Approach Delay, s/veh		34.7						25.6			6.4	
Approach LOS		C						C			A	
Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		21.1						35.0		25.0	60.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		21.0						31.0		21.0	56.0	
Max Q Clear Time (g_c+I1), s		15.5						18.9		10.6	2.0	
Green Ext Time (p_c), s		1.6						4.7		3.1	4.7	
Intersection Summary												
HCM 2010 Ctrl Delay			22.3									
HCM 2010 LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	142	1	219	381	509	0	0	570	365
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	190.0
Lanes				1	1	0	1	2	0	0	2	0
Cap, veh/h				292	1	260	446	2761	0	0	940	602
Arrive On Green				0.16	0.16	0.16	0.50	1.00	0.00	0.00	0.44	0.44
Sat Flow, veh/h				1774	7	1578	1774	3725	0	0	2125	1360
Grp Volume(v), veh/h				154	0	239	414	553	0	0	543	474
Grp Sat Flow(s),veh/h/ln				1774	0	1584	1774	1863	0	0	1863	1623
Q Serve(g_s), s				6.7	0.0	12.6	18.5	0.0	0.0	0.0	19.5	19.5
Cycle Q Clear(g_c), s				6.7	0.0	12.6	18.5	0.0	0.0	0.0	19.5	19.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.84
Lane Grp Cap(c), veh/h				292	0	261	446	2761	0	0	824	718
V/C Ratio(X)				0.53	0.00	0.92	0.93	0.20	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				292	0	261	605	2761	0	0	824	718
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.70	0.70	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.5	0.0	34.9	20.4	0.0	0.0	0.0	18.6	18.7
Incr Delay (d2), s/veh				1.8	0.0	34.2	13.0	0.1	0.0	0.0	4.1	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				3.1	0.0	7.5	7.7	0.0	0.0	0.0	9.5	8.4
Lane Grp Delay (d), s/veh				34.2	0.0	69.2	33.4	0.1	0.0	0.0	22.8	23.4
Lane Grp LOS				C		E	C	A			C	C
Approach Vol, veh/h					393			967			1017	
Approach Delay, s/veh					55.5			14.4			23.0	
Approach LOS					E			B			C	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					18.0		25.4	67.0			41.6	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					14.0		29.0	63.0			30.0	
Max Q Clear Time (g_c+I1), s					14.6		20.5	2.0			21.5	
Green Ext Time (p_c), s					0.0		0.9	16.9			5.9	
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	204	8	238	131	409	0	0	292	305
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln				186.3	186.3	190.0	186.3	186.3	0.0	0.0	186.3	186.3
Lanes				1	1	0	1	2	0	0	1	1
Cap, veh/h				381	11	330	180	2394	0	0	875	743
Arrive On Green				0.21	0.21	0.21	0.20	1.00	0.00	0.00	0.47	0.47
Sat Flow, veh/h				1774	53	1538	1774	3725	0	0	1863	1583
Grp Volume(v), veh/h				222	0	268	142	445	0	0	317	332
Grp Sat Flow(s),veh/h/ln				1774	0	1591	1774	1863	0	0	1863	1583
Q Serve(g_s), s				6.3	0.0	8.9	4.3	0.0	0.0	0.0	6.1	7.9
Cycle Q Clear(g_c), s				6.3	0.0	8.9	4.3	0.0	0.0	0.0	6.1	7.9
Prop In Lane				1.00		0.97	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				381	0	342	180	2394	0	0	875	743
V/C Ratio(X)				0.58	0.00	0.78	0.79	0.19	0.00	0.00	0.36	0.45
Avail Cap(c_a), veh/h				507	0	454	348	2394	0	0	875	743
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	20.8	21.8	0.0	0.0	0.0	9.5	10.0
Incr Delay (d2), s/veh				1.4	0.0	6.4	7.1	0.2	0.0	0.0	1.2	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln				2.7	0.0	3.9	2.0	0.1	0.0	0.0	2.7	3.1
Lane Grp Delay (d), s/veh				21.2	0.0	27.2	28.9	0.2	0.0	0.0	10.7	11.9
Lane Grp LOS				C		C	C	A			B	B
Approach Vol, veh/h					490			587			649	
Approach Delay, s/veh					24.5			7.1			11.3	
Approach LOS					C			A			B	
Timer												
Assigned Phs					8		5	2			6	
Phs Duration (G+Y+Rc), s					16.0		9.7	40.0			30.3	
Change Period (Y+Rc), s					4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s					16.0		11.0	36.0			21.0	
Max Q Clear Time (g_c+I1), s					10.9		6.3	2.0			9.9	
Green Ext Time (p_c), s					1.1		0.1	7.2			4.7	
Intersection Summary												
HCM 2010 Ctrl Delay			13.6									
HCM 2010 LOS			B									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	300	3	133	0	0	0	0	236	158	167	326	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	186.3	186.3	186.3	0.0
Lanes	2	0	1				0	2	1	1	1	0
Cap, veh/h	511	0	228				0	1387	589	462	1317	0
Arrive On Green	0.14	0.00	0.14				0.00	0.37	0.37	0.52	1.00	0.00
Sat Flow, veh/h	3548	0	1583				0	3725	1583	1774	1863	0
Grp Volume(v), veh/h	328	0	145				0	257	172	182	354	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	1583	1774	1863	0
Q Serve(g_s), s	4.7	0.0	4.6				0.0	2.5	4.1	3.3	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	4.6				0.0	2.5	4.1	3.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	511	0	228				0	1387	589	462	1317	0
V/C Ratio(X)	0.64	0.00	0.64				0.00	0.19	0.29	0.39	0.27	0.00
Avail Cap(c_a), veh/h	924	0	413				0	1387	589	462	1317	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	21.7	0.0	21.7				0.0	11.4	11.9	10.3	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	2.9				0.0	0.3	1.3	0.5	0.4	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
%ile Back of Q (50%), veh/ln	2.0	0.0	1.9				0.0	1.1	1.6	1.2	0.2	0.0
Lane Grp Delay (d), s/veh	23.1	0.0	24.6				0.0	11.7	13.1	10.8	0.4	0.0
Lane Grp LOS	C		C					B	B	B	A	
Approach Vol, veh/h		473						429			536	
Approach Delay, s/veh		23.5						12.3			4.0	
Approach LOS		C						B			A	

Timer												
Assigned Phs		4						2		1	6	
Phs Duration (G+Y+Rc), s		11.7						24.0		18.0	42.0	
Change Period (Y+Rc), s		4.0						4.0		4.0	4.0	
Max Green Setting (Gmax), s		14.0						20.0		14.0	38.0	
Max Q Clear Time (g_c+I1), s		6.7						6.1		5.3	2.0	
Green Ext Time (p_c), s		1.1						1.9		1.8	2.9	

Intersection Summary			
HCM 2010 Ctrl Delay			12.9
HCM 2010 LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	0	1	26	6	75	10	348	30	87	296	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	1	28	7	82	11	378	33	95	322	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	939	952	330	936	943	395	338	0	0	411	0	0
Stage 1	519	519	-	416	416	-	-	-	-	-	-	-
Stage 2	420	433	-	520	527	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	244	259	712	245	263	654	1221	-	-	1148	-	-
Stage 1	540	533	-	614	592	-	-	-	-	-	-	-
Stage 2	611	582	-	539	528	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	194	235	712	227	238	654	1221	-	-	1148	-	-
Mov Capacity-2 Maneuver	194	235	-	227	238	-	-	-	-	-	-	-
Stage 1	534	489	-	607	585	-	-	-	-	-	-	-
Stage 2	523	575	-	494	484	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.8	15.2	0.2	1.8
HCM LOS	C	C		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1221	-	-	206	320	654	1148	-	-
HCM Lane V/C Ratio	0.009	-	-	0.069	0.194	0.083	0.082	-	-
HCM Control Delay (s)	7.975	0	-	23.8	18.9	11	8.417	-	-
HCM Lane LOS	A	A		C	C	B	A		
HCM 95th %tile Q(veh)	0.027	-	-	0.219	0.705	0.271	0.269	-	-

Notes

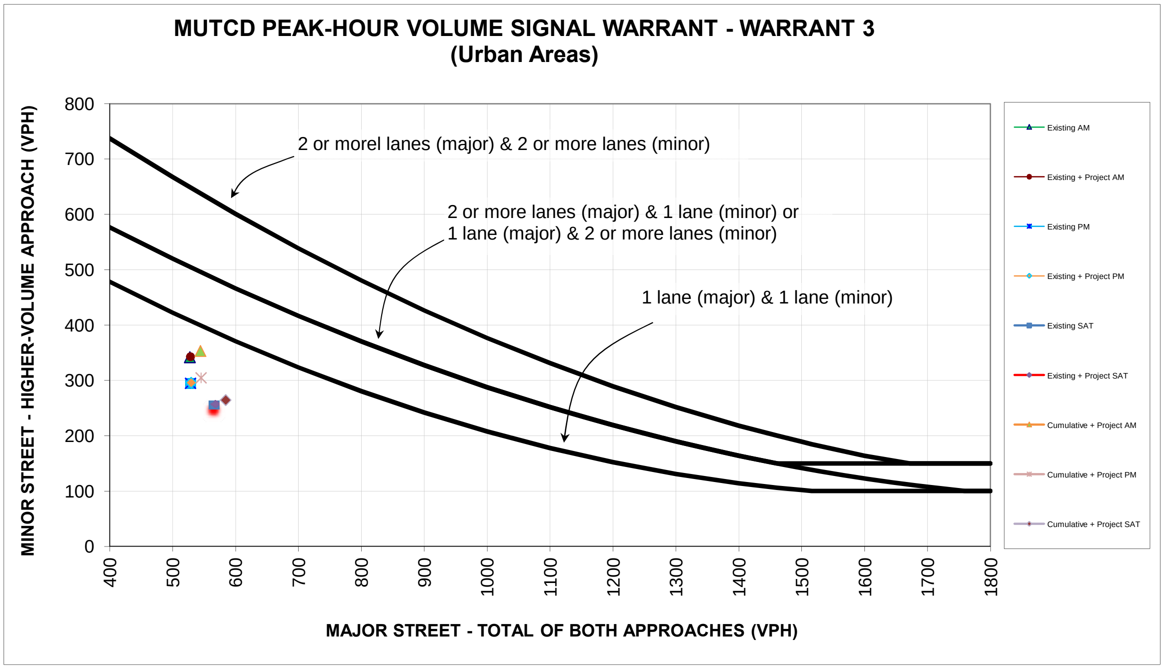
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Appendix D

Signal Warrant Analysis

Monarch Cove Hotel

1 . Monterey Avenue & Capitola Avenue



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

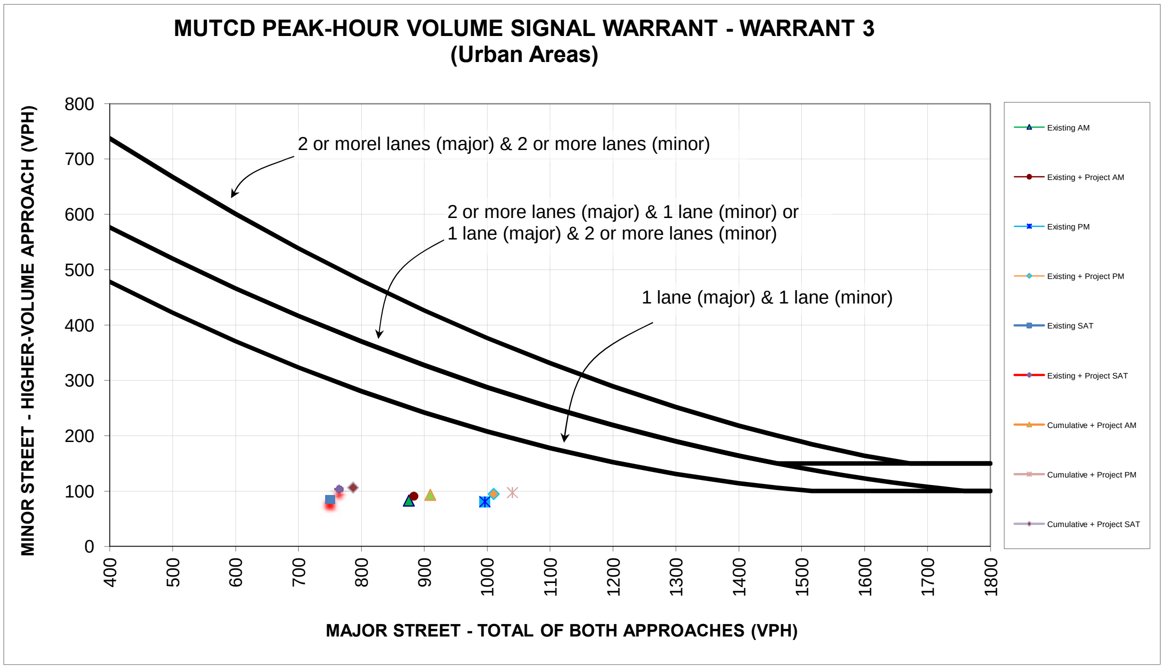
		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	AM Peak-Hour: Existing AM	Existing + Project AM	Cumulative + Project AM
Major Street - Both Approaches	Monterey Avenue	X		527	528	544
Minor Street - Highest Approach	Capitola Avenue	X		342	343	353
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	PM Peak-Hour: Existing PM	Existing + Project PM	Cumulative + Project PM
Major Street - Both Approaches	Capitola Avenue	X		528	529	545
Minor Street - Highest Approach	Monterey Avenue	X		295	296	305
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	SAT Peak-Hour: Existing SAT	Existing + Project SAT	Cumulative + Project SAT
Major Street - Both Approaches	Monterey Avenue	X		565	567	584
Minor Street - Highest Approach	Capitola Avenue	X		256	257	265
		Warrant Met?		No	No	No

Monarch Cove Hotel

2 . Monterey Avenue & Escalona Drive



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

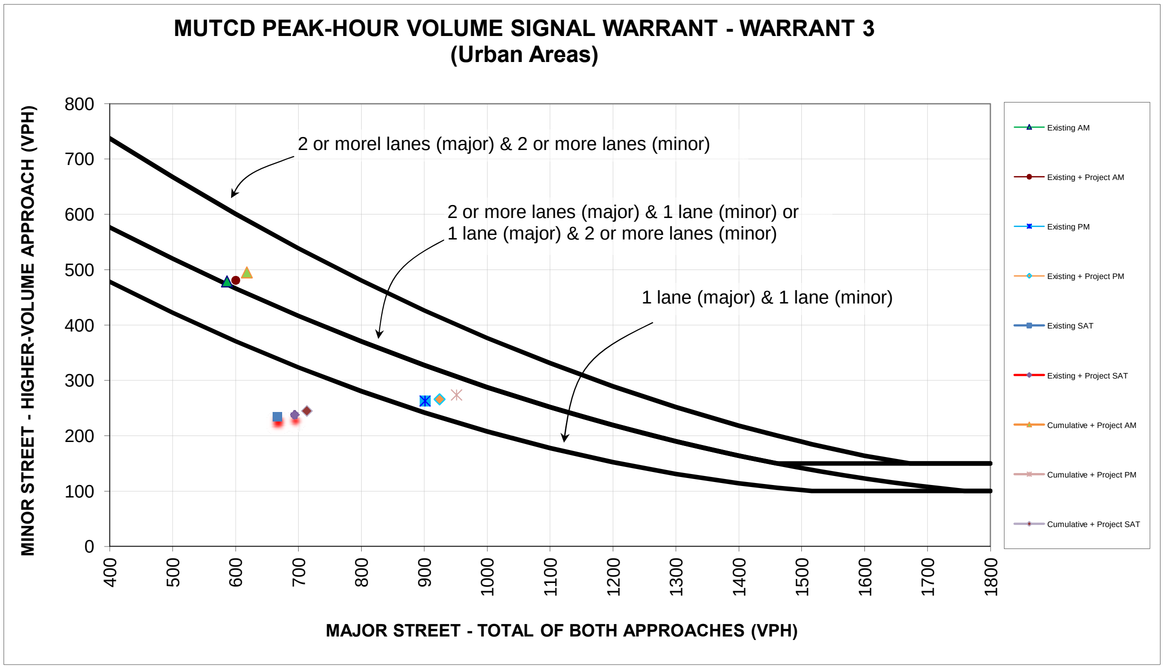
		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	AM Peak-Hour: Existing AM	AM Peak-Hour: Existing + Project AM	AM Peak-Hour: Cumulative + Project AM
Major Street - Both Approaches	Monterey Avenue	X		875	883	909
Minor Street - Highest Approach	Escalona Drive	X		83	91	93
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	PM Peak-Hour: Existing PM	PM Peak-Hour: Existing + Project PM	PM Peak-Hour: Cumulative + Project PM
Major Street - Both Approaches	Monterey Avenue	X		996	1010	1040
Minor Street - Highest Approach	Escalona Drive	X		81	95	97
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	SAT Peak-Hour: Existing SAT	SAT Peak-Hour: Existing + Project SAT	SAT Peak-Hour: Cumulative + Project SAT
Major Street - Both Approaches	Monterey Avenue	X		750	764	787
Minor Street - Highest Approach	Escalona Drive	X		85	104	107
		Warrant Met?		No	No	No

Monarch Cove Hotel

3 . Monterey Avenue & Park Avenue



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

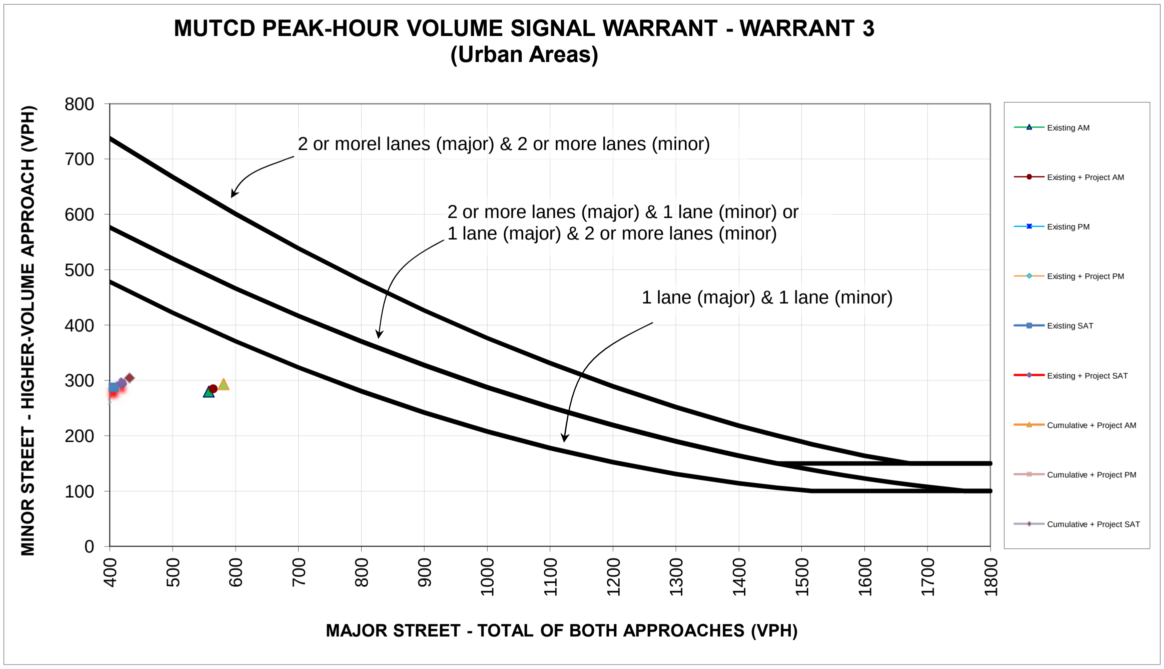
		Existing Approach Lanes: One	2 or More	AM Peak-Hour: Existing AM	Existing + Project AM	Cumulative + Project AM
Major Street - Both Approaches	Monterey Avenue	X		586	600	618
Minor Street - Highest Approach	Park Avenue	X		479	481	495
		Warrant Met?		Yes	Yes	Yes

		Existing Approach Lanes: One	2 or More	PM Peak-Hour: Existing PM	Existing + Project PM	Cumulative + Project PM
Major Street - Both Approaches	Monterey Avenue	X		901	924	951
Minor Street - Highest Approach	Park Avenue	X		263	266	274
		Warrant Met?		Yes	Yes	Yes

		Existing Approach Lanes: One	2 or More	SAT Peak-Hour: Existing SAT	Existing + Project SAT	Cumulative + Project SAT
Major Street - Both Approaches	Monterey Avenue	X		666	693	713
Minor Street - Highest Approach	Park Avenue	X		235	238	245
		Warrant Met?		No	No	No

Monarch Cove Hotel

4 . Monterey Avenue & Bay Avenue



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

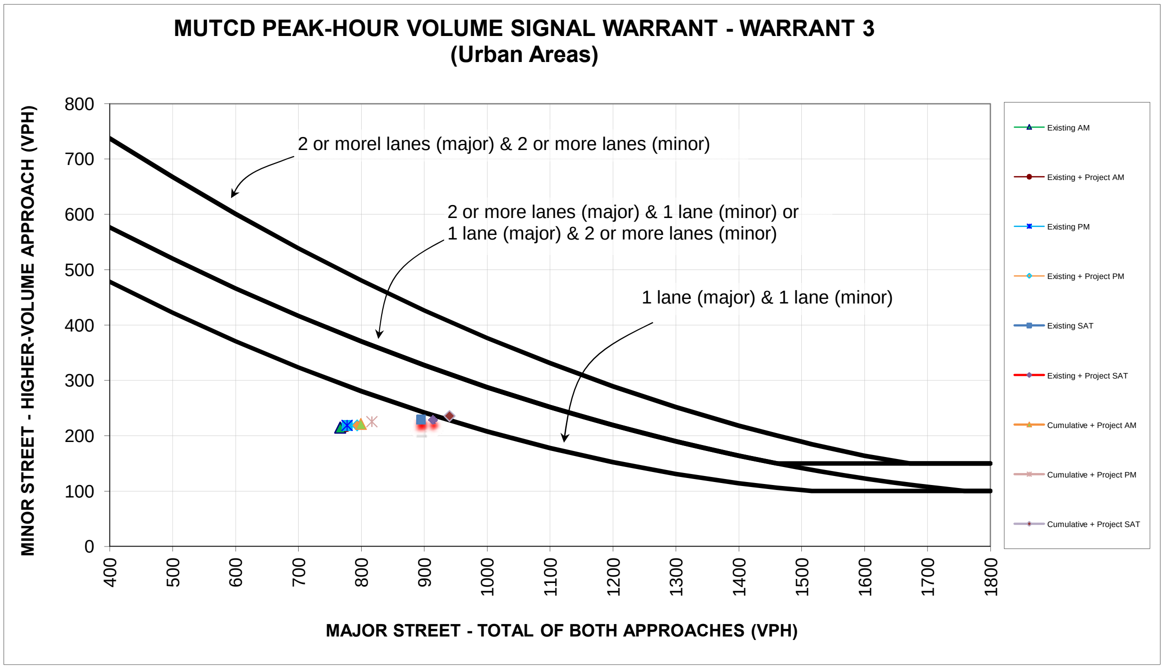
		Existing Approach Lanes: One	2 or More	AM Peak-Hour: Existing AM	Existing + Project AM	Cumulative + Project AM
Major Street - Both Approaches	Monterey Avenue	X		557	564	581
Minor Street - Highest Approach	Bay Avenue	X		280	285	293
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	2 or More	PM Peak-Hour: Existing PM	Existing + Project PM	Cumulative + Project PM
Major Street - Both Approaches	Bay Avenue	X		363	371	382
Minor Street - Highest Approach	Monterey Avenue	X		215	224	230
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	2 or More	SAT Peak-Hour: Existing SAT	Existing + Project SAT	Cumulative + Project SAT
Major Street - Both Approaches	Monterey Avenue	X		405	419	431
Minor Street - Highest Approach	Bay Avenue	X		288	296	305
		Warrant Met?		No	No	No

Monarch Cove Hotel

5 . Capitola Avenue & Bay Avenue



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

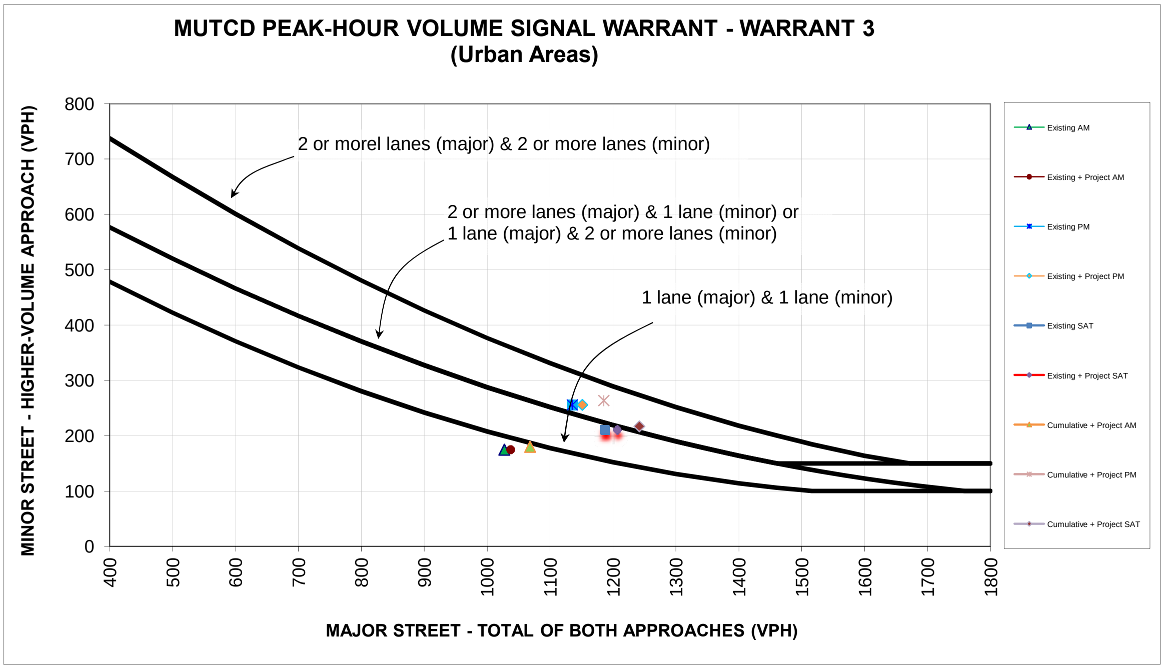
		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	AM Peak-Hour: Existing AM	AM Peak-Hour: Existing + Project AM	AM Peak-Hour: Cumulative + Project AM
Major Street - Both Approaches	Bay Avenue	X		766	776	799
Minor Street - Highest Approach	Capitola Avenue	X		215	215	221
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	PM Peak-Hour: Existing PM	PM Peak-Hour: Existing + Project PM	PM Peak-Hour: Cumulative + Project PM
Major Street - Both Approaches	Bay Avenue	X		777	793	816
Minor Street - Highest Approach	Capitola Avenue	X		219	219	226
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	SAT Peak-Hour: Existing SAT	SAT Peak-Hour: Existing + Project SAT	SAT Peak-Hour: Cumulative + Project SAT
Major Street - Both Approaches	Bay Avenue	X		894	913	940
Minor Street - Highest Approach	Capitola Avenue	X		229	229	236
		Warrant Met?		No	No	Yes

Monarch Cove Hotel

6 . Bay Avenue & Hill Street



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) 2012 Edition from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes
and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	AM Peak-Hour: Existing AM	AM Peak-Hour: Existing + Project AM	AM Peak-Hour: Cumulative + Project AM
Major Street - Both Approaches	Bay Avenue		X	1027	1037	1068
Minor Street - Highest Approach	Hill Street	X		175	175	180
		Warrant Met?		No	No	No

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	PM Peak-Hour: Existing PM	PM Peak-Hour: Existing + Project PM	PM Peak-Hour: Cumulative + Project PM
Major Street - Both Approaches	Bay Avenue		X	1135	1151	1185
Minor Street - Highest Approach	Hill Street	X		256	256	264
		Warrant Met?		Yes	Yes	Yes

		Existing Approach Lanes: One	Existing Approach Lanes: 2 or More	SAT Peak-Hour: Existing SAT	SAT Peak-Hour: Existing + Project SAT	SAT Peak-Hour: Cumulative + Project SAT
Major Street - Both Approaches	Bay Avenue		X	1187	1206	1242
Minor Street - Highest Approach	Hill Street	X		211	211	217
		Warrant Met?		No	No	Yes

Appendix E

Freeway Segment Analysis

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing AM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2784	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	757	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1528	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1528	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	68.8	mi/h
Number of lanes, N	2	
Density, D	22.2	pc/mi/ln
Level of service, LOS	C	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing PM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3565	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	969	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1957	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1957	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	30.9	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	4348	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1182	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2387	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2387	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	53.7	mi/h
Number of lanes, N	2	
Density, D	44.5	pc/mi/ln
Level of service, LOS	E	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3452	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	938	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1895	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1895	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	64.4	mi/h
Number of lanes, N	2	
Density, D	29.4	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2565	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	697	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1408	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1408	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	69.5	mi/h
Number of lanes, N	2	
Density, D	20.3	pc/mi/ln
Level of service, LOS	C	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	968	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1956	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1956	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	30.9	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing AM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3733	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1014	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2049	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2049	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	61.6	mi/h
Number of lanes, N	2	
Density, D	33.2	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing PM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3318	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	902	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1821	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1821	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	65.5	mi/h
Number of lanes, N	2	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing AM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2108	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	573	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1157	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1157	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	16.5	pc/mi/ln
Level of service, LOS	B	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing PM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3788	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1029	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2079	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2079	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	61.0	mi/h
Number of lanes, N	2	
Density, D	34.1	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing AM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3589	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	975	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1970	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1970	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.1	mi/h
Number of lanes, N	2	
Density, D	31.2	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing PM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3317	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	901	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1821	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1821	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	65.5	mi/h
Number of lanes, N	2	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Project AM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2788	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	758	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1530	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1530	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	68.7	mi/h
Number of lanes, N	2	
Density, D	22.3	pc/mi/ln
Level of service, LOS	C	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Project PM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3573	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	971	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1961	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1961	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.3	mi/h
Number of lanes, N	2	
Density, D	31.0	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Project AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	4352	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1183	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2389	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2389	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	53.6	mi/h
Number of lanes, N	2	
Density, D	44.6	pc/mi/ln
Level of service, LOS	E	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Project PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3460	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	940	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1899	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1899	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	2	
Density, D	29.5	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Projec AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2565	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	697	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1408	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1408	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	69.5	mi/h
Number of lanes, N	2	
Density, D	20.3	pc/mi/ln
Level of service, LOS	C	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Projec PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	968	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1956	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1956	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	30.9	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Projec AM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3733	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1014	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2049	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2049	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	61.6	mi/h
Number of lanes, N	2	
Density, D	33.2	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Projec PM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3318	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	902	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1821	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1821	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	65.5	mi/h
Number of lanes, N	2	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Project AM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2110	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	573	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1158	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1158	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	16.5	pc/mi/ln
Level of service, LOS	B	

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Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Existing+Project PM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3792	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1030	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2081	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2081	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	61.0	mi/h
Number of lanes, N	2	
Density, D	34.1	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Project AM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3591	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	976	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1971	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1971	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.1	mi/h
Number of lanes, N	2	
Density, D	31.2	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
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Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Existing+Project PM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3321	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	902	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1823	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1823	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	65.5	mi/h
Number of lanes, N	2	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Project AM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2872	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	780	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1576	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1576	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	68.4	mi/h
Number of lanes, N	2	
Density, D	23.1	pc/mi/ln
Level of service, LOS	C	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Project PM
Freeway/Direction:	SR 1
From/To:	41st Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3680	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1000	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2020	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2020	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	62.2	mi/h
Number of lanes, N	2	
Density, D	32.5	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Project AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	4482	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1218	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2460	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2460	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	51.6	mi/h
Number of lanes, N	2	
Density, D	47.7	pc/mi/ln
Level of service, LOS	F	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Project PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to 41st Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3564	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	968	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1956	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1956	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	63.4	mi/h
Number of lanes, N	2	
Density, D	30.9	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Projec AM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2642	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	718	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1450	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1450	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	69.3	mi/h
Number of lanes, N	2	
Density, D	20.9	pc/mi/ln
Level of service, LOS	C	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Projec PM
Freeway/Direction:	SR 1
From/To:	Bay Ave to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3671	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	998	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2015	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2015	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	62.3	mi/h
Number of lanes, N	2	
Density, D	32.3	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Projec AM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3845	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1045	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2111	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2111	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	60.4	mi/h
Number of lanes, N	2	
Density, D	35.0-	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Projec PM
Freeway/Direction:	SR 1
From/To:	Park Ave to Bay Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3418	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	929	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1876	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1876	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	2	
Density, D	29.0	pc/mi/ln
Level of service, LOS	D	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Project AM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	2173	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	590	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1193	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1193	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	70.0	mi/h
Number of lanes, N	2	
Density, D	17.0	pc/mi/ln
Level of service, LOS	B	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Eastbound Cumul+Project PM
Freeway/Direction:	SR 1
From/To:	Park Ave to State Park Dr
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3906	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1061	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2144	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2144	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	59.7	mi/h
Number of lanes, N	2	
Density, D	35.9	pc/mi/ln
Level of service, LOS	E	

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Project AM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3699	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1005	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	2030	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	2030	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	62.0	mi/h
Number of lanes, N	2	
Density, D	32.7	pc/mi/ln
Level of service, LOS	D	

HCS 2010: Basic Freeway Segments Release 6.50

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	Huy
Agency or Company:	Hexagon
Date Performed:	10/14/2013
Analysis Time Period:	Westbound Cumul+Project PM
Freeway/Direction:	SR 1
From/To:	State Park Dr to Park Ave
Jurisdiction:	Caltrans
Analysis Year:	2013
Description:	

Flow Inputs and Adjustments

Volume, V	3421	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	930	v
Trucks and buses	2	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	-	%
Segment length	-	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.990	
Driver population factor, fp	1.00	
Flow rate, vp	1878	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-side lateral clearance	6.0	ft
Total ramp density, TRD	2.50	ramps/mi
Number of lanes, N	2	
Free-flow speed:	Base	
FFS or BFFS	75.4	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
TRD adjustment	7.0	mi/h
Free-flow speed, FFS	68.4	mi/h

LOS and Performance Measures

Flow rate, vp	1878	pc/h/ln
Free-flow speed, FFS	68.4	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	2	
Density, D	29.0	pc/mi/ln
Level of service, LOS	D	

Appendix J

Acronym List

APPENDIX J: LIST OF ACRONYMS

TABLE J-1 LIST OF ACRONYMS

Acronym/Abbreviation	Definition
AADT	Annual Average Daily Trips
AAQS	Ambient Air Quality Standards
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACMs	Asbestos-containing materials
ADA	Americans with Disabilities Act
ADL	Aerially deposited lead
ADT	Average Daily Trips/Traffic
AFY	Acre-feet per year
ALS	Advanced Life Support
ALSFPD	Aptos/La Selva Fire Protection District
AMR	American Medical Response
AP	Alquist-Priolo
APCDs	Air Pollution Control Districts
AQMP	Air Quality Management Plan
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Health and Safety Administration
CalRecycle	California Department of Resources Recycling and Recovery

Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CAS	Climate Action Strategy
CAT	Climate Action Team
CBC	California Building Code
CCC	California Coastal Commission
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTP	Climate Change Technology Program
CDFG[1]	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CFGC	California Fish and Game Code
CFP	Corralitos Filter Plant
CFPD	Central Fire Protection District
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH_4	Methane
CHP	California Highway Patrol
CLG	Certified Local Government
CLTS	Santa Cruz Long-toed Salamander
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society

CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2E	Carbon dioxide equivalent
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
CRLF	California Red-legged Frog
CRPR	California Rare Plant Rank
CTS	California Tiger Salamander
CUE	Critical Use Exemption
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dB	Decibel
dBA	A-weighted Decibel
DCSD	Davenport County Sanitation District
DOC	California Department of Conservation
DOT	Department of Transportation
DPR	Department of Pesticide Regulations
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EAP	Energy Action Plan
EHS	Environmental Health Services
EIR	Environmental Impact Report
EMS	Emergency Medical Services
EO	Executive Order
ESA	Environmental Site Assessment
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency

FESA	Federal Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRMS	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GCF	Green Climate Fund
GHGs	Greenhouse Gases
GWPs	Global warming potentials
HAER	Historic American Engineering Record
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HHRA	Human Health Risk Assessment
HMMPs	Hazardous Materials Management Plans
HMTA	Hazardous Materials Transportation Act of 1975
HPO	Historic Preservation Ordinance
HSWA	Hazardous and Solid Waste Amendments Act
IPCC	Intergovernmental Panel on Climate Change
IPH	Iowa Pacific Holdings
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
Leq	Equivalent Noise Level
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Program
LOS	Level of Service
LRAs	Local Responsibility Areas
LRFD	Load and Resistance Factor Design
MACT	Maximum Achievable Control Technology
MBSST	Monterey Bay Sanctuary Scenic Trail
MBTA	Migratory Birds Treaty Act

MBUAPCD	Monterey Bay Unified Air Pollution Control District
mgd	Million gallon per day
MLD	Most Likely Descendant
MMI	Modified Mercalli Intensity
MMT	Million metric tons
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer Systems
MT CO_2E	Metric tons of carbon dioxide equivalent
MUTCD	Manual on Uniform Traffic Control Devices
NAHC	Native American Heritage Commission
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NCCAB	North Central Coast Air Basin
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO	Nitric oxide
NO_x	Oxides of nitrogen
NO_2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	Non-point Source
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M Plan	Operations and Maintenance Plan

OPR	Office of Planning and Research
PAHs	Poly-nuclear aromatic hydrocarbons
PFCs	Perfluorocarbons
Pga	peak ground acceleration
PGR	Primary Groundwater Recharge
$PM_{2.5}$	Particulate matter 2.5 microns or less in size
PM_{10}	Particulate matter 10 microns or less in size
Ppm	Parts per million
PSMCSD	Pajaro/Sunny Mesa Community Services District
PVWMA	Pajaro Valley Water Management Agency
QPS	Quarantine and Preshipment
RCRA	Resource Conservation and Recovery Act
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTC	Santa Cruz County Regional Transportation Commission
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
Sa	Spectral acceleration
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCHSA	Santa Cruz County Health Services Agency
SCMBR	Santa Cruz and Monterey Bay Railway
SCS	Sustainable Communities Strategy
SF_6	Sulfur hexafluoride
SFHAs	Special Flood Hazard Areas
SHPO	State Office of Historic Preservation
SJVAPCD	San Joaquin Air Pollution Control District

SLM	Shared Lane Markings
SLOAPCD	San Luis Obispo Air Pollution Control District
SO_2	Sulfur dioxide
SPRCo	Southern Pacific Railroad Company
SqCWD	Soquel Creek Water District
SRAs	State Responsibility Areas
SSC	Species of Special Concern
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAMC	Transportation Agency for Monterey County
TCMs	Transportation Control Measures
TCRP	Transit Cooperative Research Program
TSCA	Toxic Substances Control Act
TSP	Total Suspended Particulate
UNFCCC	United Nations Framework Convention on Climate Change
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program

[1]*As of January 1, 2013 the California Department of Fish and Game has changed their name to the California Department of Fish and Wildlife*